Stauffer Management Company
Skaneateles Falls
Remedial Investigation/Feasibility Study
Interim Data and Data Validation Report

Prepared for

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EA Project No. 11932.01
September 1993

PREFACE

EA Engineering, P.C., is performing a Remedial Investigation/Feasibility Study (RI/FS) of the Stauffer Management Company site located in Skaneateles Falls, New York. This data submission updates the prior Interim Data Report submitted in July 1992. It contains the validated analytical results for:

1. The following samples obtained from October 1991 through March 1992:

   - Round 1 monitoring well samples
   - Round 1 surface water and stream sediment samples
   - Round 1 creek seep/sediment samples
   - Perimeter and interior landfill soil borings.

2. The validated analytical results for the following samples obtained over the period March 1992 through July 1993, following the submission of the Interim Data Report:

   - Ambient air samples (baseline and during drilling)
   - Former organics plant area soil borings (this area was initially identified as "Area MW5").

Copies of the data validation reports for all analytical results in this data submission are provided in Appendix A.

LIST OF TABLES

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TABLE 1 VOLATILE ORGANIC ANALYTES MEASURED IN LANDFILL PERIMETER SOIL BORINGS

Analytes	SB02	SB03	SB04	SB05	SB05DUP	SB06	SB07
Depth	3.5-5.5 ft	3.5-5.0 ft	4.5-6.0 ft	0-1.5 ft	0-1.5 ft	1-3 ft	0.5-1.5 ft
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
VOLATILES							
Methylene Chloride	(<6U)	(<6U)	(<6U)	(<5U)	(<6U)	(<6U)	(<8U)
Acetone	5 J	9 J	26	6 J	6 J	(<11U)	5 J
2-Butanone	12 U	12 U	12 U	10 U	6 J	(<11U)	(<16U)
Tetrachloroethene	2 J	(<6U)	(<6U)	(<5U)	(<6U)	(<6U)	(<8U)
Toluene	(<6U)	(<6U)	4 J	(<5U)	(<6U)	(<6U)	(<8U)
Ethylbenzene	(<6U)	(<6U)	(<6U)	(<5U)	2 J	(<6U)	(<8U)
Xylenes (Total)	(<6U)	(<6U)	66	11	6 J	2 J	(<8U)
TICs-Known							
Undecane	---	---	---	---	---	---	---
TICs-Unknown	---	---	---	---	---	---	---
Level (low or medium)	L	L	L	L	L	L	L
Dilution factor	1	1	1	1	1	1	1

Notes:
U = Not detected. Sample quantitation limits are shown as (<__U).
J = Reported value is an estimate
--- = No detectable TICs
Data vaidation results presented in data report 911652

Units	SB08 1-3 ft (ug/kg)	SB09 2-4 ft (ug/kg)	SB10 3.5-5.5 ft (ug/kg)	SB11 5-7 ft (ug/kg)	SB12 4-6 ft (ug/kg)	SB13 1.3-3.5 ft (ug/kg)	SB14 4-6 ft (ug/kg)
VOLATILES							
Methylene Chloride	(<6U)	(<6U)	3 J	3 J	(<6U)	(<6U)	(<7U)
Acetone	58	(<13U)	21	6 J	26	(<12U)	39
2-Butanone	16 U	(<13U)	7 J	(<11U)	12 J	6 J	25
Tetrachloroethene	(<6U)	(<6U)	(<6U)	(<6U)	(<6U)	(<6U)	(<7U)
Toluene	(<6U)	(<6U)	(<6U)	(<6U)	(<6U)	(<6U)	3 J
Ethylbenzene	(<6U)	(<6U)	(<6U)	(<6U)	(<6U)	(<6U)	(<7U)
Xylenes (Total)	7 J	(<6U)	(<6U)	1 J	(<6U)	(<6U)	670
TICs-Known							
Undecane	22 JN	---	---	---	---	---	---
TICs-Unknown	---	---	---	---	---	---	---
Level (low or medium)	L	L	L	L	L	L	L
Dilution factor	1	1	1	1	1	1	1

Units	SB15 6-8 ft (ug/kg)	FB01 -01A (ug/l)	FB02 -01A (ug/l)	FB03 -01A (ug/l)
VOLATILES				
Methylene Chloride	(<6U)	(<5U)	(<5U)	(<5U)
Acetone	(<12U)	(<10U)	4 J	(<10U)
2-Butanone	(<12U)	(<10U)	4 J	(<10U)
Tetrachloroethene	(<6U)	(<5U)	(<5U)	(<5U)
Toluene	(<6U)	(<5U)	(<5U)	(<5U)
Ethylbenzene	(<6U)	(<5U)	(<5U)	(<5U)
Xylenes (Total)	(<6U)	(<5U)	(<5U)	(<5U)
TICs-Known				
Undecane	---	---	---	---
TICs-Unknown	---	---	---	---
Level (low or medium)	L	L	L	L
Dilution factor	1	1	1	1

TABLE 2 EXTRACTABLE ORGANIC ANALYTES MEASURED IN LANDFILL PERIMETER SOIL BORINGS

Analytes	Depth Units	SB02 3.5-5.5 ft (ug/kg)	SB03 3.5-5.0 ft (ug/kg)	SB04 4.5-6.0 ft (ug/kg)	SB05 0-1.5 ft (ug/kg)	SB05DUP 0-1.5 ft (ug/kg)	SB06 1-3 ft (ug/kg)
SEMI-VOLATILES							
2-Methylphenol		(<400U)	(<400U)	(<390U)	20 J	40 J	(<370U)
4-Methylphenol		(<400U)	(<400U)	(<390U)	(<340U)	29 J	(<370U)
Naphthalene		(<400U)	(<400U)	(<390U)	67 J	180 J	41 J
2-Methylnaphthalene		(<400U)	(<400U)	(<390U)	55 J	140 J	31 J
Dimethyl Phthalate		(<400U)	(<400U)	(<390U)	(<340U)	(<370U)	19 J
Acenaphthylene		(<400U)	(<400U)	(<390U)	62 J	200 J	24 J
Acenaphthene		(<400U)	(<400U)	(<390U)	20 J	92 J	29 J
Dibenzofuran		(<400U)	(<400U)	(<390U)	33 J	120 J	29 J
Diethylphthalate		(<400U)	(<400U)	(<390U)	(<340U)	(<370U)	17 J
Fluorene		(<400U)	(<400U)	(<390U)	49 J	250 J	25 J
N-Nitrosodiphenylamine		(<400U)	(<400U)	(<390U)	(<340U)	(<370U)	23 J
Phenanthrene		(<400U)	(<400U)	(<390U)	460	1,800	45 J
Anthracene		(<400U)	(<400U)	(<390U)	87 J	390	15 J
Di-n-Butylphthalate		(<400U)	(<400U)	(<390U)	(<340U)	(<370U)	(<370U)
Fluoranthene		(<400U)	(<400U)	(<390U)	730	2,300	55 J
Pyrene		(<400U)	(<400U)	(<390U)	680	2,200	70 J
Benzo(a)Anthracene		(<400U)	(<400U)	(<390U)	460	1,500	(<370U)
bis(2-ethylhexyl)Phthalate		(<400U)	(<400U)	(<390U)	(<340U)	(<370U)	(<370U)
Chrysene		(<400U)	(<400U)	(<390U)	530	1,600	(<370U)
Benzo(b)Fluoranthene		(<400U)	(<400U)	(<390U)	600	2,000	40 J
Benzo(k)Fluoranthene		(<400U)	(<400U)	(<390U)	270 J	1,000	(<370U)
Benzo(a)Pyrene		(<400U)	(<400U)	(<390U)	360	1,300	(<370U)
o-Toluic Acid		(<2000U)	(<2000U)	(<2000U)	60 J	49 J	(<2000U)
m-Toluic Acid		(<2000U)	(<2000U)	(<2000U)	(<1800U)	(<1900U)	(<2000U)
p-Toluic Acid		(<2000U)	(<2000U)	(<2000U)	(<1800U)	(<1900U)	(<2000U)
TICs-Known							
2-Hexanone,5-methyl		---	---	---	---	---	---
Naphthalene,2-phenyl		---	---	---	---	360 JN	---
Phenanthrene,2,5-dimethyl		---	---	---	---	570 JN	---
Benzaldehyde,4-methyl		---	---	---	---	---	830 JN
Octane,2,4,6-trimethyl		---	---	---	---	---	---
Hexadecanoic acid,dioctyl		---	---	---	---	---	---
Ethanol,2,2'-[oxybis(2,1-ethyl		---	---	---	---	---	---
Phenol,4-(2,2,3,3-tetramethyl		---	---	---	---	---	---
Phenol,4-nonyl		---	---	---	---	---	---
Tetradecanoic acid		---	---	---	---	---	---
Phenol,nonyl-		---	---	---	---	---	---
Benzaldehyde,3-methyl-oxime		---	---	---	---	---	---
Octadecanoic acid		---	---	---	---	---	---
TICs-Unknown;n		430 J;1	860 J;2	350 J;1	3,570 J;11	11,840 J;17	14,220 J;22
PESTICIDES/PCBs							
4,4'-DDE		(<10U)	(<10U)	(<10U)	6 J	7 J	36
4,4'-DDD		(<10U)	(<10U)	(<10U)	(<8.3U)	(<8.9U)	6 J

Notes:
U = Not detected. Sample quantitation limits are shown as (<__U).
J = Reported concentration is an estimated value.
B = Compound detected in corresponding method blank.
JN = Presumptive identification and an estimated concencentration.
--- = No detectable TICs
Unknown TICs reported as total concentrations and total number of unknowns.
Data validation results provided in data report 911652

Analytes	Depth Units	SB07 0.5-1.5 ft (ug/kg)	SB08 1-3 ft (ug/kg)	SB09 2-4 ft (ug/kg)	SB10 3.5-5.5 ft (ug/kg)	SB11 5-7 ft (ug/kg)	SB12 4-6 ft (ug/kg)
SEMI-VOLATILES							
2-Methylphenol		(<530U)	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
4-Methylphenol		(<530U)	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
Naphthalene		48 J	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
2-Methylnaphthalene		(<530U)	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
Dimethyl Phthalate		(<530U)	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
Acenaphthylene		(<530U)	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
Acenaphthene		(<530U)	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
Dibenzofuran		(<530U)	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
Diethylphthalate		(<530U)	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
Fluorene		(<530U)	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
N-Nitrosodiphenylamine		(<530U)	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
Phenanthrene		170 J	(<390U)	(<410U)	(<400U)	22 J	(<420U)
Anthracene		13 J	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
Di-n-Butylphthalate		(<530U)	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
Fluoranthene		210 J	(<390U)	(<410U)	(<400U)	21 J	(<420U)
Pyrene		150 J	(<390U)	(<410U)	(<400U)	23 J	(<420U)
Benzo(a)Anthracene		(<530U)	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
bis(2-ethylhexyl)Phthalate		(<530U)	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
Chrysene		74 J	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
Benzo(b)Fluoranthene		83 J	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
Benzo(k)Fluoranthene		47 J	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
Benzo(a)Pyrene		50 J	(<390U)	(<410U)	(<400U)	(<380U)	(<420U)
o-Toluic Acid		(<2700U)	(<2000U)	(<2100U)	(<2100U)	(<2000U)	(<2200U)
m-Toluic Acid		(<2700U)	(<2000U)	(<2100U)	(<2100U)	(<2000U)	(<2200U)
p-Toluic Acid		(<2700U)	(<2000U)	(<2100U)	(<2100U)	(<2000U)	(<2200U)
TICs-Known							
2-Hexanone,5-methyl		---	---	---	---	---	---
Naphthalene,2-phenyl		---	---	---	---	---	---
Phenanthrene,2,5-dimethyl		---	---	---	---	---	---
Benzaldehyde,4-methyl		---	---	---	---	---	---
Octane,2,4,6-trimethyl		430 JN	---	---	---	---	---
Hexadecanoic acid,dioctyl		---	---	---	---	---	---
Ethanol,2,2'-[oxybis(2,1-ethyl		---	---	---	---	---	---
Phenol,4-(2,2,3,3-tetramethyl		---	---	---	---	---	---
Phenol,4-nonyl		---	---	---	---	---	---
Tetradecanoic acid		---	---	---	---	---	---
Phenol,nonyl-		---	---	---	---	---	---
Benzaldehyde,3-methyl-oxime		---	---	---	---	---	---
Octadecanoic acid		---	---	---	---	---	---
TICs-Unknown;n		5,240 J;8	1,310 J;2	1,260 J;2	2,370 J;4	7,410 J;6	3,480 J;4
PESTICIDES/PCBs							
4,4'-DDE		(<13U)	(<9.4U)	(<10U)	(<9.8U)	(<9.2U)	(<10U)
4,4'-DDD		(<13U)	(<9.4U)	(<10U)	(<9.8U)	(<9.2U)	(<10U)

Analytes	Depth / Units	SB13 1.5-3.5 ft (ug/kg)	SB14 4-6 ft (ug/kg)	SB15 6-8 ft (ug/kg)	FB01 (ug/l)	FB02 (ug/l)	FB03 (ug/l)
SEMI-VOLATILES							
2-Methylphenol		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
4-Methylphenol		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Naphthalene		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
2-Methylnaphthalene		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Dimethyl Phthalate		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Acenaphthylene		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Acenaphthene		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Dibenzofuran		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Diethylphthalate		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Fluorene		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
N-Nitrosodiphenylamine		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Phenanthrene		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Anthracene		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Di-n-Butylphthalate		150 J	220 J	170 J	(<5U)	(<5U)	(<10U)
Fluoranthene		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Pyrene		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Benzo(a)Anthracene		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
bis(2-ethylhexyl)Phthalate		110 J	(<440U)	(<410U)	2 BJ	0.6 BJ	(<10U)
Chrysene		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Benzo(b)Fluoranthene		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Benzo(k)Fluoranthene		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
Benzo(a)Pyrene		(<400U)	(<440U)	(<410U)	(<5U)	(<5U)	(<10U)
o-Toluic Acid		(<2000U)	170 J	(<2100U)	(<5U)	(<5U)	(<10U)
m-Toluic Acid		46 J	120 J	(<2100U)	(<5U)	(<5U)	(<10U)
p-Toluic Acid		(<2000U)	48 J	(<2100U)	(<5U)	(<5U)	(<10U)
TICs-Known							
2-Hexanone,5-methyl		---	---	---	38 BJN	22 BJN	37 BJN
Naphthalene,2-phenyl		---	---	---	---	---	---
Phenanthrene,2,5-dimethyl		---	---	---	---	---	---
Benzaldehyde,4-methyl		---	---	---	---	---	---
Octane,2,4,6-trimethyl		---	---	---	---	---	---
Hexadecanoic acid,dioctyl		460 JN	---	---	---	---	---
Ethanol,2,2'-[oxybis(2,1-ethyl		---	290 JN	---	---	---	---
Phenol,4-(2,2,3,3-tetramethyl		---	450 JN	---	---	---	---
Phenol,4-nonyl		---	600 JN	---	---	---	---
Tetradecanoic acid		---	1,500 JN	---	---	---	---
Phenol,nonyl-		---	470 JN	---	---	---	---
Benzaldehyde,3-methyl-oxime		---	200 JN	---	---	---	---
Octadecanoic acid		---	2,700 JN	---	---	---	---
TICs-Unknown;n		1,810 J;2	9,800 J;10	2,680 J;4	---	---	---
PESTICIDES/PCBs							
4,4'-DDE		(<9.6U)	(<11U)	(<9.9U)	(<0.10U)	(<0.10U)	(<0.10U)
4,4'-DDD		(<9.6U)	(<11U)	(<9.9U)	(<0.10U)	(<0.10U)	(<0.10U)

TABLE 3 INORGANIC ANALYTES MEASURED IN LANDFILL PERIMETER SOIL BORINGS

Analytes Depths Units	SB02 3.5-5.5 ft (mg/kg)	SB03 3.5-5.0 ft (mg/kg)	SB04 4.5-6.0 ft (mg/kg)	SB05 0-1.5 ft (mg/kg)	SB05DUP 0-1.5 ft (mg/kg)	SB06 1-3 ft (mg/kg)	SB07 0.5-1.5 ft (mg/kg)
Aluminum	16,200	19,700	13,800	10,700	8,800	4,180	12,100
Antimony	(<3.8U) J	(<3.2U) J	6.1 J	(<3.1U) J	2.8 BJ	(<3.3U) J	6.6 J
Arsenic	5.1 J	5.0 J	7.8 J	3.1 J	3.6 J	4.2 J	4.8 J
Barium	103	124	92.1	78.7	58.5	35.2	50.0
Beryllium	0.64	0.72	0.84	0.52	0.45	0.31 B	0.46 B
Cadmium	4.5 J	4.6 J	6.5 J	4.5 J	3.2 J	1.6 J	4.9 J
Calcium	87,300	53,100	2,510	93,900	148,000	177,000	53,600 B
Chromium	17.3 J	18.9 J	21.8 J	16.7 J	14.0 J	13.1 J	14.6 J
Cobalt	9.6	12.3	14.4	57.7	20.4	11.4	9.6
Copper	25.1	26.3	46.2	26.0	20.5	33.6	41.0
Iron	25,700	27,900	36,600	25,000	20,300	13,200	30,100
Lead	11.0	8.0 R	15.3	15.5	20.7	11.1	11.4 R
Magnesium	30,600 B	21,100 B	5,240	6,680	12,200 B	20,600 B	29,100 B
Maganese	469	838	827	632	543	372	406
Mercury	(<0.11U)	(<0.11U)	(<0.11U)	(<0.10U)	(<0.09U)	(<0.32U)	0.26
Nickel	26.0	27.4	48.4	29.0	24.8	16.9	25.1
Potassium	2,570	2,550	1,080	1,240	1,250	1,060	1,070
Selenium	(<0.08U)J	(<0.10U)J	0.18 BJ	(<0.10U)J	(<0.09U)J	(<0.09U)J	(<0.11U)J
Silver	2.7 J	1.9 J	1.2 J	2.7 J	4.1 J	4.9 J	2.5 J
Sodium	302 B	756	204 B	1,720	1,410	869	301 B
Thallium	(<0.17U)	(<0.20U)	0.31 B	(<0.20U)	(<0.19U)	(<0.18U)	(<0.21U)
Vanadium	17.4	18.4	21.9	11.5	10.8	8.4	16.2
Zinc	45.6 R	46.2 R	54.2 R	107 R	83.7 R	54.0 R	52.3 R
Cyanide	1.0 J	0.64	(<0.49U)	(<0.46U)	(<0.39U)	(<0.38U)	(<0.70U)

Notes:

U = Not detected. Sample quantitation limits are shown as (<_U).

B = Reported value is below CRQL.

J = Reported concentration is an estimated value.

R = Data is unusable.

Data validation results provided in data report 911652

TABLE 3 (Cont)

Analytes Depth Units	SB08 1-3 ft (mg/kg)	SB09 2-4 ft (mg/kg)	SB10 3.5-5.5 ft (mg/kg)	SB11 5-7 ft (mg/kg)	SB12 4-6 ft (mg/kg)	SB13 1.5-3.5 ft (mg/kg)	SB14 4-6 ft (mg/kg)
Aluminum	18,300	17,400	15,500	13,200	19,600	11,700	13,000
Antimony	(<3.3U) J	5.3 BJ	4.0 BJ	4.5 J	5.0 BJ	(<2.9U) J	(<4.4U) J
Arsenic	4.5 J	4.8 J	5.2 J	5.4 J	2.7 J	2.2 J	5.0 J
Barium	86.1	78.3	74.4	64.9	52.7	53.8	115
Beryllium	0.68	0.69	0.62	0.64	0.76	0.41 B	0.89
Cadmium	5.0 J	4.8 J	4.0 J	4.6 J	4.9 J	3.2 J	5.5 J
Calcium	74,700	52,500 B	55,200	12,100 B	34,400 B	5,610	4,090
Chromium	18.4 J	20.8 J	16.5 J	22.8 J	25.2 J	13.2 J	20.8 J
Cobalt	9.6	10.9	9.3	9.2	11.2	5.7	9.9
Copper	24.7	26.0	22.8	23.1	26.4	11.8	21.5
Iron	26,500	21,300	25,700	26,300	27,000	17,100	32,100
Lead	9.2	10.7	12.6	14.4	15.2	7.4 R	16.4
Magnesium	27,900 B	16,900 B	23,200	6,050	18,200 B	3,400	3,690
Manganese	560	681	552	511	741	289	1850
Mercury	(<0.10U)	0.10	(<0.10U)	(<0.10U)	(<0.11U)	(<0.10U)	0.19
Nickel	24.5	27.6	24.7	27.5	27.1	14	32.8
Potassium	3,460	2,940	2,070	1,660	2,200	566	1,240
Selenium	(<0.09U)J	0.40 BNS	(<0.11U)J	(<0.10U)J	(<0.11U)J	(<0.09U)J	(<0.12U)J
Silver	2.4 J	2.1 J	2.5 J	0.95 J	1.6 J	0.75 J	1.4 J
Sodium	177 B	91.7 B	90.2 B	857	852	76.4 B	5,190
Thallium	(<0.18U)	(<0.23U)	(<0.22U)	(<0.20U)	(<0.21U)	(<0.19U)	0.24 B
Vanadium	19.8	19.9	17.1	15.3	22.4	17.7	24.3
Zinc	42.6 R	44.5 R	44.8 J	61.3 R	44.1 R	29.3 R	58.5 R
Cyanide	(<0.49U)	(<0.62U)	(<0.45U)	(<0.39U)	(<0.52U)	(<0.62U)	(<0.52U)

Analytes Depth Units	SB15 6-8 ft (mg/kg)	FB01 (ug/l)	FB02 (ug/l)	FB03 (ug/l)
Aluminum	15,600	25.8 B	24.0 B	71.5 B
Antimony	3.7 BJ	(<34U)	(<34U)	(<34U)
Arsenic	6.1 J	(<2U)	(<2U)	(<2U)
Barium	58.1	(<5U)	(<5U)	(<5U)
Beryllium	0.84	(<1U)	(<1U)	(<1U)
Cadmium	6.1 J	(<5U)	(<5U)	(<5U)
Calcium	8,490	146 B	151 B	158 B
Chromium	26.3 J	(<4U)	(<4U)	(<4U)
Cobalt	13.4	(<9U)	(<9U)	(<9U)
Copper	33.9	6.3 B	3 B	5.9 B
Iron	32,100	49.5 B	66.2 B	124
Lead	16.5	(<1U)	1.1 B	(<1U)
Magnesium	6,900	34.1 B	(<30U)	72.8 B
Manganese	625	4.1 B	1.5 B	2.9 B
Mercury	(<0.10U)	(<0.2U)	(<0.2U)	(<0.2U)
Nickel	35.9	(<9U)	(<9U)	(<9U)
Potassium	1,260	(<69U)	151 B	(<69U)
Selenium	(<0.10U)J	(<1U)	(<1U)	(<1U)
Silver	1.0 J	(<2U)J	(<2U)J	(<2U)J
Sodium	809	(<136U)	(<136U)	(<136U)
Thallium	(<0.20U)	(<2U)R	(<2U)R	9.8 BR
Vanadium	20.9	(<3U)	(<3U)	(<3U)
Zinc	70.7 R	64.2	13.7 B	8.7 B
Cyanide	(<0.57U)	(<10U)J	(<10U)J	(<10U)J

TABLE 4 TOTAL ORGANIC CARBON IN LANDFILL PERIMETER SOIL BORINGS

Sample Designation	Depth (ft)	Organic Carbon Total (mg/kg)	Organic Carbon Total (%)
SB02-01A	3.5 - 5.5	2,280	0.23
SB03-01A	3.5 - 5.0	2,100	0.21
SB04-01A	4.5 - 6.5	3,870	0.39
SB05-01A	0 - 1.5	12,100	1.21
SB05DUP-01A	1 - 3	8,840	0.88
SB06-01A	0.5 - 1.5	4,340	0.43
SB07-01A	1 - 3	13,300	1.33
SB08-01A	2 - 4	6,300	0.63
SB09-01A	3.5 - 5.5	7,200	0.72
SB10-01A	5 - 7	11,800	1.18
SB11-01A	4 - 6	7,230	0.72
SB12-01A	1.5 - 3.5	29,500	2.95
SB13-01A	4 - 6	18,000	1.80
SB14-01A	4 - 6	9,940	0.99
SB15-01A	6 - 8	6,340	0.63
SB16-01A	3 - 4	11,000	1.10

TABLE 5 VOLATILE ORGANIC ANALYTES MEASURED IN LANDFILL SOIL BORINGS

Analytes	SB16 -01A	SB16 -02A	SB17 -01A	SB18 -01A	SB18 -02A	SB18 -03A
Depth	3-4 ft	5.5-7 ft	4-6 ft	0-2 ft	5-7 ft	10-12 ft
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Methylene Chloride	(<6U)	(<6U)	(<6U)	(<6U)	(<6U)	1,300 J
Acetone	26	25 J	(<13U)	(<12U)	(<12U)	(<1,500U)J
2-Butanone	12 J	(<12U)	(<13U)	(<12U)	(<12U)	(<1,500U)J
Benzene	(<6U)	(<6U)	(<6U)	(<6U)	(<6U)	1,700 J
Chloroform	(<6U)	(<6U)	1 J	0.7 J	0.8 J	[7,300U]J
Chlorobenzene	(<6U)	(<6U)	(<6U)	(<6U)	(<6U)	(<7,300U)J
1,2-Dichloroethene (total)	(<6U)	17	(<6U)	(<6U)	(<6U)	(<7,300U)J
Trichloroethane	(<6U)	2 J	(<6U)	(<6U)	(<6U)	(<7,300U)J
Tetrachloroethene	(<6U)	2 J	(<6U)	(<6U)	4 J	(<7,300U)J
Toluene	(<6U)	3 J	(<6U)	(<6U)	(<6U)	1,100 J
Ethylbenzene	(<6U)	(<6U)	(<6U)	(<6U)	(<6U)	(<7,300U)J
Xylenes (Total)	(<6U)	280	(<6U)	(<6U)	(<6U)	170,000J
TICs - Known	---	---	---	---	---	---
TICs - Unknown;n	---	3 J;1	---	---	---	---
Level (low or medium)	L	L	L	L	L	M
Dilution facter	1	1	1	1	1	1

Notes:
U = Not detected. Sample quantitation limits are shown as (<__U).
[-U] = Not detected following data validation review.
J = Reported concentration is an estimated value.
--- = No detectable TICs.
Unknown TICs reported as total concentration and total number of unknowns
Samples SB-27-01A and SB27-02A were samples of the white and balck material present at the referenced depths.
Data validation results provided in data reports 911652 (SB16- 01A only), 911664 (SB16-02A to SB21-01A), and 911691 (SB22-01A to SB27-01A).

Analytes	SB19 -01A	SB20 -01A	SB21 -01A	SB22 -01A	SB23 -01A	SB23 -02A
Depth	5-7 ft	3-5 ft	12.5-14.5 ft	10-12 ft	10-12 ft	
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Methylene Chloride	(<220,000U)J	(<77,000U)J	[6U]	(<760U)	2 J	(<6U)
Acetone	(<450,000U)J	(<150,000U)J	43 J	(<1500U)J	14 J	17 J
2-Butanone	(<450,000U)J	(<150,000U)J	35	6400 J	(<11U)	(<11U)
Benzene	19,000 J	6,300 J	1 J	(<760U)	(<6U)	(<6U)
Chloroform	[220,000U]J	[<77,000]J	0.8 J	(<1500U)	1 J	(<6U)
Chlorobenzene	(<220,000U)J	(<77,000U)J	(<6U)	(<760U)	(<6U)	(<6U)
1,2-Dichloroethene (total)	(<220,000U)J	(<77,000U)J	(<6U)	(<760U)	(<6U)	(<6U)
Trichloroethane	(<220,000U)J	(<77,000U)J	(<6U)	(<760U)	(<6U)	(<6U)
Tetrachloroethene	(<220,000U)J	(<77,000U)J	0.9 J	(<760U)	(<6U)	(<6U)
Toluene	1,000,000J	11,000 J	16	660 J	2J	(<6U)
Ethylbenzene	92,000 J	(<77,000U)J	(<6U)	(<760U)	(<6U)	(<6U)
Xylenes (Total)	25,000,000J	2,000,000J	700	35,000	44	10
TICs - Known	---	---	---	---	---	---
TICs - Unknown;n	---	---	---	---	---	---
Level (low or medium)	M	M	L	M	L	L
Dilution facter	1	1	1	1	1	1

Analytes	SB24 -01A	SB24 DUP -01A	SB25 -01A	SB26 -01A	SB27 -01A
Depth	7-9 ft	7-9 ft	8-10 ft	4-6 ft	5 ft
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Methylene Chloride	(<17U)	370 J	450 J	(<220,000U)J	(<170,000U)J
Acetone	55 J	(<2,000U)	(<1,900U)	(<450,000U)J	(<340,000U)J
2-Butanone	[49 U]	7,000 J	7,100 J	(<450,000U)J	(<340,000U)J
Benzene	3 J	(<990U)	290 J	(<220,000U)J	(<170,000U)J
Chloroform	(<17U)	(<990U)	(<930U)	(<220,000U)J	(<170,000U)J
Chlorobenzene	14J	210 J	89J	[220,000U]J	[170,000U]J
1,2-Dichloroethene (total)	(<17U)	(<990U)	(<1,900U)	(<220,000U)J	(<170,000U)J
Trichloroethane	(<17U)	(<990U)	110J	(<220,000U)J	(<170,000U)J
Tetrachloroethene	(<17U)	(<990U)	(<930U)	(<220,000U)J	(<170,000U)J
Toluene	41	500 J	19,000	27,000 J	330,000 J
Ethylbenzene	4 J	(<990U)	790 J	(<220,000U)J	(<170,000U)J
Xylenes (Total)	2,000 J	45,000	94,000 J	4,700,000 J	21,000,000 J
TICs - Known	---	---	---	---	---
TICs - Unknown;n	---	---	---	---	---
Level (low or medium)	L	L	L	M	M
Dilution facter	1	1	1	1	1

Analytes	SB27 -02A	FB03	FB04	FB05
Depth	6 ft			
Units	(ug/kg)	(ug/l)	(ug/l)	(ug/l)
Methylene Chloride	3,600 J	(<5U)	2 J	(<5U)
Acetone	(<26,000U)	(<10U)	(<10U)	(<10U)
2-Butanone	(<26,000U)	(<10U)	(<10U)	(<10U) J
Benzene	(<13,000U)	(<5U)	(<5U)	(<5U)
Chloroform	(<13,000U)	(<5U)	(<5U)	(<5U)
Chlorobenzene	(<13,000U)	(<5U)	(<5U)	(<5U)
1,2-Dichloroethene (total)	(<13,000U)	(<5U)	(<5U)	(<5U)
Trichloroethane	(<13,000U)	(<5U)	(<5U)	(<5U)
Tetrachloroethene	2,700 J	(<5U)	(<5U)	(<5U)
Toluene	51,000	(<5U)	(<5U)	(<5U)
Ethylbenzene	(<13,000U)	(<5U)	(<5U)	(<5U)
Xylenes (Total)	1,200,000 J	(<5U)	(<5U)	(<5U)
TICs - Known	---	---	---	---
TICs - Unknown;n	---	---	---	---
Level (low or medium)	M	L	L	L
Dilution facter	1	1	1	1

TABLE 6A EXTRACTABLE ORGANIC COMPOUNDS MEASURED IN LANDFILL SOIL BORINGS

Analytes	SB16 -01A	SB16 -02A	SB17 -01A	SB18 -01A	SB18 -02A	SB18 -03A
Depth	3-4 ft	5.5-7 ft	4-6 ft	0-2 ft	5-7 ft	10-12 ft
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
SEMI-VOLATILES						
Phenol	(<380U)	(<390U)	(<420U)	(<380U)	(<390U)	(<380U)
Benzyl alcohol	(<380U)	(<390U)	(<420U)	(<380U)	(<390U)	51 J
2-methyl phenol	(<380U)	(<390U)	64 J	(<380U)	(<390U)	54 J
4-methyl phenol	(<380U)	200 J	(<420U)	(<380U)	(<390U)	(<380U)
Benzoic acid	(<1,900U)	(<390U)	110 J	(<1,900U)	(<2,000U)	(<1,900U)
2,4-dimethyl phenol	(<380U)	(<390U)	(<420U)	(<380U)	(<390U)	(<380U)
Naphthalene	(<380U)	160 J	400 J	(<380U)	180 J	250 J
4-Chloroaniline	(<380U)	(<390U)	(<420U)	(<380U)	(<390U)	(<380U)
2-methyl naphthalene	(<380U)	330 J	140 J	(<380U)	150 J	200 J
Acenaphthylene	(<380U)	(<390U)	(<420U)	(<380U)	67 J	130 J
Acenaphthene	(<380U)	(<390U)	48 J	(<380U)	(<390U)	79 J
Dibenzofuran	(<380U)	(<390U)	(<420U)	(<380U)	(<390U)	140 J
Fluorene	(<380U)	(<390U)	(<420U)	(<380U)	180 J	280 J
N-nitrosodiphenylamine	(<380U)	490	(<420U)	(<380U)	(<390U)	(<380U)
Phenanthrene	(<380U)	540	160 J	(<380U)	610	2600
Anthracene	(<380U)	63 J	(<420U)	(<380U)	110 J	250 J
Di-n-butyl phthalate	170 J	[390U]	[390U]	[410U]	[390U]	(<380U)
Dibenzo(a,h)anthracene	(<380U)	(<390U)	(<420U)	(<380U)	(<390U)	230 J
Fluoranthene	(<380U)	220 J	140 J	(<380U)	910	1500 J
Pyrene	(<380U)	650 J	170 J	(<380U)	1100	2300 J
Butylbenzylphthalate	(<380U)	(<390U)J	(<420U)J	(<380U)	(<390U)	(<380U)J
Benzo(a)Anthracene	(<380U)	170 J	97 J	(<380U)	770	990 J
Bis(2-ethyl hexyl)phthalate	58 J	280 J	190 J	480	210 J	140 J
Chrysene	(<380U)	250 J	97 J	(<380U)	850	1100 J
Benzo(b)Fluoranthene	(<380U)	140 J	55 J	(<380U)	910	790 J
Benzo(k)Fluoranthene	(<380U)	*	80 J	(<380U)	550	810 J
Benzo(a)Pyrene	(<380U)	76 J	77 J	(<380U)	780	930 J
Indeno(1,2,3-cd)Pyrene	(<380U)	(<390U)J	(<420U)J	(<380U)	580	560 J
Benzo(g,h,i)Perylene	(<380U)	(<390U)J	(<420U)J	(<380U)	620	600 J
o-Toluic acid	(<2000U)	(<2000U)	4000	(<2000U)	140 J	2000
m-Toluic acid	(<2000U)	(<2000U)	3000	(<2000U)	290 J	2100
p-Toluic acid	(<2000U)	(<2000U)	240 J	(<2000U)	(<2000U)	190 J
Level (low or medium)	L	L	L	L	L	L
Dilution factor	1	1	1	1	1	1
PESTICIDES/PCBs						
4,4'-DDE	(<9.2 U)	(<9.4 U)	(<200 U)	(<9.3 U)	(<190 U)	(<9.3 U)
4,4'-DDD	(<9.2 U)	(<9.4 U)	(<200 U)	(<9.3 U)	(<190 U)	(<9.3 U)
4,4'-DDT	(<9.2 U)	(<9.4 U)	(<200 U)	(<9.3 U)	(<190 U)	(<9.3 U)
Aroclor 1248	(<46 U)	(<47 U)	(<1,000 U)	(<47 U)	(<940 U)	(<47 U)
Level (low or medium)	L	L	L	L	L	L
Dilution factor	1	1	20	1	20	1

Notes:
U = Not detected. Sample quantitation limits are shown as (<__U).
[-U] = Reported result was false positive following data validation review.
J = Reported value is an estimated concentration following data validation review.
B = Compound detected in corresponding method blank.
D = Reported result from diluted analysis.
Unknown TICs reported as total concentration and total number of unknowns.
--- = No detectable TICs.
* = Benzo(k)fluoranthene coeluted with benzo(b)fluoranthene.

Data validation results provided in data reports 911652 (SB16-01A), 911664 (SB16-02A through SB21-01A), and 911691 (SB22-01A through SB27-01A)

Analytes	SB19 -01A	SB20 -01A	SB21 -01A	SB22 -01A	SB23 -01A
Depth	5-7 ft	3-5 ft	12.5-14.5 ft	10-12 ft	10-12 ft
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
SEMI-VOLATILES					
Phenol	(<1,200U) J	(<410U)R	(<400U)	300 J	(<380U)
Benzyl alcohol	(<1,200U) J	(<410U)R	(<400U)	160 J	(<380U)
2-methyl phenol	(<1,200U) J	(<410U)R	(<400U)	43 J	(<380U)
4-methyl phenol	(<1,200U) J	(<410U)R	110 J	110 J	(<380U)
Benzoic acid	3000J	(<2000U)R	(<400U)	(<2,000U)	(<1800U)
2,4-dimethyl phenol	12,000 J	(<410U)	(<400U)	(<410U)	(<380U)
Naphthalene	330J	10,000 D	(<400U)	(<410U)	(<380U)
4-chloroaniline	(<1,200U) J	(<410U)	(<400U)	(<410U)	(<380U)
2-methyl naphthalene	(<1,200U) J	2,400	(<400U)	57 J	(<380U)
Acenaphthylene	(<1,200U) J	(<410U)	(<400U)	(<410U)	(<380U)
Acenaphthene	(<1,200U) J	(<410U)	(<400U)	(<410U)	(<380U)
Dibenzofuran	(<1,200U) J	(<410U)	(<400U)	(<410U)	(<380U)
Fluorene	(<1,200U) J	3600	(<400U)	(<410U)	(<380U)
N-nitrosodiphenylamine	(<1,200U) J	(<410U)J	(<400U)	(<410U)	(<380U)
Phenanthrene	(<1,200U) J	140 J	(<400U)	(<410U)	(<380U)
Anthracene	(<1,200U) J	(<410U)J	(<400U)	(<410U)	(<380U)
Di-n-butyl phthalate	(<1,200U) J	(<410U)J	[400U]	[<410U]	[920U]
Dibenzo(a,h)anthracene	(<1,200U) J	(<410U)J	(<400U)	(<410U)	(<380U)
Fluoranthene	(<1,200U) J	45 J	(<400U)	(<410U)	(<380U)
Pyrene	(<1,200U) J	(<410U)J	(<400U)	(<410U)	(<380U)
Butylbenzylphthalate	(<1,200U) J	830 J	(<400U)	(<410U)	(<380U)
Benzo(a)Anthracene	(<1,200U) J	(<410U)J	(<400U)	(<410U)	(<380U)
Bis(2-ethyl hexyl)phthalate	(<1,200U) J	270 J	57 J	420 B	[380U]
Chrysene	(<1,200U) J	(<410U)J	(<400U)	(<410U)	(<380U)
Benzo(b)Fluoranthene	(<1,200U) J	(<410U)J	(<400U)	(<410U)	(<380U)
Benzo(k)Fluoranthene	(<1,200U) J	(<410U)J	(<400U)	(<410U)	(<380U)
Benzo(a)Pyrene	(<1,200U) J	(<410U)J	(<400U)	(<410U)	(<380U)
Indeno(1,2,3-cd)Pyrene	(<1,200U) J	(<410U)J	(<400U)	(<410U)	(<380U)
Benzo(g,h,i)Perylene	(<1,200U) J	(<410U)J	(<400U)	(<410U)	(<380U)
o-Toluic acid	81,000 J	(<2100U)R	(<400U)	(<410U)	62 J
m-Toluic acid	(<120,000U)	(<2100U)R	(<400U)	250 J	1,300
p-Toluic acid	1,600,000	(<2100U)R	(<400U)	98 J	750
Level (low or medium)	M	L	L	L	L
Dilution factor	1	1	1	1	1
PESTICIDES/PCBs					
4,4'-DDE	(<570 U)	(<10 U)	(<10 U)	(<10 U)	(<9.2 U)
4,4'-DDD	(<570 U)	16	(<10 U)	(<10 U)	(<9.2 U)
4,4'-DDT	(<570 U)	(<10 U)	(<10 U)	(<10 U)	(<9.2 U)
Aroclor 1248	(<2,900 U)	(<49 U)	(<49 U)	230	(<46 U)
Level (low or medium)	M	L	L	L	L
Dilution factor	1	1	1	1	1

Analyte	Depth / Units	SB23 -02A 10-12 ft (ug/kg)	SB24 -01A 7-9 ft (ug/kg)	SB24 DUP -01A 7-9 ft (ug/kg)	SB25 -01A 8-10 ft (ug/kg)	SB26 -01A 4-6 ft (ug/kg)
SEMI-VOLATILES						
Phenol		(<380U)	(<2,800U)	(<2,600U)	(<2,500U)J	(<29,000U)
Benzyl alcohol		(<380U)	(<2,800U)	(<2,600U)	2,200 J	(<29,000U)
2-methyl phenol		67 J	(<2,800U)	(<2,600U)	250 J	15,000 J
4-methyl phenol		99 J	(<2,800U)	(<2,600U)	470 J	10,000 J
Benzoic acid		(<1,900U)	(<13,000U)	(<2,600U)	(<12,000)R	(<140,000U)
2,4-dimethyl phenol		(<380U)	(<2,800U)	(<2,600U)	(<2,500U)R	(<29,000U)
Naphthalene		(<380U)	(<2,800U)	(<2,600U)	1,000 J	(<29,000U)
4-chloroaniline		(<380U)	19,000	25,000	(<2,500U)J	(<29,000U)
2-methyl naphthalene		(<380U)	290 J	250 J	800 J	(<29,000U)
Acenaphthylene		(<380U)	(<2,800U)	(<2,600U)	(<2,500U)J	(<29,000U)
Acenaphthene		(<380U)	130 J	(<2,600U)	(<2,500U)J	(<29,000U)
Dibenzofuran		(<380U)	(<2,800U)	(<2,600U)	(<2,500U)J	(<29,000U)
Fluorene		(<380U)	(<2,800U)	(<2,600U)	(<2,500U)J	(<29,000U)
N-nitrosodiphenylamine		(<380U)	(<2,800U)	(<2,600U)	(<2,500U)J	(<29,000U)
Phenanthrene		(<380U)	570 J	370 J	(<2,500U)J	(<29,000U)
Anthracene		(<380U)	150 J	95 J	(<2,500U)J	(<29,000U)
Di-n-butyl phthalate		[990U]	[2,800U]	[2,600U]	[2,500U]J	(<29,000U)
Dibenzo(a,h)anthracene		(<380U)	(<2,800U)	(<2,600U)	(<2,500U)J	(<29,000U)
Fluoranthene		(<380U)	560 J	290 J	(<2,500U)J	(<29,000U)
Pyrene		(<380U)	460 J	230 J	(<2,500U)J	(<29,000U)J
Butylbenzylphthalate		(<380U)	(<2,800U)	(<2,600U)	(<2,500U)J	(<29,000U)J
Benzo(a)Anthracene		(<380U)	240 J	(<2,600U)	(<2,500U)J	(<29,000U)J
Bis(2-ethyl hexyl)phthalate		[380U]	[2,800U]	[2,600U]	(<2,500U)J	(<29,000U)J
Chrysene		(<380U)	(<2,800U)	(<2,600U)	(<2,500U)J	(<29,000U)J
Benzo(b)Fluoranthene		(<380U)	(<2,800U)	(<2,600U)	(<2,500U)J	(<29,000U)J
Benzo(k)Fluoranthene		(<380U)	(<2,800U)	(<2,600U)	(<2,500U)J	(<29,000U)J
Benzo(a)Pyrene		(<380U)	(<2,800U)	(<2,600U)	(<2,500U)J	(<29,000U)J
Indeno(1,2,3-cd)Pyrene		(<380U)	(<2,800U)	(<2,600U)	(<2,500U)J	(<29,000U)J
Benzo(g,h,i)Perylene		(<380U)	(<2,800U)	(<2,600U)	(<2,500U)J	(<29,000U)J
o-Toluic acid		(<380U)	(<2,800U)	210 J	1,800 R	67,000
m-Toluic acid		350 J	670 J	2,100 J	2,400 R	120,000
p-Toluic acid		100 J	560 J	2,400 J	(<13,000U)R	5,800 J
Level (low or medium)		L	L	L	L	L
Dilution factor		1	1	1	1	100
4,4'-DDE		(<9.2 U)	19	22	22	(<2,800 U)J
4,4'-DDD		(<9.2 U)	(<13 U)	(<13 U)	12	(<2,800 U)J
4,4'-DDT		(<9.2 U)	6.1 J	(<13 U)	(<12 U)	(<2,800 U)J
Aroclor 1248		(<46 U)	(<66 U)	(<63 U)	(<60 U)	(<14,000 U)J
Level (low or medium)		L	L	L	L	L
Dilution factor		1	1	1	1	200

Analyte	Depth Units	SB27 -03A 4-6 ft (ug/kg)	SB27 -04A 4-4.5 ft (ug/kg)	FB03 (ug/l)	FB04 (ug/l)	FB05 (ug/l)
SEMI-VOLATILES						
Phenol		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Benzyl alcohol		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
2-methyl phenol		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
4-methyl phenol		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Benzoic acid		(<210,000U)	(<220,000U)J	(<50U)	(<50U)	(<50U)
2,4-dimethyl phenol		110,000	63,000 J	(<10U)	(<10U)	(<10U)
Naphthalene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
4-chloroaniline		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
2-methyl naphthalene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Acenaphthylene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Acenaphthene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Dibenzofuran		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Fluorene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
N-nitrosodiphenylamine		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Phenanthrene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Anthracene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Di-n-butyl phthalate		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Dibenzo(a,h)anthracene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Fluoranthene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Pyrene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Butylbenzylphthalate		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Benzo(a)Anthracene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Bis(2-ethyl hexyl)phthalate		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	2 JB
Chrysene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Benzo(b)Fluoranthene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Benzo(k)Fluoranthene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Benzo(a)Pyrene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Indeno(1,2,3-cd)Pyrene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
Benzo(g,h,i)Perylene		(<42,000U)	(<220,000U)J	(<10U)	(<10U)	(<10U)
o-Toluic acid		(<220,000U)	(<2,200,000U)J	(<50U)	(<50U)	(<10U)
m-Toluic acid		500,000	8,500,000 UJ	(<50U)	(<50U)	(<10U)
p-Toluic acid		(<220,000U)	(<2,200,000U)J	(<50U)	(<50U)	(<10U)
Level (low or medium)		L	L	L	L	L
Dilution factor		50	100	1	1	1
4,4'-DDE		(<1,000 U)J	(<1,000 U)	(<0.10 U)	(<0.10 U)	(<0.10 U)
4,4'-DDD		(<1,000 U)J	(<1,000 U)	(<0.10 U)	(<0.10 U)	(<0.10 U)
4,4'-DDT		(<1,000 U)J	(<1,000 U)	(<0.10 U)	(<0.10 U)	(<0.10 U)
Aroclor 1248		(<5,100 U)J	(<5,200 U)	(<0.5 U)	(<0.5 U)	(<0.5 U)
Level (low or medium)		L	L	L	L	L
Dilution factor		100	100	1	1	1

TABLE 6B. SEMI-VOLATILE TENTATIVELY IDENTIFIED COMPOUNDS (TICs) MEASURED IN LANDFILL SOIL BORINGS

Analytes	SB16 -01A	SB16 -02A	SB17 -01A	SB18 -01A	SB18 -02A	SB18 -03A
Depth	3-4 ft	5.5 -7 ft	4-6 ft	0-2 ft	5-7 ft	10-12 ft
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
SEMI-VOLATILES						
TICs-known						
Benzamine,N,N-diethyl-3-methyl	---	1,000 JN	---	---	930 JN	1,500 JN
Benzene,1,1'-(1,2-ethanediyl	---	12,000 JN	4,000 JN	---	1,100 JN	---
Hexadecanoic acid	---	13,000 JN	---	---	---	---
Octadecanoic acid	---	13,000 JN	---	---	---	---
1(3H)-Isobenzofuranone	---	---	860 JN	---	---	---
Benzene,1,1'-oxybis	---	---	740 JN	---	---	---
Benzene,1,2-dimethyl-4-(phenyl	---	---	790 JN	---	200 JN	---
Heptadecane	---	---	650 JN	---	---	---
9-Hexadecanoic acid	---	---	---	160 JN	---	---
Hexadecanoic acid	---	---	---	300 JN	---	---
Phosphoric acid,tris(2-ethyl	---	---	---	---	1,300 JN	---
Benzaldehyde,4-methyl	---	---	---	---	750 JN	---
Ethanol,2-(hexyloxy)	---	---	---	---	---	240 JN
Benzenemethanol,2-methyl	---	---	---	---	---	1,300 JN
Phenol,2,6-bis(1,1-dimethylene	---	---	---	---	---	400 JN
Dodecanamide,N,N-bis(2-hydro	---	---	---	---	---	330 JN
15-Tetracosenoic acid,methyl	---	---	---	---	---	15,000 JN
Octadecanoic acid	---	---	---	---	---	13,000 JN
Benzene,1,2,4,5-tetramethyl	---	---	---	---	---	---
1,2-Propanediol	---	---	---	---	---	---
Tetradecanoic acid	---	---	---	---	---	---
Pentadecanoic acid	---	---	---	---	---	---
Octadecanoic acid	---	---	---	---	---	---
Benzene,1,4-dichloro-isocyanato	---	---	---	---	---	---
3-Pentamine	---	---	---	---	---	---
Benzenemethanimine	---	---	---	---	---	---
2-Propen-1-one,2-(4-methyl	---	---	---	---	---	
2-Propen-1-one,3-(4-methyl	---	---	---	---	---	---
1,4-Benzenedicarboxaldehyde	---	---	---	---	---	---
Benzenemethanol,4-methyl-(9c	---	---	---	---	---	---
Toluic acid methyl ester Isomer	---	---	---	---	---	---
BNA TICs-unknown(n)	1,290 J;3	26,390 J;16	14,290 J;14	450 J;2	7,090 J;14	36,970 ;13
Level (low or medium)	L	L	L	L	L	L
Dilution factor	1	1	1	1	1	1

Notes:
J = Reported value is an estimate
JN = Presumptive identification and an estimated concentration.
R = Data is unusable.
Unknown TICs reported as total concentration and total number of unknowns.

Data validation results provided in data reports 911652 (SB16 - 01A), 911664 (SB16 - 02A through SB21 - 01A) and 911691 (SB22 - 01A through SB27 - 01A)

Analytes	SB19 -01A	SB20 -01A	SB21 -01A	SB22 -01A	SB23 -01A
Depth	5-7 ft	3-5 ft	12.5-14.5 ft	10-12 ft	10-12 ft
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
SEMI-VOLATILES					
TICs-known					
Benzamine,N,N-diethyl-3-methyl	---	2,000 JN	---	770 JN	---
Benzene,1,1'-(1,2-ethanediyl	---	---	---	---	---
Hexadecanoic acid	---	---	---	---	---
Octadecanoic acid	---	---	---	---	---
1(3H)-Isobenzofuranone	---	---	---	---	---
Benzene,1,1'-oxybis	---	---	---	---	---
Benzene,1,2-dimethyl-4-(phenyl	---	2,500 JN	---	---	---
Heptadecane	---	---	---	---	---
9-Hexadecanoic acid	---	---	---	640 JN	---
Hexadecanoic acid	---	12,000 JN	---	4,900 JN	1500 R
Phosphoric acid,tris(2-ethyl	---	---	---	---	---
Benzaldehyde,4-methyl	---	---	---	---	---
Ethanol,2-(hexyloxy)	---	---	---	---	---
Benzenemethanol,2-methyl	---	---	650 JN	540 JN	---
Phenol,2,6-bis(1,1-dimethylene	---	---	---	---	---
Dodecanamide,N,N-bis(2-hydro	---	---	---	---	---
15-Tetracosenoic acid,methyl	---	---	---	---	---
Octadecanoic acid	---	---	---	---	---
Benzene,1,2,4,5-tetramethyl	---	4,900 JN	---	---	---
1,2-Propanediol	---	---	---	2,600 JN	---
Tetradecanoic acid	---	---	---	960 JN	---
Pentadecanoic acid	---	---	---	---	---
Octadecanoic acid	---	---	---	2,700 JN	---
Benzene,1,4-dichloro-isocyanato	---	---	---	---	---
3-Pentamine	---	---	---	---	---
Benzenemethanimine	---	---	---	---	---
2-Propen-1-one,2-(4-methyl	---	---	---	---	---
2-Propen-1-one,3-(4-methyl	4,600 JN	---	---	---	---
1,4-Benzenedicarboxaldehyde	---	---	---	---	---
Benzenemethanol,4-methyl-(9c	89,000 JN	---	---	---	---
Toluic acid methyl ester Iso	3,200 JN	---	---	---	---
TICs-unknown(n)	376,200 J;13	115,800 J;15	1,650 J;5	32,400 J;10	13,150 J;4
Level (low or medium)	L\M	L	L	L	L
Dilution factor	1	1	1	1	1

Analyte / Depth / Units	SB23 -02A 10-12 ft (ug/kg)	SB24 -01A 7-9 ft (ug/kg)	SB24 DUP -01A 7-9 ft (ug/kg)	SB25 -01A 8-10 ft (ug/kg)	SB26 -01A 4-6 ft (ug/kg)
SEMI-VOLATILES					
TICs-known					
Benzamine,N,N-diethyl-3-methyl	---	---	---	---	---
Benzene,1,1'-(1,2-ethanediyl	---	---	---	---	---
Hexadecanoic acid	---	---	---	---	---
Octadecanoic acid	---	---	---	---	---
1(3H)-Isobenzofuranone	---	---	---	---	510,000 JN
Benzene,1,1'-oxybis	---	---	---	---	
Benzene,1,2-dimethyl-4-(phenyl	---	---	---	---	---
Heptadecane	---	---	---	---	---
9-Hexadecanoic acid	1,300 R		10,000 R	---	---
Hexadecanoic acid	2,000 R	7,500 R	10,000 R	19,000 R	---
Phosphoric acid,tris(2-ethyl	---	---	---	---	---
Benzaldehyde,4-methyl	---	---	---	---	---
Ethanol,2-(hexyloxy)	---	---	---	---	---
Benzenemethanol,2-methyl	670 JN	---	4,700 JN	24,000 JN	88,000 JN
Phenol,2,6-bis(1,1-dimethylene	---	---	---	---	---
Dodecanamide,N,N-bis(2-hydro	---	---	---	---	---
15-Tetracosenoic acid,methyl	---	---	---	---	---
Octadecanoic acid	---	---	---	---	---
Benzene,1,2,4,5-tetramethyl	---	---	---	---	---
1,2-Propanediol	---	---	---	---	---
Tetradecanoic acid	---	17,000 JN	16,000 JN	3,100 JN	---
Pentadecanoic acid	---	2,300 JN	---	---	---
Octadecanoic acid	---	48,000 JN	---	9,000 JN	---
Benzene,1,4-dichloro-isocyanato	---	3,800 JN	5,500 JN	---	---
3-Pentamine	---	---	2,200 JN	---	---
Benzenemethanimine	---	---	---	---	46,000 JN
2-Propen-1-one,2-(4-methyl	---	---	---	---	---
2-Propen-1-one,3-(4-methyl	---	---	---	---	65,000 JN
1,4-Benzenedicarboxaldehyde	---	---	---	---	---
Benzenemethanol,4-methyl-(9c	---	---	---	---	---
Toluic acid methyl ester Iso	---	---	---	---	---
TICs-unknown(n)	2230 J;8	330,800 J;15	291,100 J;14	263,900 J;16	4,927,000 J;17
Level (low or medium)	L	L	L	L	L
Dilution factor	1	1	1	1	100

Analyte	SB27 -03A	SB27 -04A	FB03	FB04	FB05
Depth	4-6 ft	4-4.5 ft			
Units	(ug/kg)	(ug/kg)	(ug/l)	(ug/l)	(ug/l)
SEMI-VOLATILES					
TICs-known					
Benzamine,N,N-diethyl-3-methyl	---	---	---	---	---
Benzene,1,1'-(1,2-ethanediyl	---	---	---	---	---
Hexadecanoic acid	---	---	---	---	---
Octadecanoic acid	---	---	---	---	---
1(3H)-Isobenzofuranone	---	---	---	---	---
Benzene,1,1'-oxybis	---	---	---	---	---
Benzene,1,2-dimethyl-4-(phenyl	---	---	---	---	---
Heptadecane	---	---	---	---	---
9-Hexadecanoic acid	---	---	---	---	---
Hexadecanoic acid	---	---	---	---	---
Phosphoric acid,tris(2-ethyl	---	---	---	---	---
Benzaldehyde,4-methyl	---	---	---	---	---
Ethanol,2-(hexyloxy)	---	---	---	---	---
Benzenemethanol,2-methyl	---	---	---	---	---
Phenol,2,6-bis(1,1-dimethylene	---	---	---	---	---
Dodecanamide,N,N-bis(2-hydro	---	---	---	---	---
15-Tetracosenoic acid,methyl	---	---	---	---	---
Octadecanoic acid	---	---	---	---	---
Benzene,1,2,4,5-tetramethyl	---	---	---	---	---
1,2-Propanediol	---	---	---	---	---
Tetradecanoic acid	---	---	---	---	---
Pentadecanoic acid	---	---	---	---	---
Octadecanoic acid	---	---	---	---	---
Benzene,1,4-dichloro-isocyanato	---	---	---	---	---
3-Pentamine	---	---	---	---	---
Benzenemethanimine	---	---	---	---	---
2-Propen-1-one,2-(4-methyl	---	---	---	---	---
2-Propen-1-one,3-(4-methyl	---	---	---	---	---
1,4-Benzenedicarboxaldehyde	32,000 JN	---	---	---	65,000 JN
Benzenemethanol,4-methyl-(9c	---	---	---	---	---
Toluic acid methyl ester Iso	---	---	---	---	---
TICs-unknown(n)	5,181,000 J;15	13,000,000 J;7	---	---	25 J;3
Level (low or medium)	L	L	L	L	L
Dilution factor	50	100	1	1	1

TABLE 7 INORGANIC ANALYTES MEASURED IN LANDFILL SOIL BORINGS

Analytes	SB16 -01A	SB16 -02A	SB17 -01A	SB18 -01A	SB18 -02A	SB18 -03A
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	13,900	5,690	9,710	6,330	4,140	6,620
Antimony	3.1 BJ	(<3.5U) J	6.9 J	3.7 J	3.0 J	2.7 BJ
Arsenic	5.7 J	10.0 J	8.8 J	8.6 J	10.4 J	5.2 J
Barium	64.3	78.4	60.5	105	45.8	58.1
Beryllium	0.57	0.60	0.46 B	0.69	0.49	0.36 B
Cadmium	4.1 J	3.3 J	8.4 J	3.5 J	2.5 J	3.7 J
Calcium	67,400	11,000	17,200	8,790	42,900	50,500
Chromium	18.0 J	20.3	23.4	16.9	18.6	27.4
Cobalt	8.2	31.5 J	53.5 J	10.1 J	16.4 NJ	12.5 J
Copper	20.8	36.9 J	38.5 J	23.8 J	22.8 *J	32.5 J
Iron	26,200	9,300	24,700	10,100	7,340	11,100
Lead	15.1	44.4	40.1	12.1	17.7	58.1
Magnesium	35,300 B	5,450 B	5,780 J	7,390	5430 B	7,560 B
Manganese	599	636 J	638 J	635 J	431 J	465 J
Mercury	(<0.09U)	0.15	0.30	0.11	0.21	0.15
Nickel	24.7	22.2 J	44.5 J	23.9 J	16.6 J	23.3
Potassium	2,460	2.330	1,420	1,850	2,390	1,780
Selenium	(<0.12U)J	(<0.08U)J	(<0.11U)J	(<0.11U)J	(<0.10U)J	(<0.09U)J
Silver	2.8 J	1.6 J	2.1 J	0.46 BJ	3.2 J	3.8 J
Sodium	3,280	3,970	451 B	156 B	875	3570
Thallium	(<0.21 U)	(<0.16 U)R	(<0.21 U)	(<0.23 U)R	(<0.19 U)R	(<0.19 U)R
Vanadium	16.2	18.0	11.6	17.8	12.0	10.3
Zinc	37.4 R	91.5 J	301 J	45.2 J	101 J	190 J
Cyanide	(<0.57 U)	(<0.53 U)J	(<0.51 U)J	(<0.50 U)J	(<0.44 U)J	(<0.52 U)J

Notes:
U = Not detected. Sample quantitation limits are shown as (<_U).
B = Reported value is below CRQL.
J = Reported value is an estimate
R = Unusable

Data validation results provided in data reports 911652 (SB16-01A),
911664 (SB16-02A through (SB21-01A), and 911691 (SB22-01A through SB2701A)

Analytes	SB19 -01A	SB20 -01A	SB21 -01A	SB22 -01A	SB23 -01A	SB23 -02A
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	9,780 J	7,300	7,170	13,400	12,600	8,310
Antimony	(<9.1U)R	(<3.6)J	(<2.8U)J	(<3.1U)R	(<3.4U)J	(3.7U)J
Arsenic	5.2 J	2.0 J	4.4 J	3.6	9.1 J	6.3 J
Barium	92.5 J	46.5	62.9	53.0	76.4	59.1
Beryllium	0.52 J	0.32 B	0.58	0.63	0.54	0.37 B
Cadmium	9.5 J	1.8 J	3.3 J	4.6 J	3.8	3.1
Calcium	37,100 J	40,300	14,100	3,960	23,400 B	83,000
Chromium	33.0 J	21.2	18.7	52.5 J	15.2	13.6
Cobalt	1,260 J	122 J	9.7 J	14.7	8.0	5.9
Copper	44.7 J	38.4 J	25.3 J	35.2 J	20.2	19.1
Iron	57,000 J	5,020	10,400	29,400	24,300	20,100
Lead	20 J	106	13.2	35.9	11.0J	8.8 J
Magnesium	11,400 J	6,180 B	8,640	5,450	14,000 B	38,600 B
Manganese	582 J	299 J	674 J	551	628	400
Mercury	0.50 J	17.2	(<0.10U)	0.13	(<0.11U)	(<0.09U)
Nickel	32 J	15.4 J	22.1 J	28	20.5	18.1
Potassium	2,200 J	2,370	1,810	3,840	1,390	1,540
Selenium	(<3.2U)J	(<0.12U)J	(<0.11U)J	(<0.09U)J	0.13 BJ	(<0.10U)J
Silver	2.0 J	3.3 J	1.5 J	0.45 J	1.4 J	2.9 J
Sodium	15,300 J	5,860	7,010	41,000 B	388 B	6,310
Thallium	(<0.64U)J	0.32 B	(<0.22 U)	<0.18U)J	(<0.21U)J	(<0.20U)J
Vanadium	13.9 J	7.8	17.4	13.0	16.1	12.0
Zinc	107 J	589 ENJ	41.9 J	138 J	38.5	37.7
Cyanide	1.7 J	(<0.51 U)J	(<0.60 U)J	(<0.48U)	(<0.56U)	(<0.48U)

TABLE 7 (Cont)

Analytes	SB24 -01A	SB24 DUP -01A	SB25 -01A	SB26 -01A	SB27 -03A
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	19,900	43,900	8,120	19,100 J	1,160 J
Antimony	8.7 J	10.3 J	3.9 BJ	13.5 J	(<8.4U)J
Arsenic	7.7 J	8.1 BJ	18.5 J	11.7 J	0.78 BJ
Barium	157	135	89.5	175 J	51.1 J
Beryllium	0.68	0.82	0.41 B	1.1 J	(<0.25U)J
Cadmium	5.2	4.6	5.2	8.9 J	20.5 J
Calcium	18,000 B	11,400	26,300 B	83,300 BJ	6,060 J
Chromium	153	164	41.7	11 J	13.7 J
Cobalt	44.2	39.3	108	710 J	1,020 J
Copper	458	294	234	82.5 J	26.0 J
Iron	25,400	21,600	25,800	59,300 J	124,000 J
Lead	141	11.5	124	160 J	2.4 J
Magnesium	5,010	10,500	6,790	14,900 J	1,520 J
Manganese	826	519	347	1,360 J	411 J
Mercury	0.43	0.33	0.36	0.82 J	0.24 J
Nickel	28.4	35.4	19.0	99.2 J	19.7 J
Potassium	10,100	11,600	3,140	8,560 J	342 BJ
Selenium	(<0.11U)J	0.13 BJ	(<0.11U)J	(<2.2U)J	(<0.5U)J
Silver	1.7 J	2.0 J	1.3 J	3.6 J	0.98 J
Sodium	24,000	67,900 B	51,600 B	6,010 J	1,160 BJ
Thallium	(<0.23U)J	(<0.21U)J	(<0.20U)J	(<0.45U)J	(<0.50U)J
Vanadium	13.4	18.7	10.8	25.0 J	(<0.74U)J
Zinc	438	363	1,170	725 J	73.2 J
Cyanide	(<0.65U)	(<0.63U)	3.6	(<1.6U)J	1.4 J

TABLE 7 (Cont)

Analytes	SB27-04A	FB03	FB04	FB05
Units	(mg/kg)	(ug/l)	(ug/l)	(ug/l)
Aluminum	552	71.5 B	(<12U)	25.0 B
Antimony	(<3.6U)J	(<34U)	(<34U)	(<34U)
Arsenic	1.0 BJ	(<2U)	(<2U)	(<2U)
Barium	6.6 B	(<5U)	(<5U)	15.0 B
Beryllium	(<0.11U)	(<1U)	(<1U)	(<1U)
Cadmium	1.6	(<5U)	(<5U)	(<5U)
Calcium	1,570	158 B	99.9 B	1,380 B
Chromium	4.2	(<4U)	(<4U)	(<4U)
Cobalt	4,230	(<9U)	(<9U)	(<9U)
Copper	6.4	5.9 B	(<2U)	9.7 B
Iron	8,530	124	15.4 B	125
Lead	1.9	(<1U)	(<2U)	(<2U)
Magnesium	725	72.8 B	(<30U)	303 B
Manganese	45.9	2.9 B	1.0 B	5.0 B
Mercury	(<0.12U)	(<0.2U)	(<0.2U)	(<0.2U)
Nickel	20.6	(<9U)	(<9U)	(<9U)
Potassium	146 B	(<69U)	(<69U)	1,330 R
Selenium	(<0.11U)J	(<1U)	(<1U)	(<1U)N
Silver	(<0.21U)J	(<2U)N	(<2U)N	6.5 J
Sodium	90.1 B	(<136U)	314 B	2,310 J
Thallium	(<0.23U)J	9.8 B	(<2U)	(<2U)
Vanadium	0.61 B	(<3U)	(<3U)	(<3U)
Zinc	26.4	8.7 B	11.5 B	65.7J
Cyanide	(<0.58U)	(<10U)N	(<10U)	(<10U)

TABLE 8. VOLATILE ORGANIC ANALYTES MEASURED IN SOIL BORING SAMPLES FROM FORMER ORGANIC PLANT AREA

Analytes	Depth Zone Units	MW5-MWB-1 3-5 ft VZ (ug/kg)	MW5-SB-01 4.5-6.5 ft SZ (ug/kg)	MW5-SB-02 2-4 ft VZ (ug/kg)	MW5-SB-03 0.5-2.5 ft VZ (ug/kg)	MW5-SB-04 4-6 ft SZ (ug/kg)	MW5-SB-05 4.5-6.5 ft SZ (ug/kg)	MW5-SB-06 10-12 ft SZ (ug/kg)	MW5-SB-07 0.5-2.5 ft VZ (ug/kg)	MW5-SB-08 10-12 ft SZ (ug/kg)	MW5-SB-09 4.5-6.5 ft SZ (ug/kg)
TCL Analytes											
Acetone		(<15,000U)J	37 J	(<12U)J	(<12U)J	(<12U)J	22 J	18	(<12U)J	13 J	26 J
1,1-Dichloroethane		(<7,700U)J	(<18 U)	(<12U)	(<12U)	(<12U)	(<18U)	(<14U)	(<12U)	(<14U)	4 J
1,2-Dichloroethene (total)		(<7,700U)J	(<18 U)	2 J	(<12U)	(<12U)	(<18U)	(<14U)	(<12U)	(<14U)	(<15U)J
2-Butanone		(<150,000U)J	21	(<12U)	(<12U)	(<12U)	15 J	(<14U)	(<12U)	(<14U)	(<15U)
Benzene		(<7,700U)J	(<18 U)	(<12U)	(<12U)	(<12U)	(<18U)	(<14U)	(<12U)	(<14U)	(<15U)
Tetrachloroethene		(<7,700U)J	(<18 U)	1 J	(<12U)	(<12U)	(<18U)	(<14U)	(<12U)	(<14U)	(<15U)
Toluene		(<7,700U)J	37	(<12U)	(<12U)	(<12U)	(<18U)	(<14U)	(<12U)	(<14U)	(<15U)
Xylenes (total)		2,200,000 J	320,000 D	68	(<12U)	52,000 D	120,000 D	22	(<12U)	580	210
TICs											
Unknown (RT 10.69 min)			64 R	42 R	34 R	41 JN	54 R	49 R	46 R	45 BJ	22 R
Unknown (RT 12.54 min)										7 J	
Unknown (RT 26.13 min)			11 JN								
Unknown (RT 26.42 min)			29 JN				250 JN				
Unknown (RT 27.42 min)							16 JN				
Unknown C9H12 (RT 27.63 min)			29 JN			46 JN	95 JN				
Unknown (RT 28.39 min)							25 JN				
Unknown (RT 28.71 min)						47 JN	54 JN				
Unknown (RT 28.95 min)											18 JN
Unknown (RT 29.75 min)						19 JN	19 JN				
Unknown C10H14 (RT 30.09)						32 JN	14 JN				22 JN
Unknown (RT 30.27 min)						41 JN	21 JN				42 JN
Unknown C10H14 (RT 30.64)						21 JN					27 JN
Unknown C10H14 (RT 30.90)						72 JN	26 JN				45 JN
Unknown C10H14 (RT 31.06)						83 JN	30 JN				52 JN
Unknown (RT 31.22 min)											
Unknown (RT 31.31 min)						17 JN					25 JN
Level (low or medium)			L/M*	L	L	L/M*	L/M*	L	L	L	L
Dilution Factor			1	1	1	1	1	1	1	1	1

Notes:

U = Not detected. Sample quantitation limits are shown as (<_U).

JN = Presumptive identification, estimated value (TICs).

B = Analyte present in corresponding method blank.

* = Xylene data from medium level analysis

Zones: SZ = Saturated zone, VZ = Vadose zone

TABLE 8 (cont)

Analytes	Depth Zone Units	MW5-SB-10 4-6 ft SZ (ug/kg)	MW5-SB-11 6-8 ft SZ (ug/kg)	MW5-SB-12 4-6 ft SZ (ug/kg)	MW5-SB-13 2-4 ft SZ (ug/kg)	MW5-SB-14 0-2 ft VZ# (ug/kg)	MW5-SB-15 6-8 ft SZ (ug/kg)	MW5-SB-16 8-10 ft SZ (ug/kg)	MW5 - FB-01 --- --- (ug/L)	MW5 - TB-01 --- --- (ug/L)	MW5 - TB-02 --- --- (ug/L)	MW5 - FB-02 --- --- (ug/L)
TCL Analytes												
Acetone		(<12U)J	(<12U)J	(<16U)J	(<13U)J	40 J	140 BJ	20 BJ	(<10U)	(<10U)	(<10U)	(<10U)R
1,1-Dichloroethane		(<12U)	(<12U)	(<16U)	(<13U)	(<12U)	(<67U)	(<13U)	1 J	(<10U)	(<10U)	(<10U)
1,2-Dichloroethene (total)		(<12U)	(<12U)	(<16U)	(<13U)	(<12U)	(<67U)	(<13U)	(<10U)	(<10U)	(<10U)	(<10U)
2-Butanone		(<12U)J	(<12U)J	(<16U)J	(<13U)J	(<12U)J	59 J	13 J	(<10U)J	(<10U)J	(<10U)J	(<10U)J
Benzene		(<12U)	(<12U)	(<16U)	(<13U)	(<12U)	5 J	(<13U)	(<10U)	(<10U)	(<10U)	(<10U)
Tetrachloroethene		(<12U)J	(<12U)J	(<16U)	(<13U)J	(<12U)J	(<67U)	(<13U)	(<10U)	(<10U)	(<10U)	(<10U)
Toluene		(<12U)	1 J	(<16U)	(<13U)	(<12U)	(<67U)	2 J	(<10U)	(<10U)J	(<10U)	(<10U)
Xylenes (total)		(<12U)	(<12U)	(<16U)	(<13U)	(<12U)	1,300	6 J	25 J	(<10U)J	(<10U)	(<10U)
TICs												
Unknown (RT 10.69 min)									30BJ	29BJ	30BJ	
Unknown (RT 12.54 min)												
Unknown (RT 26.13 min)												
Unknown (RT 26.42 min)												
Unknown (RT 27.42 min)												
Unknown C9H12 (RT 27.63 min)												
Unknown (RT 28.39 min)												
Unknown (RT 28.71 min)												
Unknown (RT 28.95 min)												
Unknown (RT 29.75 min)												
Unknown C10H14 (RT 30.09)												
Unknown (RT 30.27 min)												
Unknown C10H14 (RT 30.64)												
Unknown C10H14 (RT 30.90)												
Unknown C10H14 (RT 31.06)												
Unknown (RT 31.22 min)		2 J										
Unknown (RT 31.31 min)												
Level (low or medium)		L	L	L	L	L			L	L	L	L
Dilution Factor		1	1	1	1	1			1	1	1	1

TABLE 9A. SEMI-VOLATILE ORGANIC ANALYTES MEASURED IN SOIL BORING SAMPLES FROM FORMER ORGANICS PLANT AREA

Analytes	MW5-MWB-01	MW5-SB-01	MW5-SB-02	MW5-SB-03	MW5-SB-04	MW5-SB-05	MW5-SB-06	MW5-SB-07	MW5-SB-08	MW5-SB-09
Depth	3-5 ft	4.5-6.5 ft	2-4 ft	0.5-2.5 ft	4-6 ft	4.5-6.5 ft	10-12 ft	0.5-2.5 ft	10-12 ft	4.5-6.5 ft
Zone	VZ	SZ	VZ	VZ	SZ	SZ	SZ	VZ	SZ	SZ
Units	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
1,4 Dichlorobenzene	(<600U)	(<600U)	(<380U)	220 J	(<390U)	(<12,000U)	(<450U)	(<410U)	(<480U)	(<15,000U)
Phenol	270 J	(<600U)	(<380U)	(<380U)	(<390U)	(<12,000U)	(<450U)	(<410U)	(<480U)	(<15,000U)
2-Methylphenol	280 J	(<600U)	(<380U)	(<380U)	(<390U)	1,400 J	(<450U)	(<410U)	(<480U)	(<15,000U)
4-Methylphenol	(<2,000U)	66 J	(<380U)	(<380U)	(<390U)	2,400 J	(<450U)	(<410U)	(<480U)	(<15,000U)
2,4-Dimethylphenol	3,700 J	210 J	(<380U)	(<380U)	(<390U)	2,900 J	(<450U)	(<410U)	(<480U)	(<15,000U)
Naphthalene	(<2,000U)	160 J	(<380U)	21 J	1,200	590 J	(<450U)	160 J	(<480U)	2,100 J
2-Methylnaphthalene	(<2,000U)	68 J	(<380U)	30 J	120 J	(<12,000U)	(<450U)	270 J	(<480U)	1,400 J
Acenaphthylene	(<2,000U)	70 J	26 J	(<380U)	(<390U)	(<12,000U)	(<450U)	(<410U)	(<480U)	770 J
Acenaphthene	(<2,000U)	64 J	20 J	(<380U)	(<390U)	(<12,000U)	(<450U)	29 J	(<480U)	(<15,000U)
Dibenzofuran	(<2,000U)	49 J	(<380U)	(<380U)	(<390U)	(<12,000U)	(<450U)	75 J	(<480U)	(<15,000U)
Fluorene	(<2,000U)	430 J	23 J	(<380U)	(<390U)	4,100 J	(<450U)	29 J	(<480U)	(<15,000U)
Phenanthrene	230 J	750	290 J	100 J	32 J	(<12,000U)	(<450U)	340 J	(<480U)	1,300 J
Anthracene	(<2,000U)	140 J	83 J	27 J	(<390U)	(<12,000U)	(<450U)	43 J	(<480U)	(<15,000U)
Carbazole	(<2,000U)	130 J	37 J	20 J	(<390U)	(<12,000U)	(<450U)	31 J	(<480U)	(<15,000U)
Di-n-butylphthalate	(<2,000U)	45 J	90 J	(<380U)	(<390U)	(<12,000U)	(<450U)	28 J	(<480U)	(<15,000U)
Fluoranthene	(<2,000U)	1,000	430	150 J	29 J	600 J	28 J	200 J	(<480U)	7,800 J
Pyrene	(<2,000U)	910	390	190 J	26 J	(<12,000U)	30 J	180 J	(<480U)	7,800 J
Benzo(a)anthracene	(<2,000U)	450 J	250 J	99 J	(<390U)	(<12,000U)	(<450U)	(<410U)	(<480U)	6,700 J
bis(2-Ethylhexyl)phthalate	(<2,000U)	(<600U)	(<380U)	(<380U)	(<390U)	(<12,000U)	(<450U)	(<410U)	(<480U)	(<15,000U)
Chrysene	(<2,000U)	510 J	340 J	150 J	(<390U)	(<12,000U)	(<450U)	170 J	(<480U)	6,600 J
Di-n-octyl phthalate	(<2,000U)	(<600U)	(<380U)	(<380U)	(<390U)	(<12,000U)	(<450U)	37 J	(<480U)	(<15,000U)
Benzo(b)fluoranthene	(<2,000U)	410 J	410	160 J	(<390U)	(<12,000U)	(<450U)	110 J	(<480U)	5,600 J
Benzo(k)fluoranthene	(<2,000U)	400 J	390	120 J	(<390U)	(<12,000U)	(<450U)	100 J	(<480U)	6,100 J
Benzo(a)pyrene	(<2,000U)	460 J	480	220 J	(<390U)	(<12,000U)	(<450U)	110 J	(<480U)	7,900 J
Indeno(123-cd)pyrene	(<2,000U)	300 J	410	180 J	(<390U)	(<12,000U)	(<450U)	68 J	(<480U)	3,800 J
Dibenzo(a,h)anthracene	(<2,000U)	(<600U)	170 J	(<380U)	(<390U)	(<12,000U)	(<450U)	(<410U)	(<480U)	(<15,000U)
Benzo(ghi)perylene	(<2,000U)	330 J	520	270 J	(<390U)	(<12,000U)	(<450U)	(<410U)	(<480U)	3,800 J
m-Toluic Acid	11,000	810 J	(<2,000U)J	(<2,000U)	(<2,000U)	46,000 J	(<2,300U)J	(<2,100U)	(<2,500U)	(<75,000U)J
p-Toluic Acid	14,000	(<3100U)	(<2,000U)	(<2,000U)	(<2,000U)	(<60,000U)	(<2,300U)	(<2,100U)	(<2,500U)	(<75,000U)
o-Toluic Acid	19,000	1,300 J	(<2,000U)	(<2,000U)	(<2,000U)	(<60,000U)	(<2,300U)	(<2,100U)	(<2,500U)	(<75,000U)
Level (low or medium)	L	L	L	L	L	L	L	L	L	M
Dilution Factor	5	1	1	1	1	20	1	1	1	1
Pest/PCB										
Aroclor 1248	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
U = Not detected. Sample quantitation limits are shown as (<_U).
B = Analyte present in corresponding method blank.
J = Estimated value

Zones: SZ = Saturated zone, VZ = Vadose zone

TABLE 9A. (cont)

Analytes	Depth Zone Units	MW5-SB-10 4-6 ft SZ (ug/kg)	MW5-SB-11 6-8 ft SZ (ug/kg)	MW5-SB-12 4-6 ft SZ (ug/kg)	MW5-SB-13 2-4 ft SZ (ug/kg)	MW5-SB-14 0-2 ft VZ (ug/kg)	MW5-SB-15 6-8 ft SZ (ug/kg)	MW5-SB-16 8-10 ft SZ (ug/kg)	MW5-FB-01 --- --- (ug/L)	MW5-FB-02 --- --- (ug/L)
1,4 Dichlorobenzene		(<390U)	(<390U)	(<520U)	(<430U)J	(<410U)J	(<440U)	(<430U)	(<10U)	(<10U)
Phenol		(<390U)	(<390U)	(<520U)	(<430U)	(<410U)	(<440U)	(<430U)	(<10U)	(<10U)
2-Methylphenol		(<390U)	(<390U)	(<520U)	(<430U)	(<410U)	(<440U)	(<430U)	(<10U)	(<10U)
4-Methylphenol		(<390U)	(<390U)	(<520U)	(<430U)	(<410U)	(<440U)	(<430U)	(<10U)	(<10U)
2,4-Dimethylphenol		(<390U)	(<390U)	(<520U)	(<430U)	(<410U)	(<440U)	(<430U)	(<10U)	(<10U)
Naphthalene		(<390U)	(<390U)	(<520U)	(<430U)J	(<410U)J	46 J	(<430U)	(<10U)	(<10U)
2-Methylnaphthalene		(<390U)	53 J	(<520U)	(<430U)J	(<410U)J	(<440U)	(<430U)	(<10U)	(<10U)
Acenaphthylene		(<390U)	41 J	(<520U)	(<430U)J	(<410U)J	(<440U)	(<430U)	(<10U)	(<10U)
Acenaphthene		(<390U)	35 J	(<520U)	(<430U)J	(<410U)J	(<440U)	(<430U)	(<10U)	(<10U)
Dibenzofuran		(<390U)	30 J	(<520U)	(<430U)J	(<410U)J	(<440U)	(<430U)	(<10U)	(<10U)
Fluorene		(<390U)	55 J	(<520U)	(<430U)J	(<410U)J	28 J	(<430U)	(<10U)	(<10U)
Phenanthrene		(<390U)	270 J	(<520U)	(<430U)J	(<410U)J	560	(<430U)	(<10U)	(<10U)
Anthracene		(<390U)	78 J	(<520U)	(<430U)J	(<410U)J	80 J	(<430U)	(<10U)	(<10U)
Carbazole		(<390U)	21 J	(<520U)	(<430U)J	(<410U)J	(<440U)	(<430U)	(<10U)	(<10U)
Di-n-butylphthalate		(<390U)	(<390U)	(<520U)	(<430U)J	(<410U)J	(<440U)	(<430U)	(<10U)	(<10U)
Fluoranthene		(<390U)	570	(<520U)	(<430U)J	(<410U)J	1,700	(<430U)	(<10U)	(<10U)
Pyrene		(<390U)	530	(<520U)	(<430U)J	(<410U)J	1,300	(<430U)	(<10U)	(<10U)
Benzo(a)anthracene		(<390U)	340 J	(<520U)	(<430U)J	(<410U)J	1,100	(<430U)	(<10U)	(<10U)
bis(2-Ethylhexyl)phthalate		(<390U)	(<340U)	(<520U)	(<430U)J	(<410U)J	(<440U)	(<430U)	1 J	(<10U)
Chrysene		(<390U)	290 J	(<520U)	(<430U)J	(<410U)J	880	(<430U)	(<10U)	(<10U)
Di-n-octyl phthalate		(<390U)	(<390U)	(<520U)	(<430U)J	(<410U)J	(<440U)	(<430U)	1 J	(<10U)
Benzo(b)fluoranthene		(<390U)	420	(<520U)	(<430U)J	(<410U)J	1,000	(<430U)	(<10U)	(<10U)
Benzo(k)fluoranthene		(<390U)	220 J	(<520U)	(<430U)J	(<410U)J	530	(<430U)	(<10U)	(<10U)
Benzo(a)pyrene		(<390U)	310 J	(<520U)	(<430U)J	(<410U)J	700	(<430U)	(<10U)	(<10U)
Indeno(123-cd)pyrene		(<390U)	120 J	(<520U)	(<430U)J	(<410U)J	330 J	(<430U)	(<10U)	(<10U)
Dibenzo(a,h)anthracene		(<390U)	45 J	(<520U)	(<430U)J	(<410U)J	100	(<430U)	(<10U)	(<10U)
Benzo(ghi)perylene		(<390U)	110 J	(<520U)	(<430U)J	(<410U)J	330 J	(<430U)	(<10U)	(<10U)
m-Toluic Acid		(<2,000U)	(<2,000U)	100 J	(<2,200U)	(<2100U)	(<2,300U)	(<2,200U)	(<50U)J	(<50U)
p-Toluic Acid		(<2,000U)	(<2,000U)	(<2,700U)	(<2,200U)	(<2100U)	(<2,300U)	(<2,200U)	(<50U)	(<50U)
o-Toluic Acid		(<2,000U)	(<2,000U)	380 J	(<2,200U)	(<2100U)	(<2,300U)	(<2,200U)	(<50U)	(<50U)
Level (low or medium)		L	L	L	L	L	L	L	L	L
Dilution Factor		1	1	1	1	1	1	1	1	1
		ND	ND	ND	ND	ND	59	ND	ND	ND

TABLE 9B. SEMIVOLATILE TENTATIVELY IDENTIFIED COMPOUNDS MEASURED IN SOIL BORING SAMPLES FROM FORMER ORGANICS PLANT A

Analytes Sampling depth Units	MW5-MWB-01 3-5ft (ug/kg)	MW5-SB-01 4.5-6.5 ft (ug/kg)	MW5-SB-02 2-4 ft (ug/kg)	MW5-SB-03 0.5-2.5 ft (ug/kg)	MW5-SB-04 4-6 ft (ug/kg)	MW5-SB-05 4.5-6.5 ft (ug/kg)	MW5-SB-06 10-12 ft (ug/kg)	MW5-SB-07 0.5-2.5 ft (ug/kg)	MW5-SB-08 10-12 ft (ug/kg)	MW5-SB-09 4.5-6.5 ft (ug/kg)
Unknown (RT 3.92 min)		970 JN					460 JN			
Unknown (RT 5.36 min)							230 JN			
Unknown Hydrocarbon (RT 5.37 min)									190 JN	6100 JN
Unknown (RT 6.65 min)										
Unknown (RT 7.25 min)										
Unknown (RT 7.16 min)					1,000 JN					
2-Cyclohexen-1-one (RT 8.12 min)										
Unknown C10H14 isomer,8.71 min					690 JN					8400 JN
Unknown C10H14 isomer,8.79 min					490 JN					5300 JN
Unknown C10H14 isomer, 9.02 min										5300 JN
Unknown C10H14 isomer,9.20 min					1,400 JN					16000 JN
Unknown C10H14 isomer,9.32 min					1,600 JN					21000 JN
Unknown (RT 9.71 min)				190 JN	490 JN					7600 JN
Unknown (RT 9.84 min)					880 JN					13000 JN
Unknown C10H14 isomer,9.92 min					1200JN					
Unknown C10H12 isomer, 10.27 min					670JN					9900 JN
Bicyclo[2.2.1]heptan-2-one,10.4 min			310 JN	3,300 JN						
Unknown (RT 10,41 min)										3800 JN
Unknown C10H12 isomer, 10.47 min										14000 JN
Unknown C10H14 isomer,10.48min					1200 JN					
Unknown (RT 10.55 min)										5300 JN
Ethanone,1 phenyl(RT 10.60 min)										
Unknown (RT 10.67 min)										
Unknown C10H14 isomer, 10,79 min										6800 JN
Unknown C11H16 isomer (RT 11.16 min)					270 JN					4600 JN
Unknown C11H16 isomer, 11.36 min										3800 JN
Unknown Alkylbenzene (11.52 min)										
Unknown (RT 11.77 min)										
Unknown (RT 11.90 min)										
Unknown (RT 12.12 min)								190 JN		
Unknown (RT 12.52 min)			170 JN					210 JN		
1(3H)-Isobenzofuranone (9CI),13.67 min						5300 JN				
Unknown HC (RT 13.95 min)				140 JN				230 JN		
Unknown C12H10O isomer,14.31		730 JN								
Unknown C12H12 isomer, 14.64 min								330 JN		
Unknown Hydrocarbon (RT 14.81 min)								230 JN		
Level (low or medium)		L	L	L	L	L	L	L	L	L
Dilution factor		1	1	1	1	20	1	1	1	1

Notes:
JN = Presumptive identification, estimated value (TICs).
J = Estimated value

TABLE 9B. (Cont)

Analytes Sampling depth Units	MW5-MWB-01 3-5ft (ug/kg)	MW5-SB-01 4.5-6.5 ft (ug/kg)	MW5-SB-02 2-4 ft (ug/kg)	MW5-SB-03 0.5-2.5 ft (ug/kg)	MW5-SB-04 4-6 ft (ug/kg)	MW5-SB-05 4.5-6.5 ft (ug/kg)	MW5-SB-06 10-12 ft (ug/kg)	MW5-SB-07 0.5-2.5 ft (ug/kg)	MW5-SB-08 10-12 ft (ug/kg)	MW5-SB-09 4.5-6.5 ft (ug/kg)
Unknown Hydrocarbon (RT 15.32 min)								250 JN		
Unknown C15H16 isomer,15.95		880 JN				12000 JN				
1(3H) Isobenzofuranone(15.96)	1,600 JN									
Unknown (RT 16.58 min)				160 JN				450 JN		
Unknown C12H17NO isomer,16.68		4,200 JN					160 JN			
Unknown C14H22O isomer,16.96 min					570 JN					
Benzene,1,1-oxybis(16.81)										
Unknown (RT 17.10 min)				310 JN						
Unknown C15H16 isomer,17.30 min						5300 J				
Stannane, chlorotris(2-methyl), 17.31 min		2,400 JN	970 JN	370 JNN						
Unknown (RT 17.85 min)				160 JN		4,100 J		490 JN		3000 JN
Unknown (RT 18.27 min)		610 JN								5300 JN
Unknown (RT 18.37 min)		880 JN								
Unknown C16H18 isomer,18.58		1,100 JN			200 JN	29000 JN			120 JN	
Unknown (RT 18.67 min)										
Unknown (RT 18.79 min)						11000 JN				3000 JN
Unknown (RT 18.94 min)				97 JN		3500 JN		430 JN		
Unknown (RT 19.04 min)			77 JN							
Unknown (RT 19.77 min)		790 JN				16000 JN				
Unknown (20.25 min)						3500 JN				
Unknown (20.58 min)										
Unknown C15H12, 20.69 min			77 JN		N			230 JN		
Unknown (RT 20.9 min)		2,100 JN			1,800 JN	270000 JN			410 JN	
Unknown HC (RT 21.08 min)			140 JN	170 JN				270 JN		
Unknown (RT 21.20 min)		2,700 JN				110000 JN				
Unknown (RT 21.28 min)						15000 JN				
Unknown (RT 21.44 min)						4100 JN				
Unknown HC (RT 22.07 min)			190 JN	160 JN				390 JN		
Benzene,1,1-(1,2-ethanediyl)(22.19)										
Unknown (RT 22.62 min)		1,000 JN		190 JN		6400 JN				
Unknown (RT 23.83 min)		1,200 JN								
Unknown (RT 23.93 min)			1,900 JN	270 JN	470 JN			470 JN		
Unknown (RT 24.10 min)										
Unknown Hydrocarbon (RT 24.81 min)			1,200 JN	450 JN	550 JN			350 JN	170 JN	
Unknown Hydrocarbon (RT 25.68 min)		1,200 JN	1,800 JN	720 JN	570 JN			290 JN		
Unknown (RT 25.85 min)										
Level (low or medium)		L	L	L	L	L	L	L	L	L
Dilution factor		1	1	1	1	20	1	1	1	1

TABLE 9B. (Cont)

Analytes Sampling depth Units	MW5-MWB-01 3-5ft (ug/kg)	MW5-SB-01 4.5-6.5 ft (ug/kg)	MW5-SB-02 2-4 ft (ug/kg)	MW5-SB-03 0.5-2.5 ft (ug/kg)	MW5-SB-04 4-6 ft (ug/kg)	MW5-SB-05 4.5-6.5 ft (ug/kg)	MW5-SB-06 10-12 ft (ug/kg)	MW5-SB-07 0.5-2.5 ft (ug/kg)	MW5-SB-08 10-12 ft (ug/kg)	MW5-SB-09 4.5-6.5 ft (ug/kg)
Unknown (RT 25.95 min)										
Unknown Hydrocarbon (RT 26.48 min)		760 JN	1,500 JN	780 JN				290 JN		
Unknown Hydrocarbon (RT 27.25 min)		1,800 JN	1,200 JN	830 JN				310 JN		
Unknown Hydrocarbon (RT 28.00 min)		550 JN	890 JN	680 JN	200 JN		140 JN	230 JN		
Unknown (RT 28.13 min)							91 JN		360 JN	
Unknown (RT 28.23 min)										
Unknown (RT 28.37 min)		1,100 JN			470 JN	7000 JN	140 JN			
Unknown (RT 28.63 min)										
Unknown Hydrocarbon (RT 28.77 min)		2,100 JN	910 JN	930 JN	490 JN	3500 JN	270 JN	780 JN	170 JN	9000 JN
Unknown (RT 29.33 min)										
Unknown C20H12 (RT 29.72 min)			560 JN							
Unknown (RT 30.12 min)										
Unknown (RT 30.45 min)										
Unknown (RT 30.52 min)							180 JN		140 JN	10000 JN
Unknown Hydrocarbon (RT 30.55 min)		2,500 JN	1,000 JN	680 JN				660 JN		
Unknown (RT 30.80 min)										
Unknown Hydrocarbon (RT 30.98 min)										
Unknown Hydrocarbon (RT 31.18 min)										
Unknown (RT 31.25 min)										
Unknown (RT 31.36 min)						4100 JN				
Benzo [E] Pyrene (RT 31.48 min)										
Unknown (RT 31.53 min)										
Unknown (RT 31.77 min)										
Unknown (RT 32.37 min)			430 JN	460 JN						
Unknown Hydrocarbon (RT 32.91 min)			330 JN							
Unknown Hydrocarbon (RT 33.17 min)										
Unknown Hydrocarbon (RT 33.73 min)			140 JN							
Unknown Hydrocarbon (RT 34.55 min)										
Unknown (RT 34.78 min)										
Unknown (RT 34.87 min)										
Level (low or medium)		L	L	L	L	L	L	L	L	L
Dilution factor		1	1	1	1	20	1	1	1	1

TABLE 9B. (Cont)

Analytes / Sampling depth / Units	MW5-SB-10 4-6 ft (ug/kg)	MW5-SB-11 6-8 ft (ug/kg)	MW5-SB-12 4-6 ft (ug/kg)	MW5-SB-13 2-4 ft (ug/kg)	MW5-SB-14 0-2 ft (ug/kg)	MW5-SB-15 6-8 ft (ug/kg)	MW5-SB-16 8-10 ft (ug/kg)
Unknown (RT 3.92 min)							
Unknown (RT 5.36 min)							
Unknown Hydrocarbon (RT 5.37 min)							
Unknown (RT 6.65 min)	320 JN	230 JN	270 JN	280 JN	330 JN		
Unknown (RT 7.25 min)	95 JN	150 JN					
Unknown (RT 7.16 min)					99 JN		
2-Cyclohexen-1-one (RT 8.12 min)	100 JN	140 JN		100 JN	120 JN		
Unknown C10H14 isomer,8.71 min							
Unknown C10H14 isomer,8.79 min							
Unknown C10H14 isomer, 9.02 min							
Unknown C10H14 isomer,9.20 min							
Unknown C10H14 isomer,9.32 min							
Unknown (RT 9.71 min)							
Unknown (RT 9.84 min)							
Unknown C10H14 isomer,9.92 min							
Unknown C10H12 isomer, 10.27 min							
Bicyclo[2.2.1]heptan-2-one,10.4 min							
Unknown (RT 10,41 min)							
Unknown C10H12 isomer, 10.47 min							
Unknown C10H14 isomer,10.48min							
Unknown (RT 10.55 min)							
Ethanone,1 phenyl(RT 10.60 min)		160 JN	610 JN				
Unknown (RT 10.67 min)			400 JN				
Unknown C10H14 isomer, 10,79 min							
Unknown C11H16 isomer (RT 11.16 min)							
Unknown C11H16 isomer, 11.36 min							
Unknown Alkylbenzene (11.52 min)		60 JN					
Unknown (RT 11.77 min)			120 JN				
Unknown (RT 11.90 min)			860 JN				
Unknown (RT 12.12 min)							
Unknown (RT 12.52 min)							
1(3H)-Isobenzofuranone (9Cl),13.67 min							
Unknown HC (RT 13.95 min)							
Unknown C12H10O isomer,14.31							
Unknown C12H12 isomer, 14.64 min							
Unknown Hydrocarbon (RT 14.81 min)							
Level (low or medium)	L	L	L	L	L	L	L
Dilution factor	1	1	1	1	1	1	1

TABLE 9B. (Cont)

Analytes / Sampling depth / Units	MW5-SB-10 4-6 ft (ug/kg)	MW5-SB-11 6-8 ft (ug/kg)	MW5-SB-12 4-6 ft (ug/kg)	MW5-SB-13 2-4 ft (ug/kg)	MW5-SB-14 0-2 ft (ug/kg)	MW5-SB-15 6-8 ft (ug/kg)	MW5-SB-16 8-10 ft (ug/kg)
Unknown Hydrocarbon (RT 15.32 min)							
Unknown C15H16 isomer,15.95							
1(3H) Isobenzofuranone(15.96)							
Unknown (RT 16.58 min)							
Unknown C12H17NO isomer,16.68							
Unknown C14H22O isomer,16.96 min							
Benzene,1,1-oxybis(16.81)							
Unknown (RT 17.10 min)							
Unknown C15H16 isomer,17.30 min							
Stannane, chlorotris(2-methyl), 17.31 min							
Unknown (RT 17.85 min)							
Unknown (RT 18.27 min)							
Unknown (RT 18.37 min)							
Unknown C16H18 isomer,18.58							
Unknown (RT 18.67 min)							
Unknown (RT 18.79 min)							
Unknown (RT 18.94 min)							
Unknown (RT 19.04 min)							
Unknown (RT 19.77 min)							
Unknown (20.25 min)			220 JN				
Unknown (20.58 min)			150 JN				
Unknown C15H12, 20.69 min							
Unknown (RT 20.9 min)			120 JN				
Unknown HC (RT 21.08 min)							
Unknown (RT 21.20 min)							
Unknown (RT 21.28 min)							
Unknown (RT 21.44 min)							
Unknown HC (RT 22.07 min)							
Benzene,1,1-(1,2-ethanediyl)(22.19)							
Unknown (RT 22.62 min)		160 JN					
Unknown (RT 23.83 min)							
Unknown (RT 23.93 min)							
Unknown (RT 24.10 min)			290 JN				
Unknown Hydrocarbon (RT 24.81 min)							
Unknown Hydrocarbon (RT 25.68 min)		210 JN					
Unknown (RT 25.85 min)		140 JN					
Level (low or medium)	L	L	L	L	L	L	L
Dilution factor	1	1	1	1	1	1	1

TABLE 9B. (Cont)

Analytes / Sampling depth / Units	MW5-SB-10 4-6 ft (ug/kg)	MW5-SB-11 6-8 ft (ug/kg)	MW5-SB-12 4-6 ft (ug/kg)	MW5-SB-13 2-4 ft (ug/kg)	MW5-SB-14 0-2 ft (ug/kg)	MW5-SB-15 6-8 ft (ug/kg)	MW5-SB-16 8-10 ft (ug/kg)
Unknown (RT 25.95 min)		97 JN					
Unknown Hydrocarbon (RT 26.48 min)							
Unknown Hydrocarbon (RT 27.25 min)			160 JN				
Unknown Hydrocarbon (RT 28.00 min)							
Unknown (RT 28.13 min)							
Unknown (RT 28.23 min)		80 JN					
Unknown (RT 28.37 min)							
Unknown (RT 28.63 min)			580 JN				
Unknown Hydrocarbon (RT 28.77 min)							
Unknown (RT 29.33 min)		97 JN					
Unknown C20H12 (RT 29.72 min)							
Unknown (RT 30.12 min)			440 JN				
Unknown (RT 30.45 min)		140 JN	390 JN				
Unknown (RT 30.52 min)			830 JN				
Unknown Hydrocarbon (RT 30.55 min)							
Unknown (RT 30.80 min)			770 JN				
Unknown Hydrocarbon (RT 30.98 min)		240 JN					
Unknown Hydrocarbon (RT 31.18 min)		270 JN					
Unknown (RT 31.25 min)			690 JN				
Unknown (RT 31.36 min)							
Benzo [E] Pyrene (RT 31.48 min)		280 JN					
Unknown (RT 31.53 min)			440 JN				
Unknown (RT 31.77 min)			920 JN				
Unknown (RT 32.37 min)							
Unknown Hydrocarbon (RT 32.91 min)							
Unknown Hydrocarbon (RT 33.17 min)		270 JN					
Unknown Hydrocarbon (RT 33.73 min)							
Unknown Hydrocarbon (RT 34.55 min)		85 JN					
Unknown (RT 34.78 min)		85 JN					
Unknown (RT 34.87 min)			630 JN				
Level (low or medium)	L	L	L	L	L	L	L
Dilution factor	1	1	1	1	1	1	1

TABLE 10. INORGANIC ANALYTES AND TOTAL ORGANIC CARBON MEASURED IN SOIL SAMPLES FROM FORMER ORGANICS PLANT AREA

Analytes	MW5 MWB-1	MW5 SB-01	MW5 SB-2B	MW5 SB-03	MW5 SB-04	MW5 SB-05	MW5 SB-06	MW5 SB-07	MW5 SB-08	MW5 SB-09
Depth (ft)	3-5 ft	4.5-6.5	2-4	0.2-2.5	4-6	4.5-6.5	10-12	2.5-4.5	10-12	4.5-6.5
Zone	VZ	SZ	VZ	VZ	SZ	SZ	SZ	VZ	SZ	SZ
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
Aluminum	8,390 J	7,370	11,400	3,270	6,360	16,500	4,570	3,060	6,160	2,150
Antimony	1.9 J	11.8 J	11.0 J	30.2 J	(<6.7U)J	(<8.7U)J	(<6.7U)J	10.4 J	(<8.1U)J	18,2 J
Arsenic	8.2 J	24.7 J	11.6 J	11.6 J	2.9 J	8.3 J	5.0 J	7.2 J	11.5 J	8.7 J
Barium	138 J	1,130 J	155 J	645 J	26.0 J	269 J	78.4 J	108 J	120 J	270 J
Beryllium	0.54 J	0.46 B	0.61	0.31 B	0.33 B	0.95	0.39 B	0.44	0.43 B	0.26 B
Cadmium	3.6 J	5.9 J	9.0 J	39.6 J	1.1 J	5.8 J	1.9 J	6.3 J	3.8 J	3.3 J
Calcium	45,000 J	48,200	11,900	79,700	161,000	6,940	98,900	2,080	12,500	7,500
Chromium	26.4 J	162 J	18.5 J	42.7 J	9.7 J	77.3 J	20.8 J	12.8 J	11.2 J	74.5 J
Cobalt	10.7 J	30.3 J	11.0	16.8	5.7	22.5J	17.9 J	6.3	14.0	4.2 B
Copper	318 J	547	1,000	22,300	15.2	165	40.2	3,140	29.9	238
Iron	24,700 J	20,300	36,400	134,000	12,500	32,300	11,400	33,600	24,100	13,000
Lead	63.2 J	1,580 J	1,290 J	2,870 J	5.6 S	302 J	206 J	445 J	35.4 J	339 J
Magnesium	8,560 J	9,920	5,830	5,300	18,800	6,890	8,610	1,240	3,950	2,280
Manganese	344 J	280	802	631	357	270	422	221	482	76.8
Mercury	0.67 R	25.2 J	6.2 J	7.3 J	(<0.11U)J	5.0 J	0.63 J	0.79 J	(<0.13U)J	2.0 J
Nickel	32.7 J	34.8	45.6	97.5 J	16.0 J	43.3 J	22.5 J	30.4 J	29.6 J	13.5 J
Potassium	926 J	965	1,210	336 B	1,350	3,080	1,060	374 B	985	252 B
Selenium	0.25 J	(<0.16U)J	(<0.11U)J	(<0.10U)J	(<0.07U)J	0.17 J	(<0.10U)BJ	(<0.11U)J	(<0.14U)J	0.33 BJ
Silver	(<0.37U)J	(<1.2U)	(<0.92U)	(<0.76U)	(<1.0U)	(<0.13U)	(<1.0U)	(<0.80U)	(<1.2U)	(<0.94U)
Sodium	913 J	1,210 J	411 B	144 B	135 B	1,570 J	311 B	136 B	258 B	336 B
Thallium	0.43 J	(<0.48U)	(<0.32U)	(<0.30U)	(<0.22U)	(<0.51U)	(<0.30U)	(<0.32U)	(<0.43U)	(<0.44U)
Vanadium	14.8 J	14.8 J	17.6 J	5.6	10.8 J	26.3 J	11.0 J	9.0	13.2 J	6.2
Zinc	421 J	1,160	2,470	15,600	22.5	310	126	1,320	85.2	786
Cyanide	(<0.11U)	0.24 J	0.15 J	0.39 J	(<0.11U)J	(<0.18U)J	(<0.14U)J	(<0.12U)J	(<0.15U)J	0.48 J
Organic Carbon		NR	NR	20,200 J	8,050 J	NR	NR	NR	NR	26,600 J

Notes:
U = Not detected. Sample quantitation limits are shown as (<_U).
B = Reported value is below CRQL.
J = Estimated value

NR = Analysis not required
Zones: SZ = Saturated zone, VZ = Vadose zone

TABLE 10. (Continued)

Analytes	MW5 SB-10	MW5 SB-11	MW5 SB-12	MW5 SB-13	MW5 SB-14	MW5 SB-15	MW5 SB-16	MW5 FB-01	MW5 FB-02
Depth (ft)	4-6	6-8	4-6	2-4	0-2	6-8 ft	8-10 ft	---	---
Zone	SZ	SZ	SZ	SZ	VZ	SZ	SZ	---	---
Units	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(ug/L)	(ug/L)
Aluminum	14,400	9,320	9,980	14,400	16,000	6,170	4,820	34.1 B	(<16U)
Antimony	(<1.9U)J	(<1.6U)J	(<2.6U)J	(<1.9U)J	(<1.5U)J	11.8	1.3	(<17U)	(<17U)
Arsenic	5.6 J	8.3 J	7.1 J	7.5 J	15.6 J	33.1	6.7	(<2U)	(<2U)
Barium	87.7	134	102	157	120	1,380	45.2	(<89U)	(<89U)
Beryllium	0.54 B	0.45 B	0.47 B	0.59	0.75	0.54	0.45	(<1U)	(<1U)
Cadmium	3.5 J	2.5 J	3.5 J	4.1 J	4.4 J	9.1 J	1.4 J	(<3U)	(<3U)
Calcium	2,860	57,400	40,400	11,600	4,100	18,700	95,700	136 B	201 B
Chromium	19	25.2	60.1	43.4	21.9	99.8	9.0	(<7U)	(<7U)
Cobalt	7.5	6.9	31.1	10.6	11.0	12.8	12.1	(<13U)	(<13U)
Copper	18.1 J	43.5 J	297 J	75.4 J	18.9 J	1,210 J	30.4 J	5.5 B	(<3U)J
Iron	25,900	19,000	21,400	28,700	33,600	58,100	17,500	151	246 J
Lead	7.8 J	96.3	220	256	16.6	3,030 J	14.4 J	(<1U)	(<1U)
Magnesium	6,940	12,000	13,400	8,990	6,960	2,740 J	8,910 J	95 B	55.9 B
Manganese	729	668	740	245	1,320	6,130	924	3.6 B	3.6 B
Mercury	(<1.0U)	0.21	2.1	3.4	(<1.0U)	0.86 J	0.12 J	(<0.2U)	(<0.2U)
Nickel	25.7 J	18.6 J	28.2 J	33.8 J	38.6 J	166 J	30.7 J	(<26U)	(<26U)J
Potassium	1,820	1,560	1,640	1,330	2,530	890	958	(<96U)	(<96U)
Selenium	(<0.1U)J	0.22 J	(<0.63U)J	0.13 J	(<0.1U)J	0.49 J	(<0.07U) J	(<1U)	(<1U)
Silver	(<0.34U)J	(<0.28U)J	2.6 J	(<0.34U)J	(<0.26U)J	(<0.26U) J	(<0.16 U)J	3 B	(<2U)J
Sodium	73.4 J	160 J	136 BJ	121 J	97.1 J	366 J	251	129 B	299 B
Thallium	(<0.1U)	(<0.11U)	0.13 B	0.22 B	0.15 B	0.25	0.21	(<1U)	(<1U)
Vanadium	20.9	17.5	18.7	23.6	26.6	12.1	11.2	(<4U)	(<4U)
Zinc	39.5	122	253	184	64.4	4,590	552	11 B	22.5 J
Cyanide	(<0.121U)J	(<0.110U)J	(<0.164U)J	(<0.133U)J	(<0.123U)J	---	---	---	---
Organic Carbon	NR	NR	NR	NR	NR	NR	NR	NR	NR

TABLE 11. ORGANIC ANALYTES MEASURED IN STREAM BANK SEEPS AND SEEP SEDIMENT

Analytes	Units	CS01 -01A (ug/l)	CS02 -01A (ug/l)	CS03 -01A (ug/l)	CS04 -01A (ug/l)	SS03 -01A (ug/kg)	TB (ug/l)
VOLATILES							
Acetone		(<10U)	49	(<50U)	(<50U)	(<17U)	(<10U)
Methylene chloride		(<5U)	(<5U)	[9U]	[6U]	[9U]	(<5U)
1,2-Dichloroethene (total)		(<5U)	33	670	80	84	(<5U)
Trichloroethene		(<5U)	10	260	72	54	(<5U)
Tetrachloroethene		(<5U)	3 J	100	560	34	(<5U)
Toluene		(<5U)	8	53	20	13	(<5U)
Xylenes		(<5U)	150	570	570	200	(<5U)
TICs - Known		---	---	---	---	---	---
TICs - Unknown		---	---	---	---	---	---
Level (low or medium)		L	L	L	L	L	L
Dilition factor		1	1	5	5	1	1
SEMI-VOLATILES							
Phenol		(<10U)	(<10U)	81	47	(<570U)	NA
o-Methylphenol		(<10U)	11	16 J	10 J	(<570U)	NA
m+p-Methylphenol (coelutes)		(<10U)	4 J	11 J	8 J	(<570U)	NA
2,4-Dimethylphenol		(<10U)	(<10U)	(<10U)	(<10U)	190 J	NA
Bis(2-ethyl hexyl)phthalate		1 J	(<10U)	2 J	2 J	(<570U)	NA
Napthalene		(<10U)	(<10U)	(<10U)	2 J	(<570U)	NA
Phenanthrene		(<10U)	(<10U)	(<10U)	15	(<570U)	NA
Anthracene		(<10U)	(<10U)	1 J	3 J	(<570U)	NA
Fluorene		(<10U)	(<10U)	(<10U)J	2 J	(<570U)	NA
Fluoranthene		(<10U)	(<10U)	(<10U)	28	(<570U)	NA
Pyrene		(<10U)	(<10U)	(<10U)J	18	(<570U)	NA
Benzo(a)anthracene		(<10U)	(<10U)	(<10U)J	10 J	(<570U)	NA
Chrysene		(<10U)	(<10U)	(<10U)	11	(<570U)	NA
Benzo(b)fluoranthene		(<10U)	(<10U)	(<10U)	19	(<570U)	NA
Benzo(k)fluoranthene		(<10U)	(<10U)	(<10U)	19	(<570U)	NA
Benzo(a)pyrene		(<10U)	(<10U)	(<10U)	8 J	(<570U)	NA
m-Toluic acid		(<10U)	86,000 D	94,000 D	29,000 D	3,400	NA
p-Toluic acid		(<10U)	63,000 D	53,000 D	37,000 D	2,200	NA
o-Toluic acid		(<10U)	1,600 J	5,800 JD	830 JD	420 J	NA
TICs - known							
Benzamine,N,N-diethyl-3-methyl		---	310 JN	760 JN	83 JN	---	NA
Benzenemethanol, 2-methyl		---	810 JN	1,500 JN	---	---	NA
Phenol, 4-(tetramethylbutyl)		---	---	1,900 JN	250 JN	---	NA
1(3H)-Isobenzofuranone		---	---	---	420 JN	---	NA
TICs - unknown		---	604 J;15	9,414 J;15	2,357 J;13	47,000 J;1	NA
Level (low or medium)		L	L	L	L	L	L
Dilition factor		1	1/500 *	1/500 *	1/200 *	1/500 *	1
PESTICIDES/PCBs							
None detected			UJ	UJ	UJ		

Notes:
U = Not detected. Sample quantitation limits are shown as (<__U).
J = Report value is an estimate
[-U] = Reported value was false positive following data validation
JN = Presumptive identification, estimated value
--- = No detectable TICs.
NA = Not applicable
D = Sample value from diluted analysis
* = Dilution factor for toluic acid results

Values shown for unknown TICs are the total concentration and total number of unknowns
Data validatiion results provided in data report 920461

TABLE 12. INORGANIC ANALYTES MEASURED IN STREAM BANK SEEPS AND SEEP SEDIMEN

Analyte Units	CS01 (ug/l)	CS02 (ug/l)	CS03 (ug/l)	CS04 (ug/l)	SS03 (mg/kg)
Aluminum	1,710	6,160	29,300	6,850	8,610
Antimony	114 J	99.3 J	269	150 J	(<3.4U)J
Arsenic	5.7 B	95.4	170	29.2	2.2
Barium	164 BJ	144 B	491	70.8 B	119 J
Beryllium	(<1U)	(<1U)	1.8 B	(<1U)	0.49 B
Cadmium	(<5U)	(<5U)J	8.7 J	(<5U)J	2.2 J
Calcium	72,200	27,600	51,500	63,400	11,600
Chromium	8.0 B	36.6	92.4	35.3	18.0
Cobalt	(<8U)	(<8U)	28.3 B	11.4 B	8.1 B
Copper	29.1 J	97.8 J	158 J	135 J	29.8 J
Iron	8,840	10,000	34,600	9,320	16,000
Lead	87.8	117	194	112	24.0
Magnesium	12,500	5,550	16,300	14,100	7,680
Manganese	785	271	778	369	185
Mercury	1.1 J	0.80 J	1.3 J	0.53 J	0.14
Nickel	(<8U)	81.8	238	58	18.8 J
Potassium	2,450 B	6,500	13,000	22,700	926
Selenium	(<2U)	(<20U)	(<40U)	(<20U)	0.25 BJ
Sodium	31,300	1,300,000	2,670,000	1,020,000	4,810
Thallium	(<1U)	(<1U)	1.3 B	1.0 B	0.23 B
Vanadium	(<4U)	75.3 J	172 J	45.1 BJ	13.1
Zinc	51.4 J	90.6 J	244 J	131 J	52.2 J
Cyanide	(<10U)	(<10U)	(<10U)	(<10U)	2.2 J

Notes:
U=Not detected; Sample quantitation limits are shown as (<_U)
B=Reported value is below the CRQL
J = Reported concentration is an estimated value.

Data Validation results provided in data report 920461

TABLE 13. ORGANIC ANALYTES MEASURED IN STREAM SURFACE WATER

Analytes	Units	SW01 -01A (ug/l)	SW01 Dup (ug/l)	SW02 -01A (ug/l)	SW03 -01A (ug/l)	SW04 -02A (ug/l)	SWFB01 -01A (ug/l)	TB1 (ug/l)
VOLATILES								
Acetone		(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	13
TICs - Known		---	---	---	---	---	---	---
TICs - unknown		---	---	---	---	---	---	---
Level (low or medium)		L	L	L	L	L	L	L
Dilution factor		1	1	1	1	1	1	1
SEMI-VOLATILES								
Bis(2-ethyl hexyl)phthalate		(<10U)	(<10U)	210 DJ	(<10U)	(<10U)J	(<10U)	NA
TICs - Known		---	---	---	---	---	---	NA
TICs - unknown (total;n)		10 J;1	172 J;2	34 J;1	---	---	---	NA
Level (low or medium)		L	L	L	L	L	L	L
Dilution factor		1	1	1/2 *	1	1	1	1
PESTICIDES/PCBs								
None detected								
Level (low or medium)		L	L	L	L	L	L	L
Dilution factor		1	1	1	1	1	1	1

Notes:
U = Not detected. Sample quantitation limits are shown as (<__U).
D = Reported result from diluted analysis.
* = Bis(2-ethyl hexyl)phthalate result from diluted analysis

--- = No detectable TICs.
NA = Not applicable.
J = Reported value is an estimate

Values shown for unknown TICs are the total concentration and total number of unknowns
Data validation results provided in data report 920386

TABLE 14. INORGANIC ANALYTES MEASURED IN SURFACE WATER SAMPLES

Analytes Units	SW-1 (ug/l)	SW-1 DUP (ug/l)	SW-2 (ug/l)	SW-3 (ug/l)	SW-4 (ug/l)	SW-FB (ug/l)
Aluminum	81.0 B	104 B	121 B	102 B	164 B	(<11U)
Antimony	81.5 J	87.6 J	83.2 J	76.8 J	90.8 J	(<52U)
Arsenic	(<1.0U)	(<1.0U)	1.2 B	(<1.0U)	(<1.0U)	(<1U)
Barium	81.1 BJ	66.1 BJ	80.9 BJ	102 BJ	75.2 BJ	36.8 B
Calcium	60,300	56,700	55,900	52,800	58,100	461 B
Copper	19.4 BR	32.4 R	16.4 BR	16.5 BR	21.7 BR	14.5 BR
Iron	91.2 B	94.6 BJ	187	113	278	(<6U)
Lead	(<2.0U)	(<2.0U)	(<2.0U)	(<2.0U)	3.4	(<2U)
Magnesium	12,900	12,100	12,100	11,400	12,400	(<78U)
Manganese	15.6	14.5 B	18.5	14.1 B	24.6	(<2U)
Potassium	1,660 B	1,390 B	1,540 B	1,530 B	1,440 B	(<389U)
Sodium	29,600	28,300	30,200	28,300	30,400	701 B
Zinc	(<3.0U)	5.6 BJ	7.8 BJ	9.9 BJ	6.8 BJ	(<3U)

Notes:
U=Not detected; Sample quantitaion limits are shown as (<_U).
B=Reported value is below the CRQL.
R = Data is unusable following data validation review
J = result was positivly identified but is an estimated value

TABLE 15. WATER QUALITY PARAMETERS MEASURED IN SURFACE WATER

Analyte / Units	SW-1 (mg/l)	SW-1 DUP (mg/l)	SW-2 (mg/l)	SW-3 (mg/l)	SW-4 (mg/l)	SW-FB (mg/l)
Chloride	53.6	55.6	57.0	53.9	53.8	(<1U)
Fluoride	(<0.2U)	(<0.2U)	(<0.2U)	(<0.2U)	(<0.2U)	(<0.2U)
Ammonia	(<0.1U)	(<0.1U)	(<0.1U)	(<0.1U)	(<0.1U)	(<0.1U)
Nitrate	1.1	1.1	1.1	1.2	1.2	(<0.2U)
Sulfate	19.2	14.1	20.3	20.9	19.8	(<5U)
Alkalinity	139	165	161	154	135	1.08
Hardness	203.7	191.4	189.4	178.8	196.1	1.2
Total suspended solids	(<4U)	(<4U)	(<4U)	(<4U)	(<4U)	(<4U)
Dissolved organic carbon	52.5	37.9	13.8	28.8	28.4	(<0.5U)

Note:
U=Not detected; Sample quantitation limits are shown as (<_U)

TABLE 16. ORGANIC ANALYTES MEASURED IN STREAM SEDIMENTS

Analytes / Units	SD01 -01A (ug/kg)	SD01 DUP (ug/kg)	SD02 -01A (ug/kg)	SD03 -01A (ug/kg)	SD04 -01A (ug/kg)	SDFB01 -01A (ug/l)
VOLATILES						
Acetone	[14U]	(<13U)	[12U]	(<12U)	[75U]	16
Tetrachloroethene	(<7U)	(<6U)	(<6U)	16	(<8U)J	(<5U)
Xylenes (total)	(<7U)	(<6U)	(<6U)	2 J	(<8U)J	(<5U)
TICs - known	---	---	---	---	---	---
TICs - unknown;n	---	6 J;1	---	---	11 J;1	---
Level (low or medium)	L	L	L	L	L	L
Dilution factor	1	1	1	1	1	1
SEMI-VOLATILES						
Naphthalene	(<4,400U)	(<850U)	(<4,100U)	1,100	(<1,000U)	(<10U)
2-methyl naphthlalene	(<4,400U)	(<850U)	(<4,100U)	700 J	(<1,000U)	(<10U)
Acenaphthene	(<4,400U)	(<850U)	(<4,100U)	1,900	(<1,000U)	(<10U)
Dibenzofuran	(<4,400U)	(<850U)	(<4,100U)	2,500	(<1,000U)	(<10U)
Fluorene	(<4,400U)	(<850U)	(<4,100U)	2,400	(<1,000U)	(<10U)
Phenanthrene	2,100 J	130 J	450 J	11,000	(<1,000U)	(<10U)
Anthracene	560 J	(<850U)	(<4,100U)	3,600	(<1,000U)	(<10U)
Fluoranthene	2,100 J	250 J	680 J	10,000	(<1,000U)	(<10U)
Pyrene	1,800 J	450 J	630 J	15,000 D	(<1,000U)	(<10U)
Benzo(a) anthracene	1,000 J	140 J	(<4,100U)	4,700	(<1,000U)	(<10U)
Chrysene	1,000 J	160 J	(<4,100U)	4,500	(<1,000U)	(<10U)
Benzo(b)fluoranthene	440 J	110 J	(<4,100U)	3,800	(<1,000U)	(<10U)
Benzo(k)fluoranthene	540 J	140 J	(<4,100U)	3,500	(<1,000U)	(<10U)
Benzo(a)pyrene	620 J	96 J	(<4,100U)	4,600	(<1,000U)	(<10U)
Indeno(1,2,3-cd)pyrene	(<4,400U)	(<850U)	(<4,100U)	3,000	(<1,000U)	(<10U)
Dibenzo(a,h)anthracene	(<4,400U)	(<850U)	(<4,100U)	1,600	(<1,000U)	(<10U)
Benzo(g,h,i)perylene	(<4,400U)	(<850U)	(<4,100U)	3,200	(<1,000U)	(<10U)
TICs - known						
Dibenzofuran, 4-methyl	---	---	---	23,000 J	---	---
9,10-Phenanthrenedione	---	---	---	31,000 J	---	---
Dibezothiophene	---	---	---	53,000 J	---	---
9H-Fluoren-9-imine	---	---	---	25,000 J	---	---
5H-Indeno[1,2-b]pyridine	---	---	---	140,000 J	---	---
9,10-Anthracenedione	---	---	---	45,000 J	---	---
TICs - unknown;n	---	---	580,000 J;1	798,000 J;11	334,000 J;2	---
Level (low or medium)	L	L	L	L	L	L
Dilution factor	5	5	1	1/2 *	1	1
PESTICIDES/PCBs						
None detected						

Notes:
U = Not detected. Sample quantitation limits are shown as (<__U).
[-U] = Value was false positive following data validation review
--- = No detectable TICs.

J = Reported value is an estimate
* = Pyrene data from diluted result

Values shown for unknown TICs are the total concentrations and total number of unknowns.
Data validation results provided in data report 920391

TABLE 17. INORGANIC ANALYTES MEASURED IN STREAM SEDIMENTS

Analyte / Units	SD01 (mg/kg)	SD01DUP (mg/kg)	SD02 (mg/kg)	SD03 (mg/kg)	SD04 (mg/kg)	SD-FB (ug/l)
Aluminum	3,270	3,730	3,510	4,480	6,690	(<11U)
Antimony	81.1 J	71.5 J	60.5 J	91.7 J	60.4 J	(<52U)
Arsenic	2.4	3.2	2.7	3.1	1.2 B	(<1U)
Barium	36.9 J	60.7 J	97.1 J	68.4 J	71.8 J	59.1 B
Beryllium	0.20 B	0.24 B	0.25 B	0.28 B	0.37 B	(<1U)
Cadmium	1.8 J	1.9 J	1.8 J	1.6 J	1.3 J	(<5U)
Calcium	88,400	40,500	27,700	82,500	3,950	1,170 B
Chromium	7.4 J	10.4 J	6.9 J	11.0 J	12.0 J	(<4U)
Cobalt	4.1 B	9.0	4.3 B	4.1 B	4.4 B	(<11U)
Copper	41.8 J	56.8 J	53.7 J	21.2 J	16.7 J	16.1 B
Iron	11,300	11,600	12,100	12,400	11,500	15.1 B
Lead	181	55.8	293	63.2	12.8	(<2U)
Magnesium	7,130	10,900	7,500	32,200	3,310	205 B
Manganese	233	239	195	227	98.1	26.2
Nickel	16.1 J	23.6 J	16.0 J	15.8 J	16.2 J	(<8U)
Potassium	368 B	387 B	408 B	510 B	604 B	(<389U)
Silver	3.4 J	2.2 J	2.3 J	3.2 J	(<1.3U)J	---
Sodium	136 B	90.0 B	109 B	334 B	110 B	3,960 B
Vanadium	6.1 B	5.0 B	6.7	8.3	9.5	(<4U)
Zinc	97.4 J	155 J	102 J	79.7 J	44.1 J	6.8B
Cyanide	0.13 J	0,13 J	0.12 J	0.11 J	0.12 J	---
Total organic carbon	16,400	4,300	11,000	9,600	16,000	---

Notes:
U=Not detected; Sample quantitation limits are shown as (<_U).
B=Reported value is below the CRQL.
J = Reported value is an estimate

Data validation results provided in data report 920391

TABLE 18. ORGANIC ANALYTES MEASURED IN BASEMENT SEEP

Analyte	Units	BS01 (ug/l)	BS01 DUP (ug/l)	BS-FB (ug/l)
VOLATILES				
Methylene chloride		(<5U)	(<5U)	1 J
Acetone		16	(<10U)	(<10U)
1,1-Dichloroethane		9	8	(<5U)
1,2-Dichloroethene (total)		2 J	2 J	(<5U)
1,1,1-Trichloroethane		3 J	3 J	(<5U)
Trichloroethene		2 J	2 J	(<5U)
Tetrachloroethene		4 J	5	(<5U)
Xylenes (total)		240	220	(<5U)
TICs-known		---	---	---
TICs-unknown		---	---	---
Level (low or medium)		L	L	L
Dilution factor		1	1	1
SEMI-VOLATILES				
2,4-Dimethyl phenol		9 J	15	(<10U)
Pentachlorophenol		2 J	5 J	(<50U)
m-Toluic acid		23 J	4,100 DJ	(<50U)
p-Toluic acid		(<150U)	(<50U)	(<50U)
o-Toluic acid		350 DJ	1,600 DJ	(<50U)
TICs-known				
Benzene, acetic acid		20 J	---	---
1(3H)-Isobenzofuran		48 J	82 J	---
Phenol, 4-nonyl		---	40 J	---
Phenol, nonyl-		---	28 J	---
TIC-unknown;n		434 J;9	1,084 J;16	---
Level (low or medium)		L	L	L
Dilution factor		1/3 *	1/25 *	1
PESTICIDES/PCB				
None Detected				

Notes:

J=Reported concentration is an estimated value.
U=Not detected; Sample quantitation limits are shown as (<_U).
D = Reported result from diluted analysis
* = Tolic acid results from diluted analysis
Values shown for unknown TICs are the total concentration and total number of unknowns
--- = No detectable TICs

Data validation results provided in data report 920398

TABLE 19. INORGANIC ANALYTES MEASURED IN BASEMENT SEEP

Analyte Units	SMC-BS01 (ug/l)	SMC-BS01 DUP (ug/l)	SMC-BS-FB (ug/l)
Aluminum	129 B	125 B	(<87 U)
Arsenic	39.8	40.7	(<2U)
Barium	56.0 B	67.0 B	30.1 B
Calcium	31,500	32,200	156 B
Chromium	18.1	16.7	(<4U)
Copper	111	102	(<6U)R
Iron	2,540	2,420	(<11U)
Lead	122	106	(<2U)
Magnesium	6,950	7,150	(<78U)
Manganese	103	101	(<5U)R
Mercury	0.34 R	1.3	(<0.2U)
Nickel	17.3 BR	(<8.0U)R	(<8U)R
Potassium	31,600	28,300	(<203U)
Sodium	1,130,000 R	1,070,000 R	480 R
Vanadium	37.9 BR	32.7 BR	(<6U)R
Zinc	60.3 J	51.6 J	(<16U)J

Notes:
U=Not detected; Sample quantitaion limits are shown as (<_U).
B=Reported value is below the CRQL.
R = Unusable data

Data validation results provided in data report 920398

TABLE 20. WATER QULAITY PARAMETERS MEASURED IN BASEMENT SEEP

Parameter / Units	BS01 (mg/l)	BS01 DUP (mg/l)	BS-FB (mg/l)
Chloride	142	121	(<1U)
Fluoride	1.3	1.3	(<0.2U)
Ammonia	1.4	1.5	(<0.1U)
Nitrate	0.4	0.4	(<0.2U)
Sulfate	(<500U)	(<500U)	(<5U)
Alkalinity	1,650	1,770	1.1
Hardness	107	110	0.39
Total suspended solids	34	43	(<4U)
Dissolved organic carbon	40.3	114	0.53

Note:
U=Not detected; Sample quantitation limits reported as (<_U).

Data validation results provided in data report 920398

TABLE 21. ORGANIC ANALYTES MEASURED IN PIEZOMETER WIPE SAMPLE

Analytes	Units	WP-28D -01A (ng/wipe)	WPFB-01 -01A (ng/wipe)
SEMI-VOLATILES			
Di-n-butyl phthalate		[41,000U]	55,000 B
Bis(2-ethylhexyl)phthalate		(<330U)	1,600
Di-n-octyl phthalate		(<330U)	1,200
TICs - known			
3-penten-2-one, 4-methyl		---	30,000 JN
TICs - unknown;n		311,000 J;4 520,000 R;5	55,900 J;6 97,000 JN;2
PCBs			
None detected			

Notes:
U = Not detected. Sample quantitation limits are shown as (<__U).
B = Analyte detected in corresponding method blank.
R = Data is unusable
JN = Presumptive identification, estimated concentration.
--- = No detectable TIC.
Values shown for unknown TICs are the total concentration and total number of unknowns
[-U] = Data was false psitive following data validation review

TABLE 22. ORGANIC ANALYTES MEASURED IN OVERBURDEN GROUNDWATER

Analytes	Units	GW01S -01A (ug/l)	GW02S -01A (ug/l)	GW04S -01A (ug/l)	GW06S -01A (ug/l)	GW07S -01A (ug/l)	GW08S -01A (ug/l)
VOLATILES							
Vinyl Chloride		(<10U)	(<10U)	(<10U)	(<10U)J	5 J	(<10U)
Acetone		(<10U)	19	(<10U)	(<10U)J	(<10U)	(<10U)
1,2-Dichloroethene (Total)		(<5U)	(<5U)	(<5U)	(<5U)J	18	(<5U)
Trichloroethene		(<5U)	(<5U)	(<5U)	(<5U)J	2 J	(<5U)
Tetrachloroethene		(<5U)	(<5U)	2 J	(<5U)J	(<5U)	(<5U)
Toluene		(<5U)	(<5U)	(<5U)	(<5U)J	2 J	(<5U)
Xylenes (Total)		(<5U)	4 J	4 J	(<5U)J	19	(<5U)
TICs - Known		---	---	---	---	---	---
TICs - Unknown		---	---	---	---	---	---
SEMI - VOLATILES							
2-Methylphenol		(<10U)	(<20U)J	(<10U)	(<10U)	15	(<10U)
4-Methylphenol		(<10U)	(<20U)J	(<10U)	(<10U)	11	(<10U)
Benzoic Acid		(<50U)	(<100U)J	(<50U)	(<50U)	4 J	(<50U)
Dimethylphthalate		(<10U)	21J	(<10U)	(<10U)	(<10U)	(<10U)
Phenanthrene		(<10U)	(<20U)J	(<10U)	2 J	(<10U)	(<10U)
Fluoranthene		(<10U)	(<20U)J	(<10U)	4 J	(<10U)	(<10U)
Pyrene		(<10U)	(<20U)J	(<10U)	3 J	(<10U)	(<10U)
Benzo(a)Anthracene		(<10U)	(<20U)J	(<10U)	2 J	(<10U)	(<10U)
bis(2-Ethylhexyl)phthalate		(<10U)	(<20U)J	(<10U)	3 J	2 J	(<10U)
Chrysene		(<10U)	(<20U)J	(<10U)	2 J	(<10U)	(<10U)
Benzo(b)Fluoranthene		(<10U)	(<20U)J	(<10U)	1 J	(<10U)	(<10U)
Benzo(k)Fluoranthene		(<10U)	(<20U)J	(<10U)J	1 J	(<10U)	(<10U)
Benzo(a)Pyrene		(<10U)	(<20U)J	(<10U)J	2 J	(<10U)	(<10U)
p-Toluic Acid		(<50U)	(<100U)J	(<50U)	(<50U)	(<2,500U)	(<50U)
m-Toluic Acid		(<50U)	(<100U)J	(<50U)	(<50U)	(<2,500U)	(<50U)
o-Toluic Acid		(<50U)	(<100U)J	(<50U)	(<50U)	11,000 D	(<50U)
TICs - Known							
Benzamide, N,N-diethyl-3-methyl		---	---	10 J	---	---	16J
2,4-pentanediol,2 methyl		---	---	---	---	---	9J
Benzomethane,.Alpha.Alpha.		---	---	---	---	---	8J
1(3H)-Isobenzofuranone		---	---	---	---	---	110J
TICs - Unknown;n		---	---	1000 J;1	24 J;2	26 J;1	---
PESTICIDES							
None Detected							

Notes:
U = Not detected. Sample quantitation limits are shown as (<__U).
J = Reported concentration is an estimated value.
NA = Not applicable.
D = Data reported from diluted analysis.
Values shown for unknown TICs are the total concentration and total number of unknowns.

Analytes	Units	GW FB-1 (ug/l)	GW FB-2 (ug/l)	TB-3 (ug/l)	TB-4 (ug/l)	TB-5 (ug/l)
VOLATILES						
Vinyl Chloride		(<10U)	(<10U)	(<10U)	(<10U)	(<10U)
Acetone		(<10U)	(<10U)	(<10U)	(<10U)	(<10U)
1,2-Dichloroethene (Total)		(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Trichloroethene		(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Tetrachloroethene		(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Toluene		(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Xylenes (Total)		(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
TICs - Known		---	---	---	---	---
TICs - Unknown		---	---	---	---	---
SEMI - VOLATILES						
2-Methylphenol		(<10U)	(<10U)	NA	NA	NA
4-Methylphenol		(<10U)	(<10U)	NA	NA	NA
Benzoic Acid		(<10U)	(<10U)	NA	NA	NA
Dimethylphthalate		(<10U)	(<10U)	NA	NA	NA
Phenanthrene		(<10U)	(<10U)	NA	NA	NA
Fluoranthene		(<10U)	(<10U)	NA	NA	NA
Pyrene		(<10U)	(<10U)	NA	NA	NA
Benzo(a)Anthracene		(<10U)	(<10U)	NA	NA	NA
bis(2-Ethylhexyl)phthalate		(<10U)	(<10U)	NA	NA	NA
Chrysene		(<10U)	(<10U)	NA	NA	NA
Benzo(b)Fluoranthene		(<10U)	(<10U)	NA	NA	NA
Benzo(k)Fluoranthene		(<10U)	(<10U)	NA	NA	NA
Benzo(a)Pyrene		(<10U)	(<10U)	NA	NA	NA
p-Toluic Acid		(<50U)	(<50U)	NA	NA	NA
m-Toluic Acid		(<50U)	(<50U)	NA	NA	NA
m-Toluic Acid		(<50U)	(<50U)	NA	NA	NA
TICs - Known						
Benzamide, N,N-diethyl-3-methyl		---	---	NA	NA	NA
2,4-pentanediol,2 methyl		---	---	NA	NA	NA
Benzomethane,.Alpha.Alpha.		---	---	NA	NA	NA
1(3H)-Isobenzofuranone		---	---	NA	NA	NA
TICs - Unknown		---	---	NA	NA	NA
PESTICIDES						
None Detected						

TABLE 23. INORGANIC ANALYTES MEASURED IN OVERBURDEN MONITORING WELLS

Analyte Units	GW01S (ug/l)	GW02S (ug/l)	GW04S (ug/l)	GW06S (ug/l)	GW07S (ug/l)	GW08S (ug/l)	GWFB01 (ug/l)	GWFB02 (ug/l)
Aluminum	19,300	7,720 J	885 J	1,690	6,040	933	(<11U)	(<87U)J
Antimony	(<20.0U)R	(<20.0U)R	(<20.0U)R	22.2 B	(<20.0U)	20.8 B	(<20U)	(<18U)NR
Arsenic	(<2.0U)J	21.8 J	2.9 BJ	8.9 R	44.0 R	7.3 R	(<2.0U)	39.2 J
Barium	385J	163 J	63.6 J	146 B	266	50.2 B	(<6U)	80.6 BNJ
Beryllium	1.3 BR	(<1.0U) J	(<1.0U) J	(<1.0U)	0.58	(<1.0U)	(<1.0U)	(<1.0U)R
Calcium	504,000	78,400	43,400	20,600	155,000	121,000	369 B	93.2 B
Chromium	43.2 J	17.3 J	5.6 BJ	27.0	17.7	2,550	(<3U)	(<4U)NJ
Cobalt	27.3 B	11.7 B	(<11.0 U)	(<11.0 U)	12.6	20.7 B	(<11.0 U)	(<11.0 U)
Copper	80.2 J	44.7 J	15.0 BJ	458	47.7 J	52.4 J	11.0 BJ	9.6 BR
Iron	69,800 J	13,600 J	1,970 J	5,740	16,800	23,200	30.2 B	21.8 BJ
Lead	26.7	13.7 R	6.9 R	390	15.1	(<2.0U)J	(<2.0U)J	(<2.0U)R
Magnesium	119,000	17,200	10,200	4,360 B	35,100	20,800	108 B	(<78U)R
Manganese	1,460 J	334 J	578 J	159	430	437	3.0 B	(<5U)NR
Nickel	50.7 J	53.7 J	20.3 BJ	20.9 B	46.9	923	(<5U)	(<8U)NR
Potassium	4,890 B	4,390 B	4,270 B	71,100	5,350	2,910 B	(<203U)	(<203U)
Sodium	71,400 R	438,000 R	246,000 R	276,000 J	529,000 J	268,000 J	846 BJ	206 B
Vanadium	32.3 R	31.9 J	(<6.0U)J	12.4 B	30.6	5.7 B	(<4U)	(<6U)R
Zinc	163	92.7	26.1	643	68.4	217	(<16U)	(<16U)J
Cyanide	(<10U)	13	(<10U)	(<10U)J	(<10U)J	(<10U)J	18 J	(<10U)J

Notes:
U=Not detected; Sample quantitaion limits are shown as (<_U).
B=Reported value is below the CRQL.
J = Reported concentration is an estimated value.
R = Unusable data

TABLE 24. WATER QUALITY PARAMETERS MEASURED IN OVERBURDEN GROUNDWATER

Analyte	Units	GW01S (mg/l)	GW02S (mg/l)	GW04S (mg/l)	GW06S (mg/l)	GW07S (mg/l)	GW08S (mg/l)
Chloride		4.8	26.0	9.8	54.9	98.7	344
Fluoride		(<0.2U)	1.4	1.4	0.59	2.2	(<0.2U)
Ammonia		(<0.1U)	1.8	0.5	0.6	8	(<0.1U)
Nitrate		0.3	(<0.2U)	(<0.2U)	(<0.2U)	(<0.2U)	3.9
Sulfate		(<125U)	(<500U)	22.8	(<1,000U)	(<500U)	(<50U)
Alkalinity		395	516	4,770	710	1,300	410
Hardness		1,750	267	150	69.4	531.6	387.8
Total suspended solids		651	309	57	269	742	218
Dissolved organic carbon		69.1	35.9	25.8	41.6	149	29.9

Note:
U = Not detected; Sample quantitation limits areshown as (<_U)

TABLE 25. ORGANIC ANALYTES MEASURED IN INTERMEDIATE BEDROCK GROUNDWATER

Analytes	GW01I -01A	GW02I -01A	GW03I -01A	GW03I DUP -01A	GW04I -01A	GW05I -01A	GW06I -01A
Units	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
VOLATILES							
Chlorothene	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	31	(<5U)
Vinyl Chloride	(<10U)	(<10U)	(<200U)	(<200U)	(<50U)	3 J	(<10U)
Methylene Chloride	(<5U)	(<5U)	[100U]	[100U]	(<25U)	(<5U)	(<5U)
Acetone	(<10U)	130	(<200U)	(<200U)	(<50U)	(<10U)	(<10U)
1,1-Dichloroethene	(<5U)	(<5U)	(<100U)	(<100U)	(<25U)	10	(<5U)
1,2-Dichloroethene (Total)	13	8	160	140	160	9	(<5U)
Trichloroethene	1 J	2 J	190	180	32	(<5U)	(<5U)
Benzene	(<5U)	1 J	(<100U)	(<100U)	(<25U)	(<5U)	(<5U)
4-Methyl-2-Pentanone (MIBK)	(<10U)	(<10U)	(<200U)	(<200U)	71	(<10U)	(<10U)
Tetrachloroethene	3 J	(<5U)	2,300	2,300	110	(<5U)	(<5U)
Toluene	(<5U)	19	68	66	60	(<5U)	(<5U)
Xylenes (Total)	8	580	2,100	2,100	2,100	110	(<5U)
VOA TICs - Known	---	---	---	---	---	---	---
VOA TICs - Unknown;n	---	---	---	---	---	12J;1	---
Level (low or medium)	L	L	L	L	L	L	L
Dilution factor	1	1	20	20	5	1	1
SEMI - VOLATILES							
Benzyl alcohol	(<50U)	26 J	14 J	26 J	(<50U)	(<50U)	(<50U)
Bis(2-chloroethoxy)methane	(<50U)	(<50U)	(<50U)J	150	(<50U)	(<50U)	(<50U)
Phenol	60	140	34 J	62	51	(<10U)	22
2-Methylphenol	3 J	(<50U)	(<50U)J	10 J	11 J	(<10U)	2 J
4-Methylphenol	4 J	29 J	(<50U)J	19 J	25 J	3 J	17
Nitrobenzene	3 J	(<50U)	11 J	18 J	(<10U)	(<10U)	(<10U)
2,4-Dimethylphenol	14	(<50U)	(<50U)J	320 J	14 J	(<10U)	10
Benzoic Acid	70	(<50U)	(<50U)J	11 J	330	(<10U)	5 J
Naphthalene	(<10U)	(<50U)	(<50U)J	(<40U)J	(<10U)	(<10U)	9 J
Pentachlorophenol	(<50U)	8 J	(<250U)J	(<200U)J	(<50U)	(<50U)	(<50U)
Phenanthrene	(<10U)	(<50U)	(<50U)J	(<40U)J	(<10U)	(<10U)	1 J
Benzo(a)anthracene	(<10U)	(<50U)J	(<10U)J	(<10U)J	(<10U)	(<10U)	(<10U)
bis(2-Ethylhexyl)phthalate	(<10U)	(<50U)J	(<50U)J	(<40U)	(<10U)	2 J	1 J
Di-n-octylphtalate	(<10U)	(<50U)J	(<50U)J	(<40U)	(<10U)	(<10U)	
2,4-Dinitrotoluene	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)
Dimethyl phthalate	(<50U)	(<50U)	(<50U)J	24 J	(<50U)	(<50U)	(<50U)
m-Toluic Acid	11,000 D	30,000 DJ	1,800 DJ	50,000 D	19,000 J	840 J	2,100 D
p-Toluic Acid	1,200 DJ	720 DJ		5,400 DJ	(<250U)	100	160 DJ
o-Toluic Acid	16,000 D	87,000 DJ	3,000 DJ	78,000 D	32,000 J	1,900 DJ	3,300 J
BNA TICs- Known							
Butanoic acid	26 J	240 J	--	140 J	--	--	--
Pentanoic acid	150 J	--	--	--	--	--	--
Benzenemethanol,4-methyl	20 J	--	--	--	--	--	--
Benzamide,N,N-diethyl-methyl	18 J	40 J	30 J	56 J	100 J	--	--
Propanoic acid,2-methyl	--	270 J	90 J	--	--	--	--
Hexanoic acid	--	110 J	65 J	140 J	--	--	--
Hexadecanoic acid	--	--	--	140 J	--	--	--
Hexanedioic acid	--	90 J	--	--	--	--	--
9-Octadecanoic acid	--	900 J	--	--	--	--	--
1-Hexanol,2-ethyl	--		20 J	--	--	--	--
Benzoic acid,2-methyl	--	--	40 J	--	--	--	--
Decanoic acid	--	--	25 J	--	--	--	--
9-Hexadecanoic acid	--	--	95 J	--	--	--	--
10-Octadecanoic acid,methyl	--	--	290 J	--	--	--	--
1(3H)-Isobenzofuranone	--	--	--	--	520 J	--	--
Benzomethanol.alpha.	--	--	--	48 J	--	--	--
Bicyclo[2.2.1]heptan-1-ol	--	--	--	32 J	--	--	--
Ethanol,2-phenoxy-	--	--	--	32 J	--	--	--
2,4-pentanediol,2-methyl	--	--	--	--	--	--	--
Hexanoic acid,2-methyl	--	--	--	--	--	--	--
2,5-Furandione,3,4-diethyl	--	--	--	--	--	--	--
Hexanoic acid,2-ethyl	--	--	--	--	--	--	--
Butanamide,N-(oxypropyl)	--	--	--	--	--	--	--
Phenol,4,4'-Butylidenebis[2-	--	--	--	--	--	--	--
BNA TICs - Unknown;n	136 J;4	3,035 J;11	6,408 J;7	4,256 J;11	2,600 J;8	582 J;15	188 J;2
Level (low or medium)	L	L	L	L	L	L	L
Dilution factor	1/100	5/3,000 *	5/150 *	5/150 *	5	1/10 *	1/20 *
PESTICIDES							
None Detected							

Notes:
U = Not detected. Sample quantitation limits are shown as (<__U).
J = Reported concentration is an estimated value
[-U] = Value was false positive following data validation review
NA = Not applicable.
D = Reported result from diluted analysis.
* = Dilution factors for Toluic acid labeled "D"

Values shown for unknown TICs are the total concentation and total number of unknowns.
Data validation results provided in data reports 920398(MW1I-MW4I), 920396(MW5I-MW11I)

TABLE 25 (Cont)

Analytes	Units	GW07I -01A (ug/l)	GW07I DUP (ug/l)	GW08I -01A (ug/l)	GW09I -01A (ug/l)	GW010I -01A (ug/l)	GW011I -01A (ug/l)
VOLATILES							
Chlorothene		(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Vinyl Chloride		(<10U)	3 J	(<10U)	(<10U)	(<10U)	(<10U)
Methylene Chloride		(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Acetone		23	22	(<10U)	(<10U)	(<10U)	(<10U)
1,1-Dichloroethene		(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
1,2-Dichloroethene (Total)		93	100	(<5U)	(<5U)	(<5U)	(<5U)
Trichloroethene		37	36	(<5U)	(<5U)	(<5U)	(<5U)
Benzene		(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
4-Methyl-2-Pentanone (MIBK)		(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)
Tetrachloroethene		26	27	(<5U)	(<5U)	(<5U)	(<5U)
Toluene		16	16	(<5U)	(<5U)	(<5U)	(<5U)
Xylenes (Total)		280	280	(<5U)	(<5U)	(<5U)	(<5U)
VOA TICs - Known		---	---	---	---	---	---
VOA TICs - Unknown;n		---	---	---	---	---	---
Level (low or medium)		L	L	L	L	L	L
Dilution factor		1	1	1	1	1	1
SEMI - VOLATILES							
Benzyl alcohol		(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)
Bis(2-chloroethoxy)methane		(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)
Phenol		9 J	20	(<10U)R	(<10U)	(<10U)	(<10U)
2-Methylphenol		18	19	(<10U)	(<10U)J	(<10U)	(<10U)
4-Methylphenol		28	31	(<10U)R	(<10U)J	(<10U)	(<10U)
Nitrobenzene		(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)
2,4-Dimethylphenol		(<10U)	(<10U)	(<10U)R	(<10U)J	(<10U)	(<10U)
Benzoic Acid		190 E	32 J	(<50U)R	(<50U)J	(<50U)	(<50U)
Naphthalene		(<10U)	(<10U)	(<10U)	(<10U)J	(<10U)	(<10U)
Pentachlorophenol		(<50U)	20 J	(<50U)R	(<50U)J	(<50U)	(<50U)
Phenanthrene		(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)
Benzo(a)anthracene		(<10U)	(<10U)	5 J	(<10U)	(<10U)	(<10U)
bis(2-Ethylhexyl)phthalate		5 J	4 J	5 J	4 J	7 J	160
Di-n-octylphtalate		(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	3 J
2,4-Dinitrotoluene		(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)
Dimethyl phthalate		(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)
m-Toluic Acid		960 DJ	8,200 D	(<50U)R	(<50U)	(<50U)	(<50U)
p-Toluic Acid		(<10,000U)	1,300 DJ	(<50U)R	(<50U)	(<50U)	(<50U)
o-Toluic Acid		24,000 D	28,000 D	(<50U)R	(<50U)	(<50U)	(<50U)
BNA TICs- Known							
Butanoic acid		100 J	110 J	---	---	---	---
Pentanoic acid		--	---	---	---	---	---
Benzenemethanol,4-methyl		--	---	---	---	---	---
Benzamide,N,N-diethyl-methyl		97 J	81 J	---	---	---	---
Propanoic acid,2-methyl		--	--	---	---	---	---
Hexanoic acid		--	--	---	---	---	---
Hexadecanoic acid		--	--	---	---	---	---
Hexanedioic acid		--	--	---	---	---	---
9-Octadecanoic acid		--	--	---	---	---	---
1-Hexanol,2-ethyl		--	26 J	---	---	---	---
Benzoic acid,2-methyl		--	--	---	---	---	---
Decanoic acid		--	--	---	---	---	---
9-Hexadecanoic acid		--	--	---	---	---	---
10-Octadecanoic acid,methyl		--	--	---	---	---	---
1(3H)-Isobenzofuranone		--	--	---	---	---	---
Benzomethanol.alpha.		26 J	--	---	---	---	---
Bicyclo[2.2.1]heptan-1-ol		--	15 J	---	---	---	---
Ethanol,2-phenoxy-		39 J	--	---	---	---	---
2,4-pentanediol,2-methyl		44 J	44 J	---	---	---	---
Hexanoic acid,2-methyl		--	--	---	---	---	---
2,5-Furandione,3,4-diethyl		--	17 J	---	---	---	---
Hexanoic acid,2-ethyl		--	37 J	---	---	---	---
Butanamide,N-(oxypropyl)		--	10 J	---	---	---	---
Phenol,4,4'-Butylidenebis[2-		--	--	--	--	--	11 J
BNA TICs - Unknown;n		626 J;13	330 J;11	26 J;1	9 J;1	23 J;2	178 J;10
Level (low or medium)		L	L	L	L	L	L
Dilution factor		1/200 *	1/150 *	1	1	1	1
PESTICIDES							
None Detected							

Analytes	GWFB01	GWFB02	GWTB-2	GWTB-3	GWTB-4	GWTB-5
Units	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
VOLATILES						
Chlorothene	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Vinyl Chloride	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)
Methylene Chloride	(<5U)	(<5U)	(<5U)	2 J	(<5U)	(<5U)
Acetone	(<10U)	(<10U)	31	(<10U)	(<10U)	(<10U)
1,1-Dichloroethene	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
1,2-Dichloroethene (Total)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Trichloroethene	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Benzene	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
4-Methyl-2-Pentanone (MIBK)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)
Tetrachloroethene	(<5U)	2 J	(<5U)	(<5U)	(<5U)	(<5U)
Toluene	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Xylenes (Total)	(<5U)	5 J	(<5U)	(<5U)	(<5U)	(<5U)
VOA TICs - Known	---	---	---	---	---	---
VOA TICs - Unknown;n	---	---	---	---	---	---
Level (low or medium)	L	L	L	L	L	L
Dilution factor	1	1	1	1	1	1
SEMI - VOLATILES						
Benzyl alcohol	(<50U)	(<50U)	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	(<50U)	(<50U)	NA	NA	NA	NA
Phenol	(<10U)J	(<10U)	NA	NA	NA	NA
2-Methylphenol	(<10U)	(<10U)	NA	NA	NA	NA
4-Methylphenol	(<10U)J	(<10U)	NA	NA	NA	NA
Nitrobenzene	(<10U)	(<10U)	NA	NA	NA	NA
2,4-Dimethylphenol	(<10U)J	(<10U)	NA	NA	NA	NA
Benzoic Acid	(<50U)J	(<50U)	NA	NA	NA	NA
Naphthalene	(<10U)	(<10U)	NA	NA	NA	NA
Pentachlorophenol	(<50U)J	(<50U)	NA	NA	NA	NA
Phenanthrene	(<10U)	(<10U)	NA	NA	NA	NA
Benzo(a)anthracene	(<10U)	(<10U)	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	(<10U)	(<10U)	NA	NA	NA	NA
Di-n-octylphtalate	(<10U)	(<10U)	NA	NA	NA	NA
2,4-Dinitrotoluene	(<50U)	(<50U)	NA	NA	NA	NA
Dimethyl phthalate	(<50U)	(<50U)	NA	NA	NA	NA
m-Toluic Acid	(<50U)	(<50U)	NA	NA	NA	NA
p-Toluic Acid	(<50U)	(<50U)	NA	NA	NA	NA
o-Toluic Acid	(<50U)	(<50U)	NA	NA	NA	NA
BNA TICs- Known						
Butanoic acid	---	---	NA	NA	NA	NA
Pentanoic acid	---	---	NA	NA	NA	NA
Benzenemethanol,4-methyl	---	---	NA	NA	NA	NA
Benzamide,N,N-diethyl-methyl	---	---	NA	NA	NA	NA
Propanoic acid,2-methyl	---	---	NA	NA	NA	NA
Hexanoic acid	---	---	NA	NA	NA	NA
Hexadecanoic acid	---	---	NA	NA	NA	NA
Hexanedioic acid	---	---	NA	NA	NA	NA
9-Octadecanoic acid	---	---	NA	NA	NA	NA
1-Hexanol,2-ethyl	---	---	NA	NA	NA	NA
Benzoic acid,2-methyl	---	---	NA	NA	NA	NA
Decanoic acid	---	---	NA	NA	NA	NA
9-Hexadecanoic acid	---	---	NA	NA	NA	NA
10-Octadecanoic acid,methyl	---	---	NA	NA	NA	NA
1(3H)-Isobenzofuranone	---	---	NA	NA	NA	NA
Benzomethanol.alpha.	---	---	NA	NA	NA	NA
Bicyclo[2.2.1]heptan-1-ol	---	---	NA	NA	NA	NA
Ethanol,2-phenoxy-	---	---	NA	NA	NA	NA
2,4-pentanediol,2-methyl	---	---	NA	NA	NA	NA
Hexanoic acid,2-methyl	---	---	NA	NA	NA	NA
2,5-Furandione,3,4-diethyl	---	---	NA	NA	NA	NA
Hexanoic acid,2-ethyl	---	---	NA	NA	NA	NA
Butanamide,N-(oxypropyl)	---	---	NA	NA	NA	NA
Phenol,4,4'-Butylidenebis[2-	---	---	NA	NA	NA	NA
BNA TICs - Unknown;n	---	1000 J;1	NA	NA	NA	NA
Level (low or medium)	L	L	L	L	L	L
Dilution factor	1	1	1	1	1	1
PESTICIDES						
None Detected			NA	NA	NA	NA

TABLE 26. INORGANIC ANALYTES MEASURED IN INTERMIDIATE BERDROCK GROUNDWATER

Analyte Units	SMC-GW01I (ug/l)	SMC-GW02I (ug/l)	SMC-GW03I (ug/l)	SMC-GW03I DUP (ug/l)	SMC-GW04I (ug/l)	SMC-GW05I (ug/l)	SMC-GW06I (ug/l)	SMC-GW07I (ug/l)	SMC-GW07I DUP (ug/l)	SMC-GW08I (ug/l)	SMC-GW09I (ug/l)
Aluminum	10,700 J	1,760 J	156 J	138 BJ	2,460 J	259	261	947	1,230	107 B	167 B
Arsenic	60.7 J	910 J	46.7 J	37.3 BJ	44.1 J	22.6 R	12.8 R	98.6 R	125 R	(<2.0U)	16.5
Barium	142 BJ	284 J	41.0 BJ	34.9 BJ	163 BJ	326	87.8 B	129 B	139 B	44.2 B	254
Beryllium	1.2 R	(<1.0U) J	(<1.0U) J	(<1.0U) J	(<1.0U) J	(<1.0U)	(<1.0U)	(<1.0U)	(<1.0U)	(<1.0U)	(<1.0U)
Calcium	126,000 B	9,160	6,270	6,550	72,200	34,900	6,180	26,400	29,900	71,100	142,000
Chromium	33.1 J	53.2 J	41.3 J	38.1 J	44.6 J	17.1	34.2	22.8	26.0	(<3.0U)	(<3.0U)
Cobalt	42.4 B	19.0 B	17.3 B	13.8 B	35.6 B	(<11.0U)	(<11.0U)	(<11.0U)	11.1 B	(<11.0U)	12.9 B
Copper	63.3 R	42.1 J	63.4 J	69.8 J	87.2 J	27.7 J	84.0 J	62.1 J	69.7 J	15.2 BJ	10.6 B
Iron	17,600 J	3,750 J	1,900 J	3,980 J	5,700 J	24,100	1,670	13,500	20,200	6,590	10,700 J
Lead	20.5 BR	(<20.0U) R	62.7 R	57.1 R	84.1 R	41.0 S	122	(<2.0U)J	31.1	(<2.0U)J	(<2.0U)
Magnesium	18,000	201 B	904 B	886 B	5,160	8,720	542 B	3,230 B	3,600 B	14,600	25,800
Manganese	491 J	23.1 J	122 J	134 J	690 J	175	45.9	113	149	58.4	637
Mercury	0.26 R	0.53 J	0.24 R	0.28 R	0.55 J	(<0.20U)	0.65	0.35 R	0.34 R	(<0.20U)	(<0.20U)
Nickel	222 J	254 J	65.4 J	82.1 J	122 J	38.5 B	20.7 B	71.2	76.2	6.0 B	8.6 B
Potassium	5,530	17,300	48,100	46,700	26,500	16,500	54,900	29,800	30,400	2,860 B	3,570 B
Selenium	(<10U) R	(<10U) R	(<10U) R	(<10U) R	(<10U) R	(<20U)J	(<2U) J	(<20U) J	(<20U) J	2.0 BJ	(<2U)
Sodium	1,230,000 R	7,950,000 R	2,130,000 R	2,240,000 R	1,260,000 R	361,000	527,000	1,170,000	1,190,000	396,000	188,000
Thallium	(<1.0U)J	1.1 BJ	(<1.0U)J	(<1.0U)J	(<1.0U)J	(<1.0U)J	(<1.0U)J	(<1.0U)J	(<1.0U)J	(<1.0U)J	(<1.0U)
Vanadium	62.6 R	343 J	78.7 J	82.6 J	89.7 J	11.4 B	44.5 B	106	112	(<4.0U)	(<4.0U)
Zinc	49.3J	27.3	22.6	43.5	58.0	23.5	28.8	22.7	34.9	(<16.0U)	25.6
Cyanide	(<10U)	20	12	(<10U)	(<10U)	(<10U)	10 J	72 J	79 J	(<10U)J	(<10U)J

Notes:

U=Not detected; Sample quantitaion limits are shown as (<_U)
B=Reported value is below the CRQL
R = Unusable data
J = Estimated value

Data validation results provided in data reports 920398(MW1I-MW4I), 920396(MW5I-MW11I)

TABLE 26 (Cont)

Parameter Units	SMC-GW010I (ug/l)	SMC-GW011I (ug/l)	SMC-GW_FB1 (ug/l)	SMC-GW_FB2 (ug/l)
Aluminum	212	233	(<11U)	(<87U) J
Arsenic	(<1.0U)	1.1 B	(<2U) N	39.2 J
Barium	39.1 B	55.4 B	(<6U)	80.6 J
Beryllium	(<1.0U)	(<1.0U)	(<1U)	(<1.0U) R
Calcium	96,200	87,100	369 B	93.2 B
Chromium	(<3.0U)	6.5 B	(<3U)	(<4U) J
Cobalt	14.8 B	(<11U)	(<11U)	(<11 U)
Copper	19.0 B	53.9	11 BJ	9.6 R
Iron	3,560 J	4,970 J	30.2 B	21.8 J
Lead	2.5 B	4.0 W	(<2U)J	(<2U) J
Magnesium	23,900	21,100	108 B	(<78 U)
Manganese	34.3	48.2	3 B	(<5U) R
Mercury	(<0.20U) N	(<0.20U)	(<0.20U)	(<0.20U) R
Nickel	(<5.0U)	15.9 B	(<5 U)	(<8U) R
Potassium	802 B	1,190 B	(<203U)	(<203U)
Selenium	(<2U)	(<2U)	(<2U) NJ	(<1U) R
Sodium	7,670	19,500	846 B	206 B
Thallium	(<4.0U)	(<1.0U)	(<1.0U)J	(<1.0U)J
Vanadium	(<4.0U)	(<4.0U)	(<4 U)	(<6U) R
Zinc	(<16.0U)	25.6	(<16 U)	(<16 U)J
Cyanide	(<10U)J	(<10U)J	(<10U)J	(<10U)J

TABLE 27. WATER QUALITY PARAMETERS MEASURED IN IMTERMEDIATE BEDROCK GROUNDWATER

Analyte / Units	GW01I (mg/l)	GW02I (mg/l)	GW03I (mg/l)	GW03I DUP (mg/l)	GW04I (mg/l)	GW05I (mg/l)	GW06I (mg/l)	GW07I (mg/l)	GW07I DUP (mg/l)
Chloride	74.1	291.0	60.0	60.7	46.0	78.9	99.5	91.4	96.9
Fluoride	5.1	32.9	21.6	26.0	11.8	0.31	1.1	8.9	8.4
Ammonia	0.6	1.3	11.0	11.0	4	8.8	3.7	15	15
Nitrate	(<0.2U)	(<0.2U)	0.6	0.6	(<0.2U)	(<0.2U)	(<0.2U)	(<0.2U)	(<0.2U)
Sulfate	(<500U)	(<500U)	(<500U)	(<500U)	(<500U)	(<1,000U)	(<1,000U)	(<125U)	(<1000U)
Alkalinity	1,740	15,800	4,770	4,990	4,340	864	132	2,170	1,980
Hardness	704	23.7	19.4	20.0	202	123.1	69.4	79.2	89.5
Total suspended solids	362	27	19	25.0	184	57	40	63	59
Dissolved organic carbc	191	726	368	193	77.9	112	84.2	171	266

Analyte / Units	GW08I (mg/l)	GW09I (mg/l)	GW010I (mg/l)	GW011I (mg/l)	GW-FB1 (mg/l)	GW-FB2 (mg/l)	GW-FB3 (mg/l)
Chloride	340	317	12.9	28.5	(<1.0U)	(<1.0U)	(<1.0U)
Fluoride	0.28	0.29	(<0.2U)	(<0.2U)	(<0.2U)	(<0.2U)	(<0.2U)
Ammonia	(<0.1U)	0.6	(<0.1U)	(<0.1U)	(<1.0U)	(<0.1U)	(<1.0U)
Nitrate	1.8	(<0.2U)	1.6	4.4	(<0.2U)	(<0.2U)	(<0.2U)
Sulfate	42.5	(<25U)	18.9	20.9	(<5U)	(<5U)	(<5U)
Alkalinity	486	295	415	263	1	1.1	1
Hardness	237.7	460.8	338.6	304.4	1.4	0.23	1
Total suspended solids	67	33	49	62	(<4U)	(<4U)	(<4U)
Dissolved organic carbc	33.0	75.8	55.7	35.9	2.3	(<0.5U)	2.3

Note:
U=Not detected; Sample quantitation limits reported as (<_U)

TABLE 28. ORGANIC ANALYTES MEASURED IN DEEP BEDROCK GROUNDWATER

Analytes	GW01D -01A	GW02D -01A	GW03D -01A	GW04D -01A	GW05D -01A	GW06D -01A	GW09D -01A	GW010D -01A	GW011D -01A	GWFB03	GWTB-7	GWTB-8	GWTB-9
Units	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)	(ug/l)
VOLATILES													
Methylene chloride	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	1 J	(<5U)	2 J	1 J
Acetone	15	20	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	31	(<10U)	(<10U)
Chloroform	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	1 J
1,1-Dichloroethane	(<5U)	2 J	(<5U)	2 J	2 J	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
1,2-Dichloroethene (total)	94	2 J	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Trichloroethene	(<5U)	4 J	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Benzene	3 J	2 J	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
4-Methyl-2-Pentanone (MIBK)	2 J	(<10U)	(<10U)	1 J	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)
Tetrachloroethene	4 J	9	6	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Toluene	23	6	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Ethyl benzene	3 J	2 J	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
Xylenes (total)	520	150	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)	(<5U)
VOA TICs-known	---	---	---	---	---	---	---	---	---	---	---	---	---
VOA TICs-unknown	---	---	---	---	---	---	---	---	---	---	---	---	---
Level (low or medium)	L	L	L	L	L	L	L	L	L	L	L	L	L
Dilution factor	1	1	1	1	1	1	1	1	1	1	1	1	1
SEMI - VOLATILES													
Phenol	22	(<10U)	(<10U)	(<20U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	NA	NA	NA
2-Methylphenol	7 J	(<10U)	(<10U)	(<20U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	NA	NA	NA
4-Methylphenol	9 J	(<10U)	(<10U)	(<20U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	NA	NA	NA
2,4-Dimethylphenol	(<10U)	29	(<10U)	(<20U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	NA	NA	NA
Benzoic Acid	(<50U)	76	(<50U)	(<100U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	NA	NA	NA
Pentachlorophenol	(<50U)	5 J	(<50U)	(<100U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	NA	NA	NA
bis(2-Ethylhexyl)phthalate	(<10U)	(<10U)	14	(<20U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	(<10U)	NA	NA	NA
m-Toluic Acid	9,000 D	3,600 D	(<50U)	(<100U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	NA	NA	NA
p-Toluic Acid	1,100 DJ	400 D	(<50U)	(<100U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	NA	NA	NA
o-Toluic Acid	20,000 D	5,400 D	(<50U)	610	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	(<50U)	NA	NA	NA
BNA TICs-known	---	---	---	---	---	---	---	---	---	---	NA	NA	NA
BNA TICs - Unknown;n	494 J;14	156 J;9	---	---	13 J;1	---	---	46 J;1	---	1000 J;1	NA	NA	NA
Level (low or medium)	L	L	L	L	L	L	L	L	L	L	L	L	L
Dilution factor	1/100 *	1/25 *	1	1	1	1	1	1	1	1	1	1	1
PESTICIDES													
None Detected	UJ	UJ		UJ	UJ								
Level (low or medium)	L	L	L	L	L	L	L	L	L	L	L	L	L
Dilution factor	1	1	1	1	1	1	1	1	1	1	1	1	1

Notes:
U=Not detected. Sample quantitation limits are shown as (<_U).
UJ Not Detected,Estimated value
Values shown for unknown TICs are the total concentration and total number of unknowns.
J=Reported concentration is an estimated value.

D=Reported result from diluted analysis.
NA = Not applicable.
--- = No detectable TICs.
* = Dilution factor for Toluic acid results

Data validation results provided in data reports 920508 and 920562

TABLE 28 (Cont)

Analytes / Units	GWTB-7 (ug/l)	GWTB-8 (ug/l)	GWTB-9 (ug/l)
VOLATILES			
Methylene chloride	(<5U)	2 J	1 J
Acetone	31	(<10U)	(<10U)
Chloroform	(<5U)	(<5U)	1 J
1,1-Dichloroethane	(<5U)	(<5U)	(<5U)
1,2-Dichloroethene (total)	(<5U)	(<5U)	(<5U)
Trichloroethene	(<5U)	(<5U)	(<5U)
Benzene	(<5U)	(<5U)	(<5U)
4-Methyl-2-Pentanone (MIBK)	(<10U)	(<10U)	(<10U)
Tetrachloroethene	(<5U)	(<5U)	(<5U)
Toluene	(<5U)	(<5U)	(<5U)
Ethyl benzene	(<5U)	(<5U)	(<5U)
Xylenes (total)	(<5U)	(<5U)	(<5U)
VOA TICs-known	---	---	---
VOA TICs-unknown	---	---	---
Level (low or medium)	L	L	L
Dilution factor	1	1	1
SEMI - VOLATILES			
Phenol	NA	NA	NA
2-Methylphenol	NA	NA	NA
4-Methylphenol	NA	NA	NA
2,4-Dimethylphenol	NA	NA	NA
Benzoic Acid	NA	NA	NA
Pentachlorophenol	NA	NA	NA
bis(2-Ethylhexyl)phthalate	NA	NA	NA
m-Toluic Acid	NA	NA	NA
p-Toluic Acid	NA	NA	NA
o-Toluic Acid	NA	NA	NA
BNA TICs-known	NA	NA	NA
BNA TICs - Unknown;n	NA	NA	NA
Level (low or medium)	L	L	L
Dilution factor	1	1	1
PESTICIDES			
None Detected			
Level (low or medium)	L	L	L
Dilution factor	1	1	1

TABLE 29. INORGANIC ANALYTES MEASURED IN DEEP BEDROCK GROUNDWATER

Analyte Units	GW01D (ug/l)	GW02D (ug/l)	GW03D (ug/l)	GW04D (ug/l)	GW05D (ug/l)	GW06D (ug/l)	GW09D (ug/l)	GW010D (ug/l)	GW011D (ug/l)	GW-FB3 (ug/l)
Aluminum	114 B	281	126 B	145 B	123 R	(<87.0U)	220	87.2 R	186 R	(<87U)
Antimony	(<52.0U)	(<52.0U)	(<52.0U)	(<52.0U)	(<52.0U)	(<52.0U)	(<52.0U)	55.6 B	(<52.0U)	(<52.0U)
Arsenic	90.5 B	73.3	(<2.0U)	3.8 B	(<1.0U)	(<2.0U)	(<2.0U)	(<1.0U)	(<1.0U)	(<2U)
Barium	55.4 B	46.2 B	106 B	123 B	544 R	96.0 B	36.7 B	80.0 R	204 R	(<8.0U)
Calcium	4,700 B	27,600	76,800	72,800	73,100	73,300	63,200	52,500	86,100	115 B
Chromium	18.6	(<5.0U)	(<5.0U)	(<5.0U)	(<4.0U)	(<5.0U)	(<4.0U)	(<4.0U)	(<4.0U)	(<5U)
Cobalt	16.1 B	(<11.0U)	(<11.0U)	(<11.0U)	(<8.0U)	(<11.0U)	(<8.0U)	(<8.0U)	(<8.0U)	(<11 U)
Copper	35.5 R	35.6 R	23.4 R	18.6 R	11.1 B	12.2 R	9.8 B	12.3 B	18.0 B	18.3 B
Iron	1,600	960	588	668	355	223	678	427	422	28.0 B
Lead	5.8 J	2.1 J	(<2.0U)	4.7J	(<2.0U)	(<2.0U)	(<1.0U)J	(<2.0U)	(<2.0U)	(<2U)
Magnesium	517 BJ	10,300 J	24,600 J	22,800 J	20,200	23,900 J	14,300	11,400	20,300	167 B
Manganese	139 J	31.2 J	33.4 J	22.7 J	6.1 B	6.9 BJ	8.0 B	4.0 B	6.6 B	(<5U)
Mercury	0.21 R	1.2	(<2.0U)	(<2.0U)	(<2.0U)	(<0.20U)	0.66 J	(<0.20U)	(<0.20U)	(<0.20U)
Nickel	134	27.1 B	17.2 B	15.7 B	(<8.0U)	14.8 B	(<8.0U)	(<8.0U)	8.9 B	(<11U)
Potassium	2,700 R	2,740 R	2,570 R	3,200 R	1,250 R	2,790 R	2,360 B	2,270 R	2,430 R	587
Sodium	1,530,000	1,070,000	56,600	77,400	36,000 J	72,300	31,100	20,000 J	26,600 J	1,160 B
Thallium	1.2 B	1.3 B	(<1.0U)	(<1.0U)	(<1.0U)J	(<1.0U)	(<1.0U)	(<1.0U)J	(<1.0U)J	(<1.0U)
Vanadium	58.5	21.4 B	(<6.0U)	(<6.0U)	(<6.0U)	(<6.0U)	(<6.0U)	(<6.0U)	(<6.0U)	(<6U)
Zinc	(<16.0U)	(<16.0U)	31.8	(<16.0U)	(<16.0U)	(<16.0U)	20.4	(<16.0U)	(<16.0U)	(<16 U)

Notes:

U=Not detected; Sample quantitaion limits are shown as (<_U).

B=Reported value is below the CRQL.

J = Reported value is an estimate.

R=Data is unusable.

Data validation results provided in data reports 920508 and 920582

TABLE 30. WATER QUALITY PARAMETERS MEASURED IN DEEP BEDROCK GROUNDWATER

Analyte / Units	GW01D (mg/l)	GW02D (mg/l)	GW03D (mg/l)	GW04D (mg/l)	GW05D (mg/l)	GW06D (mg/l)	GW09D (mg/l)	GW010D (mg/l)	GW011D (mg/l)
Chloride	92.5	60.2	27	28.2	41.6	33.2	47.5	28.6	37.2
Fluoride	10	2.2	0.33	0.58	(<0.2U)	0.27	(<0.2U)	0.22	(<0.2U)
Ammonia	3.8	1.1	(<0.1U)	(<0.1U)	(<0.1U)	(<0.1U)	0.2	(<0.1U)	0.2
Nitrate	(<0.2U)	2.1	2.9	2.6	1.1	3.4	1.3	1.2	2.4
Sulfate	(<50U)	62.9	40.8	59.9	26.8	34.8	21.1	19.7	21.4
Alkalinity	3160	2930	305	365	213	299	178	70.2	205
Hardness	13.9	111	293	276	265.7	282	217	178	298.6
Total suspended solids	22	114	48	89	21	11	99	7	30
Dissolved organic carbc	677	458	88.6	112	17.1	39.5	57.6	19.6	23

Analyte / Units	GW-FB1 (mg/l)	GW-FB2 (mg/l)	GW-FB3 (mg/l)
Chloride	(<1.0U)	(<1.0U)	(<1.0U)
Fluoride	(<0.2U)	(<0.2U)	(<0.2U)
Ammonia	(<1.0U)	(<0.1U)	(<1.0U)
Nitrate	(<0.2U)	(<0.2U)	(<0.2U)
Sulfate	(<5U)	(<5U)	(<5U)
Alkalinity	1	1.1	1
Hardness	1.4	0.23	1
Total suspended solids	(<4U)	(<4U)	(<4U)
Dissolved organic carbc	2.3	(<0.5U)	2.3

Note:
U=Not detected; Sample quantitation limits reported as (<_U)

DATA VALIDATION REPORTS

Stauffer Management Company RI/FS
Data Package 911652

This data report covers data package 911652 submitted by EA Laboratories concerning analysis of 16 soil samples and 3 field blanks collected at Stauffer Management Company Facility at Skaneateles Falls.

SMC-FB-01A collected 10/16/91
SMC-FB-02A collected 10/17/91
SMC-FB-03A collected 10/18/91
SMC-SB02-01A collected 10/16/91
SMC-SB03-01A collected 10/16/91
SMC-SB04-01A collected 10/16/91
SMC-SB05-01A collected 10/16/91
SMC-SBU-01A collected 10/16/91
SMC-SB06-01A collected 10/16/91
SMC-SB07-01A collected 10/16/91
SMC-SB08-01A collected 10/16/91
SMC-SB09-01A collected 10/17/91
SMC-SB10-01A collected 10/17/91
SMC-SB11-01A collected 10/17/91
SMC-SB12-01A collected 10/17/91
SMC-SB13-01A collected 10/18/91
SMC-SB14-01A collected 10/18/91
SMC-SB15-01A collected 10/18/91
SMC-SB16-01A collected 10/18/91

Organic Validation

Sixteen soil samples and three field blank samples analyzed for Target Compound List (TCL) organics were validated following the United States Environmental Protection Agency (USEPA) Region II procedures for samples analyzed using the Contract Laboratory Program (CLP) Statement of Work (SOW) February, 1988 (as stated in table 1 Analytical Methods attached to the case narrative). These samples were to have been analyzed by the NYSDEC Analytical Services Protocol 1990. The laboratory control samples were analyzed as required by the NYSDEC ASP but the 1990 CLP was not followed. The following information was used to validate the analytical results:

- Sample hold time
- Instrument tune
- Initial and continuing calibration
- Surrogate recoveries
- MS/MSD analysis
- Internal Standards
- Analysis sequence
- Method blank contamination
- Field and trip blank contamination
- Ion spectra match
- Chromatogram quality
- Calculations
- Laboratory Control Sample

The New York State Department of Environmental Conservation's (NYSDEC) required summary table is attached.

Sample Hold Time

All VOA, BNA and Pesticide/PCB samples were analyzed and extracted within prescribed holding times.

Instrument Tune

The GC/MS's were tuned with BFB (VOA) and DFTPP (BNA). All QC criteria were compliant. No tune is required for pesticide/PCB analyses since they are not performed using a mass spectrometer.

Initial and Continuing Calibration

In the initial calibration of VOAs and BNAs, the relative response factors (RRFs) and relative standard deviations (RSDs) of each analyte is assessed. In the continuing calibration of VOAs and BNAs, the RRF and Percent Difference of the RRFs (%D) of each analyte is assessed. For the pesticide/PCB analyses, the RSDs of the calibration factors (CFs) of the initial calibration and %D of the CFs for the continuing calibration are assessed.

RRF < 0.05:	pentachlorophenol (0.04)
%RSD > 30%:	benzoic acid (34.2%) 1,4-dichlorobenzene (32.1%) benzyl alcohol (31.7%) 1,2-dichlorobenzene (67.5%) 4-chlorophenyl-phenylether (37.5%) fluorene (31.6%) benzo(k)fluoroanthene (35.1%) anthracene (30.7%, 30.9%)
%D > 25%:	chloromethane (46.6%, 50.3%) bromomethane (34%, 28.5% acetone (27%) 2-hexanone (26.7%) m-toluic acid (46,8%) p-toluic acid (57.6%) o-toluic acid (50.8%)

ACTION: Pentachlorophenol rejected in SMC-FB-01A and SMC-FB-02A.
AFFECTED COMPOUNDS FLAGGED "J" estimated.

SMC-SB04-01A:		
	acetone	26J
SMC-SB08-01A		
	acetone	58J
SMC-SBU-01A		
	anthracene	390 J
	benzo(k)fluoranthene	1000J

Several compounds had CF %Ds > 15% for the pesticide fraction but no analyses required quantitation so the CFs were not used.

Surrogate Recovery

The surrogate recoveries for all analyses were within acceptance criteria except in the semivolatile analysis of SMC-SB13-01A, SMC-SB14-01A, SMC-SB15-01A and SMC-SB16-01A one acid and one base surrogate had high recovery. No action is required.

MS/MSD Analyses

MS/MSD analyses for volatile and semivolatile analyses were acceptable The MS/MSD reported with the pesticides had several spiked analytes out of compliance:

	analyte	recovery
aqueous:	aldrin	low
	heptachlor and aldrin	high RPD
soil:	endrin	low
	lindane and DDT	high RPD

No action taken.

Internal Standard Response

The internal standard response was within acceptable limits for all samples with the following exceptions:

Volatile

SAMPLE	internal standard	recovery
SMC-SB08-01A	chlorobenzene	low

ACTION:
Affected analytes (non-detects except as noted) flagged "J" estimated in sample SMC-SB08-01A (potential high bias of analytes quantitated)
2-hexanone
4-methyl-2-pentanone
tetrachloroethene
1,1,2,2-tetrachloroethane
toluene
chlorobenzene
ethylbenzene
styrene
xylene 7J

Analysis Sequence

The VOA and BNA analyses were run within 12 hours of instrument tune. The CLP contractual 72-hour sequence for pesticide/PCB analysis was used as required.

Method Blank Contamination

The Pesticide/PCB method blank contained no identifiable compounds. The volatile method blank associated with SMC-SB02-01A, SMC-SB03-01A, SMC-SB04-01A, SMC-SB06-01A, SMC-SB09-01A and SMC-SB08-01A contained 2-butanone (5ug/Kg).

ACTION:
2-butanone flagged "U" non-detect in these samples. Any 2-butanone found in other samples should be

considered suspect as possible lab contamination.

The semivolatile method blank contained:

di-n-butylphthalate	160
bis(2-ethylhexyl)phthalate	20
di-n-octylphthalate	8

and some TIC's.

ACTION:
di-n-butylphthalate and bis(2-ethylhexyl)phthalate flagged "U" non-detect in affected samples (SMC-SB02 through SB12-01A). Concentrations of these analytes in other samples should be considered suspect and possibly attributable to lab contamination.

Field and Trip Blank Contamination

The field blanks contained analytes attributable to the method blanks. No action taken.

Ion Spectra Match

All ion spectra correctly matched the standard spectrum.

Chromatogram Quality

The chromatograms were of acceptable quality.

Calculations

All checked calculations were correct within rounding errors.

Laboratory Control Sample

Laboratory control samples were analyzed with each fraction as specified by the NYSDEC ASP. The results were within the specified criteria.

Prepared By: Pamela Greenlaw Date: 13 June 1993

Inorganic Validation

Three aqueous and sixteen soil samples analyzed for Target Analyte List inorganics were validated according to current USEPA Region II protocols. The following information was used to validate the analytical results:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- CRDL standards for AA (CRA) and ICP (CRI)
- Initial calibration blank (ICB), continuing calibration blank (CCB) and preparation blank (PB) analyses
- Spike Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Standard Addition results
- ICP Serial Dilution Analysis
- Instrument Detection Limit (IDL) Analysis
- Interelement corrections for ICP
- Linear Range Analysis
- Furnace QA/QC Analyses
- Calculations

Attached is the New York State Department of Environmental Conservation's (NYSDEC) required summary table.

Sample hold time

All metals and mercury analyses were extracted within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used. A 2-point calibration for ICP, 5-point for mercury and 4-point calibration for furnace AA were used, as required.

ICV and CCV

The percent recovery for all analytes with the exception of cyanide were within the prescribed windows and analyzed at the correct frequency in the injection sequence. The recovery for cyanide in the initial calibration verification standard was 77% (limit 85-115%).

ACTION:
SMC-SB02-01A flagged "J" estimated for cyanide. (potential low bias)

CRDL Standards

The CRDL standards were run at the correct frequency and appropriate concentration for each analyte. Several analytes had non-compliant CRDL (<80->120%) recoveries:

AQUEOUS

thallium	-1.5%
cobalt	122.7%, 124%
zinc	138.6%, OK

ACTION:

SAMPLE		
SMC-FB-01A	R	Thallium
SMC-FB-02A	R	Thallium
SMC-FB-03A	R	Thallium

SOIL

cadmium	130.3%,125.5%
lead	OK, 136.7%,OK,343.3%,126.7%,143.3%
zinc	154.8%, 150.3%

ACTION:

Sample	FLAG	Analyte	bias
SMC-SB02-01A	R	zinc	
	J	cadmium	high
SMC-SB03-01A	R	zinc	
	R	lead	
	J	cadmium	high
SMC-SB04-01A	R	zinc	
	J	cadmium	high
SMC-SB05-01A	R	zinc	
	J	cadmium	high
SMC-SBU-01A	R	zinc	
	J	cadmium	high
SMC-SB06-01A	R	zinc	
	J	cadmium	high
SMC-SB07-01A	R	zinc	
	J	cadmium	high
	R	lead	
SMC-SB08-01A	R	zinc	
	J	cadmium	high
SMC-SB09-01A	R	zinc	
	J	cadmium	high
SMC-SB10-01A	R	zinc	
	J	cadmium	high
SMC-SB11-01A	R	zinc	
	J	cadmium	high
SMC-SB12-01A	R	zinc	
	J	cadmium	high
SMC-SB13-01A	R	zinc	
	J	cadmium	high
	R	lead	
SMC-SB14-01A	R	zinc	
	J	cadmium	high
SMC-SB15-01A	R	zinc	
	J	cadmium	high

SMC-SB16-01A	R	zinc	
	J	cadmium	high

Laboratory Blanks (ICB, CCB, PB)

All laboratory blanks were analyzed at the correct frequency during the injection sequence. Calcium, copper, iron, lead, manganese, potassium, selenium, silver, sodium and zinc were found in the aqueous calibration blanks. Aluminum, calcium, copper, iron, manganese, silver and zinc were found in the aqueous prep blank. No action required.

Aqueous Blank Concentrations

	ICB	CCB	PB
aluminum			23.1
calcium	27.6	21.3, 38.3	87.4
copper		2.3	3.1
iron	3.1	3.3	28.5
manganese			1
potassium	225.2	-73.8,-78.9	
selenium	1		
silver	-2.5	-2.5,2.9	-2.6
sodium	-209.8	-182.7,-152.7,-147.4	
zinc	11.3	12, 14.1	13.7

SOIL

Aluminum, calcium, copper, magnesium, selenium, and zinc were found in the calibration blanks. Aluminum, calcium, copper, magnesium, vanadium and zinc were found in the preparation blank. All concentrations were below the CRDL. No action was warranted.

Blank Concentrations

	ICB	CCB	PB
aluminum	134.9, -28.6	-20.1, 12.4,-20.4,-12.1,-14.4	-1.9
calcium	44.7	52.6	4.1
copper	5.1	3.5,2.9	0.4
magnesium	46.9		4.9
selenium	1, 1.4,-1		
vanadium			0.3
zinc	12.4		1.1

ICP Interference Check Sample (ICS)

The ICS percent recoveries were all within the acceptance window (80-120%).

Spiked Sample Analysis

The soil spike sample recovery was performed on a true sample (SMC-SB02-01A). The data were acceptable except:

	%Recovery
antimony	25
arsenic	43
cadmium	73
lead	37
selenium	45

silver	47	

ACTION:

Sample	FLAG	Analyte	bias
SMC-SB02-01A	J	antimony	low
	J	arsenic	low
	J	cadmium	low
	J	selenium	low
	J	silver	low
SMC-SB03-01A	J	antimony	low
	J	arsenic	low
	J	lead	low
	J	selenium	low
	J	silver	low
SMC-SB04-01A	J	antimony	low
	J	arsenic	low
	J	selenium	low
	J	silver	low
SMC-SB05-01A	J	antimony	low
	J	arsenic	low
	J	selenium	low
	J	silver	low
SMC-SBU-01A	J	antimony	low
	J	arsenic	low
	J	lead	low
	J	selenium	low
	J	silver	low
SMC-SB06-01A	J	antimony	low
	J	arsenic	low
	J	lead	low
	J	selenium	low
	J	silver	low
SMC-SB07-01A	J	arsenic	low
	J	selenium	low
	J	silver	low
SMC-SB08-01A	J	antimony	low
	J	arsenic	low
	J	lead	low
	J	selenium	low
	J	silver	low
SMC-SB09-01A	J	antimony	low
	J	arsenic	low
	J	lead	low
	J	selenium	low
	J	silver	low
SMC-SB10-01A	J	antimony	low
	J	arsenic	low
	J	lead	low
	J	selenium	low
	J	silver	low
SMC-SB11-01A	J	antimony	low

	J	arsenic	low
	J	lead	low
	J	selenium	low
	J	silver	low
SMC-SB12-01A	J	antimony	low
	J	lead	low
	J	selenium	low
	J	silver	low
	J	arsenic	low
SMC-SB13-01A	J	antimony	low
	J	selenium	low
	J	arsenic	low
	J	silver	low
SMC-SB14-01A	J	antimony	low
	J	arsenic	low
	J	selenium	low
	J	silver	low
SMC-SB15-01A	J	antimony	low
	J	arsenic	low
	J	selenium	low
	J	silver	low
SMC-SB16-01A	J	antimony	low
	J	arsenic	low
	J	lead	low
	J	selenium	low
	J	silver	low

The samples and analytes not flagged were previously flagged.

The aqueous spike sample was performed on SMC-FB-01. Recoveries were acceptable except silver and cyanide were low. Silver and cyanide were flagged "J" estimated in aqueous samples.

Duplicate Sample Analysis (D)

The laboratory soil duplicate analysis was performed on a true sample (SMC-SB08-01A). Several analytes had %RPD >20%:

	%RPD
calcium	27
manganese	30
potassium	31
cyanide	200 but less than CRDL and S-S not > CRDL

No action required since none >100%.
The aqueous duplicate was performed on SMC-FB-01. All data was less than CRQL.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Standard Addition Results

Interelement Corrections for ICP

No interelement corrections were applied by the laboratory. The correction analysis was performed on 10/30/90. It is required annually. This was non-compliant. No action taken.

Linear Range Analysis

The linear range for the ICP analyses was supplied by the laboratory. None of the concentrations of the samples in this group approached these upper limits. The linear range is required to be performed quarterly. It was performed 2/11/91. No action taken.

Furnace AA QC Analyses

Samples were run in duplicate. The acceptance window for the RSD (20%) was exceeded in many cases but all concentrations were less than the CRDL.

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Heerlan Date: 13 June 1993

General Chemistry

Sixteen soil samples analyzed for TOC validated using the following information:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- Method blank
- Spike and spike duplicate Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Calculations

Sample hold time

All samples were prepared within holding times.

Instrument Calibration

The instrument was calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used.

ICV and CCV

The percent recovery for the analyte was within the prescribed window and analyzed at the correct frequency in the injection sequence.

Method Blank

The laboratory blank was analyzed at the correct frequency with concentration of analyte at or below the detection limit.

Spike and Spike Duplicate Sample Analysis

The spike sample recovery was performed on a sample not from this group. Recoveries were 59% and 45%.

Duplicate Sample Analysis (D)

Two laboratory duplicate analyses were performed on true samples SMC-SBU-01A and a sample not from this group. The duplicates were acceptable.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. The percent recoveries were within the acceptance range (80-120%).

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 15 June 1993

Stauffer Management Company RI/FS
Data Package 911664

This data report covers data package 911664 submitted by EA Laboratories concerning analysis of 7 soil samples and 1 field blank collected at Stauffer Management Company Facility at Skaneateles Falls.

SMC-FB-04A collected 10/21/91
SMC-SB16-01A collected 10/21/91
SMC-SB17-02A collected 10/21/91
SMC-SB18-01A collected 10/22/91
SMC-SB18-02A collected 10/22/91
SMC-SB18-03A collected 10/22/91
SMC-SB20-01A collected 10/22/91
SMC-SB21-01A collected 10/22/91

Organic Validation

Seven soil samples and one field blank sample analyzed for Target Compound List (TCL) organics were validated following the United States Environmental Protection Agency (USEPA) Region II procedures for samples analyzed using the Contract Laboratory Program (CLP) Statement of Work (SOW) February, 1988 (as stated in table 1 Analytical Methods attached to the case narrative). These samples were to have been analyzed by the NYSDEC Analytical Services Protocol 1990. The laboratory control samples were analyzed as required by the NYSDEC ASP but the 1990 CLP was not followed. The following information was used to validate the analytical results:

- Sample hold time
- Instrument tune
- Initial and continuing calibration
- Surrogate recoveries
- MS/MSD analysis
- Internal Standards
- Analysis sequence
- Method blank contamination
- Field and trip blank contamination
- Ion spectra match
- Chromatogram quality
- Calculations
- Laboratory Control Sample

The New York State Department of Environmental Conservation's (NYSDEC) required summary table is attached.

Sample Hold Time

All VOA, BNA and Pesticide/PCB samples were analyzed and extracted within prescribed holding times except for the volatile analysis

SAMPLE	DATE COLLECTED	DATE EXTRACTED	DATE ANALYZED
SMC-SB18-03A	10/22/91		11/04/91
SMC-SB20-01A	10/22/91		11/04/91

ACTION:
SMC-SB18-03A AND SMC-SB20-01A flagged "J" ("UJ" except for methylene chloride, trichlorethene, benzene, xylenes and toluene) estimated for all volatile compounds.(potential low bias)

Instrument Tune

The GC/MS's were tuned with BFB (VOA) and DFTPP (BNA). All QC criteria were compliant. No tune is required for pesticide/PCB analyses since they are not performed using a mass spectrometer.

Initial and Continuing Calibration

In the initial calibration of VOAs and BNAs, the relative response factors (RRFs) and relative standard deviations (RSDs) of each analyte is assessed. In the continuing calibration of VOAs and BNAs, the RRF and Percent Difference of the RRFs (%D) of each analyte is aJssessed. For the pesticide/PCB analyses, the RSDs of the calibration factors (CFs) of the initial calibration and %D of the CFs for the continuing calibration are assessed.

RRF < 0.05: all compliant

%D > 25%: chloroethane (46.8%,36.4%, 41.3%)
acetone (47.1%, 48.4%, 26%)
2-butanone (58%, 55.5%, 47%)
vinyl acetate (53.2%, 42.5%, 47%)
1,2 dichloroethane (35.3%, 25.9%, 42.3%)
trichloroethene (35%)
2-hexanone (58.7%, 51.6%, 45.5%)
4-methyl-2-pentanone (55.9%, 45.5%, 47.9%)
trans-1,3-dichloropropene (28.6%)
tetrachloroethene (51.5%)
m,p-xylene (45%)

ACTION: AFFECTED volatile COMPOUNDS FLAGGED "J" estimated.
SMC-SB16-02A:2
acetone 25J
AMC-SB21-01A:
acetone 43J
Other affected compounds previously flagged.

Several compounds had CF %Ds > 15% for the pesticide fraction but no analyses required quantitation so the CFs were not used.

Surrogate Recovery

The surrogate recoveries for all analyses were within acceptance criteria except SMC-SB18-03A volatile one surrogate high (previously flagged "J" holding time), SMC-SB20-01A volatile all surrogates diluted out. The recovery for fluorophenol in the analysis of SMC-SB20-01A was less than 10% (1%).

ACTION: All non-detected acid compounds flagged "R" rejected semivolatiles in sample SMC-SB20-01A.

MS/MSD Analyses

MS/MSD analyses not reported with this SDG for volatile and semivolatile analyses. The MS/MSD reported with the pesticides had no recovery for any of the spiked analytes due to required dilution of the sample. No action taken.

Internal Standard Response

The internal standard response was within acceptable limits for all samples with the following exceptions:

Semivolatile SAMPLE	internal standards	recovery	
SMC-SB16-02A	chrysene	low	
	perylene	low	
SMC-SB17-01A	chrysene	low	
	perylene	low	
SMC-SB18-03A	phenanthrene	low	
	chrysene	low	
	perylene	low	
SMC-SB20-01A	phenanthrene	low	
	chrysene	low	
	perylene	low	
SMC-SB20-01ADL	perylene	low	DO NOT USE
SMC-SB18-03ADL	chrysene	low	DO NOT USE
	perylene	low	
SMC-SB16-02RE	dichlorobenzene	high	DO NOT USE
	perylene	low	
SMC-SB17-01ARE	perylene	low	DO NOT USE

ACTION:
Affected analytes flagged "J" estimated in samples SMC-SB16-02A, SMC-SB17-01A, SMC-SB18-01A, SMC-SB20-01A (potential high bias of analytes quantitated)
pyrene
butylbenzylphthalate
3,3'-dichlorobenzidine
benzo(a)anthracene
bis(2-ethylhexyl)phthalate
chrysene
di-n-octylphthalate
benzo(b)fluoranthene
benzo(k)fluoranthene
benzo(a)pyrene
indeno(1,2,3-cd)pyrene
dibenz(a,h)anthracene
benzo(g,h,i)perylene.

SMC-SB18-03A AND SMC-SB20-01A:
4,6-dinitro-2-methylphenol
N-nitrosodiphenylamine
1,2-diphenylhydrazine
4-bromophenylether

hexachlorobenzene
pentachlorophenol
phenanthrene
anthracene
di-n-butylphthalate
fluoranthene

Analysis Sequence

The VOA and BNA analyses were run within 12 hours of instrument tune. The CLP contractual 72-hour sequence for pesticide/PCB analysis was used as required.

Method Blank Contamination

The Pesticide/PCB method blank contained no identifiable compounds. The volatile method blank associated with SMC-SB18-03A and SMC-SB20-01A contained 2-butanone (6ug/L) and chloroform (1ug/L).

ACTION:
2-butanone flagged "U" non-detect in SMC-SB20-01A. Chloroform flagged "U" non-detect in SMC-SB18-03A and SMC-SB20-01A.

The semivolatile method blank contained:
di-n-butylphthalate 620
and some TIC's.

ACTION:
di-n-butylphthalate and flagged "U" non-detect in
SMC-SB16-02A
SMC-SB17-01A
SMC-SB18-01A
SMC-SB18-02A
SMC-SB18-03A
SMC-SB20-01A
SMC-SB21-01A

Field and Trip Blank Contamination

The field blank SMC-FB-04A contained methylene chloride at 2 ppb.

ACTION: Methylene chloride flagged "U" non-deetect in SMC-SB18-03A and SMC-SB21-01A.

Ion Spectra Match

All ion spectra correctly matched the standard spectrum.

Chromatogram Quality

The chromatograms were of acceptable quality. Benzo (b) and (k) fluoranthene could not be separated in the analysis of SMC-SB16-02A. No actiontaken already noted and flagged "J".

Calculations

All checked calculations were correct within rounding errors.

Laboratory Control Sample

Laboratory control samples were analyzed with each fraction as specified by the NYSDEC ASP. The results were within the specified criteria.

Prepared By: Pamela Greenlaw Date: 6 June 1993

Inorganic Validation

One aqueous and seven soil samples analyzed for Target Analyte List inorganics were validated according to current USEPA Region II protocols. The following information was used to validate the analytical results:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- CRDL standards for AA (CRA) and ICP (CRI)
- Initial calibration blank (ICB), continuing calibration blank (CCB) and preparation blank (PB) analyses
- Spike Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Standard Addition results
- ICP Serial Dilution Analysis
- Instrument Detection Limit (IDL) Analysis
- Interelement corrections for ICP
- Linear Range Analysis
- Furnace QA/QC Analyses
- Calculations

Attached is the New York State Department of Environmental Conservation's (NYSDEC) required summary table.

Sample hold time

All metals and mercury analyses were extracted within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used. A 2-point calibration for ICP, 5-point for mercury and 4-point calibration for furnace AA were used, as required.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

CRDL Standards

The CRDL standards were run at the correct frequency and appropriate concentration for each analyte. Several analytes had non-compliant CRDL (<80->120%) recoveries:

antimony	aqueous OK, 72.5%
cadmium	123.6%, OK
copper	124.5%, OK
manganese	OK,OK,123.3,OK
nickel	126.3%, OK

silver	140.6%, 77.5%
thallium	34.8%, OK
zinc	OK, OK, 123.9%

ACTION:
Antimony flagged "J" estimated in SMC-FB-04A.
Cadmium, copper, nickel, and silver flagged "J" estimated in samples:
SMC-SB16-02A, SMC-SB17-01A, SMC-SB18-01A, SMC-SB18-02A, SMC-SB18-03A, SMC-SB20-01A, and SMC-SB21-01A (potential high bias).
Manganese flagged "J" estimated in SMC-SB20-01A (potential high bias).
Thallium flagged "J" estimated (potential low bias) in:
SMC-SB16-02A, SMC-SB17-01A, SMC-SB18-01A, SMC-SB18-02A, and SMC-SB18-03A.
Zinc flagged "J" estimated (potential high bias) in samples SMC-SB16-02A, SMC-SB17-01A, SMC-SB18-01A, SMC-SB18-02A, SMC-SB18-03A and SMC-SB21-01A.

Laboratory Blanks (ICB, CCB, PB)

All laboratory blanks were analyzed at the correct frequency during the injection sequence. Antimony, barium, calcium, copper, magnesium, potassium, silver and sodium were found in the aqueous calibration blanks. Antimony, calcium, potassium, silver, sodium and zinc were found in the aqueous prep blank.
Aqueous Blank Concentrations

	ICB	CCB	PB
antimony	-48.8	-37.3	-39.6
barium		5	
calcium		20.8, 19	38.7
copper		3.3, 3.2	
magnesium		32.9, 40.1	
potassium		-106.3 -276.7,-234.5,-133.9	-315.6
silver		4.2, 4.7	2.5
sodium		229.9, 195.4, 314.3	197.1
zinc			5.7

Arsenic, calcium, copper, lead, magnesium, potassium, sulver, sodium, and zinc were found in the calibration blanks. Copper, potassium, selenium, silver and zinc were found in the preparation blank. All concentrations were below the CRDL. No action was warranted.

Blank Concentrations

	ICB	CCB	PB
arsenic		2.6	
calcium		-25.1, 21, 20.3	
copper	3.1	-5.1, -2.2	-.2
lead		-2	
magnesium	46.7	-56.8, 64, 46.7	
potassium		-146.8 -217.2	-10.8
silver	4	-6.4,-2,5	-.3
sodium	175.5	165.2, 313.7	
zinc		8.1	0.8

ICP Interference Check Sample (ICS)

The ICS percent recoveries were all within the acceptance window (80-120%).

Spiked Sample Analysis

The spike sample recovery was performed on a true samples (SMC-SB16-02A and SMC-SB18-03A). The data were acceptable except:

	%Recovery
lead	20%
arsenic	-22%
cobalt	64%
selenium	58%
silver	58%
zinc	128%
cyanide	55%

ACTION:
Arsenic rejected in samples SMC-SB18-03A, SMC-SB20-01A and SMC-SB21-01A. The other samples were determined by method of standard addition.
Antimony, cobalt, selenium and cyanide flagged "J" estimated (potential low bias) in samples SMC-SB16-02A, SMC-SB17-01A, SMC-SB18-01A, SMC-SB18-02A, SMC-SB18-03A, SMC-SB20-01A, and SMC-SB21-01A.

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on a true sample (SMC-SB16-02A). Several analytes had %RPD >20%:

	%RPD
aluminum	47
arsenic	8
barium	31
cadmium	30
calcium	9
chromium	23
cobalt	73
copper	26
iron	26
lead	23
manganese	45
nickel	22
potassium	29
vanadium	40
zinc	40

No action required since none >100%.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Standard Addition Results

Method of standard addition analysis was correctly performed on samples SMC-SB-16-02A, SMC-SB17-01A, SMC-SB18-01A and SMC-SB18-02A for arsenic and SMC-SB16-02A, SMC-SB18-01A, SMC-SB18-03A, SMC-SB20-01A and SMC-SB21-01A for lead. The correlation coefficients were acceptable.

ICP Serial Dilution Analysis

The ICP aqueous serial dilution was performed on sample (SMC-SB21-01A). The analyses were acceptable except manganese (10.4%D) and zinc (12.9%D).

ACTION: Manganese flagged "J" estimated in samples SMC-SB16-02A, SMC-SB17-01A, SMC-SB18-01A, SMC-SB18-02A, SMC-SB18-03A, and SMC-SB21-01A. Zinc flagged "J" estimated in SMC-SB20-01A.

Instrument Detection Limit (IDL) Analysis

The IDLs were all lower than the CRDL and were generated on several days by the laboratory. They are required to be generated quarterly but for the furnace used for the determination of lead by MSA the IDLs were generated on 11/27/90. The ICAP, CVAA and CN instruments had IDLs determined on 7/23/91. These are non-compliant. No action taken.

Interelement Corrections for ICP

No interelement corrections were applied by the laboratory. The correction analysis was performed on 10/30/90. It is required annually. This was non-compliant. No action taken.

Linear Range Analysis

The linear range for the ICP analyses was supplied by the laboratory. None of the concentrations of the samples in this group approached these upper limits.
The linear range is required to be performed quarterly. It was performed 2/11/91. No action taken.

Furnace AA QC Analyses

Samples were run in duplicate. The acceptance window for the RSD (20%) was exceeded in many cases but all concentrations were less than the CRDL.

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Granlar Date: 12 June 1993

General Chemistry

Seven soil samples analyzed for TOC validated using the following information:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- Method blank
- Spike and spike duplicate Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Calculations

Sample hold time

All samples were prepared within holding times.

Instrument Calibration

The instrument was calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used.

ICV and CCV

The percent recovery for the analyte was within the prescribed window and analyzed at the correct frequency in the injection sequence.

Method Blank

The laboratory blank was analyzed at the correct frequency with concentration of analyte at or below the detection limit.

Spike and Spike Duplicate Sample Analysis

No spike sample recovery was performed with this analysis.

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on a true sample but not from this group. The duplicates showed no agreement (sample 24360/duplicate 3757). No action taken.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. The percent recoveries were within the acceptance range (80-120%).

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 12 June 1993

Stauffer Management Company RI/FS
Data Package 911691

This data report covers data package 911691 submitted by EA Laboratories concerning analysis of 10 soil samples collected at Stauffer Management Company Facility at Skaneateles Falls.

SMC-SBU-02A collected 10/23/91
SMC-SB23-01A collected 10/23/91
SMC-SB23-02A collected 10/23/91
SMC-SB24-01A collected 10/23/91
SMC-SB25-01A collected 10/23/91
SMC-SB26-01A collected 10/23/91
SMC-SB27-01A collected 10/23/91
SMC-SB27-02A collected 10/23/91
SMC-SB27-03A collected 10/23/91
SMC-SB27-04A collected 10/23/91

Organic Validation

Ten soil samples sample analyzed for Target Compound List (TCL) organics were validated following the United States Environmental Protection Agency (USEPA) Region II procedures for samples analyzed using the Contract Laboratory Program (CLP) Statement of Work (SOW) February, 1988 (as stated in table 1 Analytical Methods attached to the case narrative). These samples were to have been analyzed by the NYSDEC Analytical Services Protocol 1990. The laboratory control samples were analyzed as required by the NYSDEC ASP but the 1990 CLP was not followed. The following information was used to validate the analytical results:

- Sample hold time
- Instrument tune
- Initial and continuing calibration
- Surrogate recoveries
- MS/MSD analysis
- Internal Standards
- Analysis sequence
- Method blank contamination
- Field and trip blank contamination
- Ion spectra match
- Chromatogram quality
- Calculations
- Laboratory Control Sample

The New York State Department of Environmental Conservation's (NYSDEC) required summary table is attached.

Samples SMC-SB26-01A(72%), SMC-SB27-01A(52%) and SMC-SB27-03A(61%) all contained >50% moisture. All analyses for these samples flagged "J" estimated.

Sample Hold Time

All VOA, BNA and Pesticide/PCB samples were analyzed and extracted within prescribed holding times except

SAMPLE	DATE COLLECTED	DATE EXTRACTED	DATE ANALYZED
SMC-SB26-01A	10/23/91		11/04/91
SMC-SB27-01A	10/23/91		11/04/91
SMC-SB27-04A	10/23/91	10/28/91	12/08/91
SMC-SB25-01A	10/23/91	10/28/91	1/21/92

ACTION:
SMC-SB26-01A AND SMC-SB27-01A flagged "J" ("UJ" except for xylenes and toluene) estimated for all volatile compounds.(previously flagged for moisture) SMC-SB27-04A and SMC-SB25-01A flagged "J" ("UJ" except for toluic acid) estimated for all semivolatile compounds.

Instrument Tune

The GC/MS's were tuned with BFB (VOA) and DFTPP (BNA). All QC criteria were compliant. Sample SMC-SB25-01A, semivolatiles, was analyzed outside the required 12 hour tune time according to editted form 5B. This is not supported by the raw data but raw data indicates DFTPP and SSTD 50 being analyzed at the same time. An error in the time recording of the mass spectrometer appears to have occurred. It was reanalyzed outside holding time but within tune, use the reanalysis. No tune is required for pesticide/PCB analyses since they are not performed using a mass spectrometer.

Initial and Continuing Calibration

In the initial calibration of VOAs and BNAs, the relative response factors (RRFs) and relative standard deviations (RSDs) of each analyte is assessed. In the continuing calibration of VOAs and BNAs, the RRF and Percent Difference of the RRFs (%D) of each analyte is aJssessed. For the pesticide/PCB analyses, the RSDs of the calibration factors (CFs) of the initial calibration and %D of the CFs for the continuing calibration are assessed.

RRF < 0.05:	all compliant
%D > 25%:	chloroethane (36.4%, 41.3%, 46.6%) acetone (48.4%, 37.4%, 26%) 2-butanone (55.5%, 46.2%, 47%) vinyl acetate (49.6%, 46.9%) 1,2 dichloroethane (40.5%, 42.3%) trichloroethene (27.9%, 35%) 2-hexanone (51.6%, 52.9%, 45.5%) 4-methyl-2-pentanone (45.5%, 47.9%, 51.7%) tetrachloroethene (41.3%, 51.5%) m,p-xylene (45%) 1,1,2,2-tetrachloroethane (27.1%)

ACTION:
AFFECTED COMPOUNDS FLAGGED "J" estimated.

SMC-SBU-02A:	
2-butanone	7000J
AMC-SB23-01A:	
acetone	14J
SMC-SB23-02A:	
acetone	17J

SMC-SB24-01A:

acetone	55J

SMC-SB25-01A:

2-butanone	7100J

Several compounds had CF %Ds >15% for the pesticide fraction but no analyses required quantitation so the CFs were not used.

Surrogate Recovery

The surrogate recoveries for all VOA and pesticide/PCB analyses were within acceptance criteria except SMC-SB26-01A pesticide/PCb which was effected by a coelution. The surrogate recoveries for many of the semivolatile analyses were diluted out. The recovery for fluorophenol in the reanalysis of SMC-SB25-01A was less than 10% (7%).

ACTION:
All non-detected acid compounds flagged "R" rejected semivolatiles in sample SMC-SB25-01A.

MS/MSD Analyses

True samples were used for MS/MSD analyses. Recoveries and RPDs were compliant except for the semivolatile MS/MSD:

Analyte	recovery	limits	RPD
phenol	96	26-90	
	100		
4-chloro-3-methylphenol	108	26-103	
	116		
pentachlorophenol	10	17-109	
	41		122

No action taken.

Internal Standard Response

The internal standard response was within acceptable limits for all samples with the following exceptions:

Semivolatile SMC-SB26-01A internal standards chrysene and perylene low.

ACTION:
Affected analytes flagged "J" estimated:
pyrene
butylbenzylphthalate
3,3'-dichlorobenzidine
benzo(a)anthracene
bis(2-ethylhexyl)phthalate
chrysene
di-n-octylphthalate
benzo(b)fluoranthene
benzo(k)fluoranthene
benzo(a)pyrene
indeno(1,2,3-cd)pyrene
dibenz(a,h)anthracene

Analysis Sequence

The VOA and BNA analyses were run within 12 hours of instrument tune. The CLP contractual 72-hour sequence for pesticide/PCB analysis was used as required.

Method Blank Contamination

The Pesticide/PCB method blank contained no identifiable compounds. The volatile method blank associated with SMC-SB23-01A, SMC-SB23-02A and SMC-SB24-01A contained 2-butanone (8ug/L). The volatile method blank associated with SMC-SB26-01A and SMC-SB27-01A contained 2-butanone (6 ug/L) and chloroform (1ug/L).

ACTION:
2-butanone flagged "U" non-detect in SMC-SB24-01A. Any 2-butanone or chloroform found in other samples should be considered suspect as possible lab contamination. Chloroform flagged "U" nonidetect in SMC-SB26-01ADL and SMC-SB27-01ADL.

The semivolatile method blank contained:

di-n-butylphthalate	540
bis(2-ethylhexyl)phthalate	82 J

and some TIC's.

ACTION:
di-n-butylphthalate and bis(2-ethylhexyl)phthalate flagged "U" non-detect and TIC's rejected in affected samples (SMC-SB02 through SB12-01A). Concentrations of these analytes in other samples should be considered suspect and possibly attributable to lab contamination.
SMC-SBU-02A
SMC-SB23-01A
SMC-SB23-02A
SMC-SB24-01A
SMC-SB25-01A

Field and Trip Blank Contamination

None reported with this group.

Ion Spectra Match

All ion spectra correctly matched the standard spectrum.

Chromatogram Quality

The chromatograms were of acceptable quality.

Calculations

All checked calculations were correct within rounding errors. The total xylenes were calculated from isomers beyond the range of the instrument calibration in samples SMC-SB24-01A, SMC-SB25-01A, SMC-SB27-01ADL and SMC-SB27-02A.

ACTION:
Xylenes flagged "J" estimated in these samples.

Laboratory Control Sample

Laboratory control samples were analyzed with each fraction as specified by the NYSDEC ASP. The results were within the specified criteria.

Prepared By: Pamela Greenlaw Date: 5 June 1993

Inorganic Validation

Eight soil samples analyzed for Target Analyte List inorganics were validated according to current USEPA Region II protocols. The following information was used to validate the analytical results:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- CRDL standards for AA (CRA) and ICP (CRI)
- Initial calibration blank (ICB), continuing calibration blank (CCB) and preparation blank (PB) analyses
- Spike Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Standard Addition results
- ICP Serial Dilution Analysis
- Instrument Detection Limit (IDL) Analysis
- Interelement corrections for ICP
- Linear Range Analysis
- Furnace QA/QC Analyses
- Calculations

Attached is the New York State Department of Environmental Conservation's (NYSDEC) required summary table.
Sample SB24-01A was mislabeled SB25-01A. The Form I was corrected.

Sample hold time

All metals and mercury analyses were extracted within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used. A 2-point calibration for ICP, 5-point for mercury and 4-point calibration for furnace AA were used, as required.

ICV and CCV

The percent recovery for all analytes with the exception of cyanide were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

CRDL Standards

The CRDL standards were run at the correct frequency and appropriate concentration for each analyte. Lead and selenium had non-compliant CRDL (<80->120%) recoveries:

lead	OK, OK, 126.7%, 60%, 133.3%, OK
selenium	OK, OK, 130.2%, 130.2%

ACTION: SMC-SB23-01A: Lead flagged "J" estimated due to high CRDL recovery. (potential high bias.)

SMC-SB26-01A flagged "UJ estimated due to high CRDL recovery. (potential high bias)

Laboratory Blanks (ICB, CCB, PB)

All laboratory blanks were analyzed at the correct frequency during the injection sequence.
Aluminum, arsenic, calcium, copper, iron, lead, magnesium, potassium, silver and sodium were found in the calibration blanks. Aluminum, potassium and sodium were found in the preparation blank. All concentrations were below the CRDL. No action was warranted.

Blank Concentrations

	ICB	CCB	PB
aluminum	-16.8	-22,-20.3,-15.3	-1.4
arsenic		-2	
calcium	-23.2	29.8, 33.9, -23.3	
copper	3, 3.9	3.3, 6.9	
iron	4.2	3,4.5,4.3	
lead	-2.6	-2.1,-2.8	
magnesium	43.6, 47.4	53.3, 89.7	
potassium		-217,-129, 3330.4, 472	-14.2
silver	4.3	211	16.6
sodium		238.9, 352.1	

ICP Interference Check Sample (ICS)

The ICS percent recoveries were all within the acceptance window (80-120%).

Spiked Sample Analysis

The spike sample recovery was performed on a true sample (SMC-SB23-01A). The data were acceptable except low recovery for:

antimony	26.5%
arsenic	53.2%
selenium	59.8%
silver	52.1%
thallium	73.3%

ACTION: All samples flagged "J" estimated for these analytes.

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on a true sample (SMC-SB23-01A). The only non-compliant analyses are for iron and manganese. The other analytes are incorrectly flagged *. No action required.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Standard Addition Results

Method of standard addition analysis was correctly performed for arsenic in SMC-SB25-01A and SMC-SB26-01

01A and lead in SMC-SB23-01A, SMC-SB25-01A and SMC--SB26-01A. The correlation coefficient was <0.995 for lead in SMC-SB23-01A and SMC-SB26-01A.

ACTION: Lead flagged "J" estimated in SMC-SB23-01A and SMC-SB26-01A.

ICP Serial Dilution Analysis

The ICP aqueous serial dilution was performed on sample (SMC-SB27-04A). All analyses were acceptable.

Instrument Detection Limit (IDL) Analysis

The IDLs were all lower than the CRDL and were generated on 3 March 1992 by the laboratory.

Interelement Corrections for ICP

No interelement corrections were applied by the laboratory. The forms were not dated.

Linear Range Analysis

The linear range for the ICP analyses was supplied by the laboratory. None of the concentrations of the samples in this group approached these upper limits.

Furnace AA QC Analyses

Samples were run in duplicate. The acceptance window for the RSD (20%) was exceeded in many cases but all concentrations were less than the CRDL.

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 6 June 1993

General Chemistry

Eight soil samples analyzed for TOC and two samples analyzed fir corrosivity, reactivity and ignitability were validated using the following information:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- Method blank
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Calculations

Sample hold time

All samples were prepared within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

Method Blank

All laboratory blanks were analyzed at the correct frequency with concentrations of analytes at or below the detection limit.

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on true sample and was acceptable for all parameters.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Calculations

All checked calculations were within rounding errors.

Prepared By: Daniel Greenlaw Date: 6 June 1993

Stauffer Management Company RI/FS
Data Package 920386

This data report covers data package 920386 submitted by EA Laboratories concerning analysis of 7 aqueous samples and one trip blank collected at Stauffer Management Company Facility at Skaneateles Falls.

SMC-SW01-01A collected 3/17/92
SMC-SW02-01A collected 3/17/92
SMC-SW03-01A collected 3/17/92
SMC-SW04-01A collected 3/17/92
SMC-SWU-01A collected 3/17/92
SMC-SWFB01-01A collected 3/17/92
SMC-SDFB01-01A collected 3/17/92
Trip blank collected 3/17/92

Organic Validation

Eight aqueous samples sample analyzed for Target Compound List (TCL) organics were validated following the United States Environmental Protection Agency (USEPA) Region II procedures for samples analyzed using the Contract Laboratory Program (CLP) Statement of Work (SOW) February, 1988 (as stated in table 1 Analytical Methods attached to the case narrative). These samples were to have been analyzed by the NYSDEC Analytical Services Protocol 1990. The laboratory control samples were analyzed as required by the NYSDEC ASP but the 1990 CLP was not followed. The following information was used to validate the analytical results:

- Sample hold time
- Instrument tune
- Initial and continuing calibration
- Surrogate recoveries
- MS/MSD analysis
- Internal Standards
- Analysis sequence
- Method blank contamination
- Field and trip blank contamination
- Ion spectra match
- Chromatogram quality
- Calculations
- Laboratory Control Sample

The New York State Department of Environmental Conservation's (NYSDEC) required summary table is attached.

Sample Hold Time

All VOA, BNA and Pesticide/PCB samples were originally extracted and analyzed within the prescribed hold times. Several samples required reextraction outside the holding time due to failed QC. These samples were flagged "J" estimated as required.

ACTION: SMC-SW02-01ARE DL flagged "J" estimated. SMC-SDFB01-01ARE flagged "UJ" for the acid analytes which should be used. SMC-SW02-01ARE and SWURE flagged "UJ". Use these analyses not the originals.

Instrument Tune

The GC/MS's were tuned with BFB (VOA) and DFTPP (BNA). All QC criteria were compliant. No tune is required for pesticide/PCB analyses since they are not performed using a mass spectrometer.

Initial and Continuing Calibration

In the initial calibration of VOAs and BNAs, the relative response factors (RRFs) and relative standard deviations (RSDs) of each analyte is assessed. In the continuing calibration of VOAs and BNAs, the RRF and Percent Difference of the RRFs (%D) of each analyte is assessed. For the pesticide/PCB analyses, the RSDs of the calibration factors (CFs) of the initial calibration and %D of the CFs for the continuing calibration are assessed.

RRF < 0.05:	all compliant
%D > 25%:	trans-1,3-dichloropropene (28.9%) 2-butanone (29.3%) 4-nitrophenol (26.1%)
RSD > 30%:	2,4-dinitrophenol (33.5%)

No action required since analyses for these compounds were all non-detect.

Several compounds had CF %Ds > 15% for the pesticide fraction but no analyses required quantitation so the CFs were not used.

Surrogate Recovery

The surrogate recoveries for all VOA and pesticide/PCB analyses were within acceptance criteria. The surrogate recoveries for many of the semivolatile analyses were outside acceptance criteria. Most of these samples were reextracted with acceptable surrogate recoveries. The result which should be used for bis(2-ethylhexyl)phthalate in sample SMC-SW02-01A is from the analysis designated RE DL which was analyzed outside holding times. SMC-SW04-01A was not reextracted since the MS and MSD analyses of this sample also had surrogate recoveries outside the limits.

ACTION: All compounds flagged "UJ" estimated semivolatiles in sample SMC-SW04-01A.(potential high bias) Sample SMC-SDFB01-01A use the original analysis for the base neutral compounds and the reextraction for the acid compounds. The phthalate in the reextraction appears to be a lab contaminant.

MS/MSD Analyses

True samples were used for MS/MSD analyses. Recoveries and RPDs were compliant except for the pesticide MS/MSD:

Pesticide/PCB - The recovery was low for 1 of the 12 spiked analytes (lindane slightly low in the MSD and the RPD high). No action taken.

Internal Standard Response

The internal standard response was within acceptable limits for all samples with the following exceptions:

Analysis Sequence

The VOA and BNA analyses were run within 12 hours of instrument tune. The CLP contractual 72-hour sequence for pesticide/PCB analysis was used as required.

Method Blank Contamination

The Volatile, Semivolatile and Pesticide/PCB method blanks contained no identifiable compounds.

Field and Trip Blank Contamination

The trip blank contained acetone at 13 ppb. The field blank SMC-SDFB01-01A contained acetone at 16 ppb. The reanalysis of SMC-SDFB01-01A semivolatiles contained bis(2-ethylhexyl)phthalate.

ACTION: None required for acetone since all samples were non-detect for these analytes. Any acetone found in any samples may be false positives. Bis(2-ethylhexyl)phthalate rejected in the reanaalysis of SMC-SW02-01A.

Ion Spectra Match

All ion spectra correctly matched the standard spectrum.

Chromatogram Quality

The chromatograms were of acceptable quality.

Calculations

All checked calculations were correct within rounding errors.

Laboratory Control Sample

Laboratory control samples were analyzed with each fraction as specified by the NYSDEC ASP. The results were within the specified criteria.

Prepared By: Pamela Greenlaw Date: 2 June 1993

Inorganic Validation

Seven aqueous samples analyzed for Target Analyte List inorganics were validated according to current USEPA Region II protocols. The following information was used to validate the analytical results:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- CRDL standards for AA (CRA) and ICP (CRI)
- Initial calibration blank (ICB), continuing calibration blank (CCB) and preparation blank (PB) analyses
- Spike Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Standard Addition results
- ICP Serial Dilution Analysis
- Instrument Detection Limit (IDL) Analysis
- Interelement corrections for ICP
- Linear Range Analysis
- Furnace QA/QC Analyses
- Calculations

Attached is the New York State Department of Environmental Conservation's (NYSDEC) required summary table.

Sample hold time

All metals and mercury analyses were extracted within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used. A 2-point calibration for ICP, 5-point for mercury and 4-point calibration for furnace AA were used, as required.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

CRDL Standards

The CRDL standards were run at the correct frequency and appropriate concentration for each analyte. Several analytes had non-compliant CRDL (<80->120%) recoveries:

antimony	OK, 146.9%
barium	
cadmium	OK, 131.5%
chromium	OK, 126.1%
copper	129.3%, 152%
mercury	160%

nickel	OK, 124.7%
silver	OK. 135.2%
zinc	OK, 123%

ACTION: SMC-SWU-01A: antimony, chromium, copper, nickel, and zinc estimated (J) due to high CRDL recovery. (potential high bias)
Mercury rejected "R" in all samples. Copper flagged "J" in all samples.(potential high bias)
Antimony flagged "J" in SW-1, SW-2, SW-3 and SW-4. The positive values for barium and zinc were flagged "J" in these samples.

Laboratory Blanks (ICB, CCB, PB)

All laboratory blanks were analyzed at the correct frequency during the injection sequence. Aluminum, arsenic, barium, chromium, copper, iron, thallium, and zinc were found in the calibration blanks. Arsenic, calcium, copper and zinc were found in the preparation blank. All concentrations were below the CRDL. No action was warranted.

Blank Concentrations

	ICB	CCB	PB
Aluminum		33.7,-13.5	
arsenic		1.1	1.96
barium	23.7	19.7, 36.3, 30.5, 48.7	
calcium			73.98
chromium		5.5	
copper		6.7, 9.6, 8.1, 7.4	11.18
iron	-7.5	-6.2, -7.6, -8, 8.3	
thallium		-1	
zinc		6.6, -6.3	-4.11

ICP Interference Check Sample (ICS)

The ICS percent recoveries were all within the acceptance window (80-120 %).

Spiked Sample Analysis

The spike sample recovery was performed on a true sample (SMC-SW04-01A). All data were acceptable.

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on a true sample (SMC-SW04-01A). Mercury (0.2U and 0.26) was outside the acceptance window if 0 is used for the non-detect value but if the IDL is used, it is acceptable. No action required.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Standard Addition Results

Method of standard addition analysis was not required.

ICP Serial Dilution Analysis

The ICP aqueous serial dilution was performed on sample (SMC-SWU-01A). All analyses were acceptable except copper which was 32.43 in initial analysis and 103.5 diluted.

ACTION: Copper rejected in all samples.

Instrument Detection Limit (IDL) Analysis

The IDLs were all lower than the CRDL and were generated on 3 March 1992 by the laboratory.

Interelement Corrections for ICP

No interelement corrections were applied by the laboratory. The forms were not dated.

Linear Range Analysis

The linear range for the ICP analyses was supplied by the laboratory. None of the concentrations of the samples in this group approached these upper limits.

Furnace AA QC Analyses

Samples were run in duplicate. The acceptance window for the RSD (20%) was exceeded in many cases but all concentrations were less than the CRDL.

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Beerlar Date: 3 June 1993

General Chemistry

Seven aqueous samples analyzed for alkalinity, chloride, cyanide, DOC, fluoride, sulfate and TSS (hardness was reported with the inorganic analysis since it was determined using the calculated method) were validated using the following information:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- Method blank
- Spike and spike duplicate Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Calculations

Sample hold time

All samples were prepared within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

Method Blank

All laboratory blanks were analyzed at the correct frequency with concentrations of analytes at or below the detection limit except alkalinity which was 1.1 mg/L in the method blank.

ACTION: Values for alkalinity in the field blanks should be considered below the detection limit.

Spike and Spike Duplicate Sample Analysis

The spike sample recovery was performed on a true sample and was compliant except for DOC which was recovered at 127.8% in the matrix spike but compliant in the duplicate. No action taken.

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on true sample and was acceptable for all parameters.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 3 June 1993

Stauffer Management Company RI/FS
Data Package 920391

This data report covers data package 920386 submitted by EA Laboratories concerning analysis of 5 soil samples collected at Stauffer Management Company Facility at Skaneateles Falls.

SMC-SD01-01A collected 3/17/92
SMC-SD02-01A collected 3/17/92
SMC-SD03-01A collected 3/17/92
SMC-SD04-01A collected 3/17/92
SMC-SDU-01A collected 3/17/92

Organic Validation

Five sediment samples analyzed for Target Compound List (TCL) organics were validated following the United States Environmental Protection Agency (USEPA) Region II procedures for samples analyzed using the Contract Laboratory Program (CLP) Statement of Work (SOW) February, 1988 (as stated in table 1 Analytical Methods attached to the case narrative). These samples were to have been analyzed by the NYSDEC Analytical Services Protocol 1990. The laboratory control samples were analyzed as required by the NYSDEC ASP but the 1990 CLP was not followed. The following information was used to validate the analytical results:

- Sample hold time
- Instrument tune
- Initial and continuing calibration
- Surrogate recoveries
- MS/MSD analysis
- Internal Standards
- Analysis sequence
- Method blank contamination
- Field and trip blank contamination
- Ion spectra match
- Chromatogram quality
- Calculations
- Laboratory Control Sample

The New York State Department of Environmental Conservation's (NYSDEC) required summary table is attached.

Sample Hold Time

All VOA and BNA samples were originally extracted and analyzed within the prescribed hold times. The pesticide/PCB samples were extracted one day beyond holding time.

SAMPLE	DATE COLLECTED	DATE EXTRACTED
SMC-SD01-01A	3/17/92	3/25/92
SMC-SD02-01A	3/17/92	3/25/92
SMC-SD03-01A	3/17/92	3/25/92
SMC-SD04-01A	3/17/92	3/25/92
SMC-SDU-01A	3/17/92	3/25/92

ACTION: All samples flagged "UJ" for pesticide/PCBs. (potential low bias)

Instrument Tune

The GC/MS's were tuned with BFB (VOA) and DFTPP (BNA). All QC criteria were compliant. No tune is required for pesticide/PCB analyses since they are not performed using a mass spectrometer.

Initial and Continuing Calibration

In the initial calibration of VOAs and BNAs, the relative response factors (RRFs) and relative standard deviations (RSDs) of each analyte is assessed. In the continuing calibration of VOAs and BNAs, the RRF and Percent Difference of the RRFs (%D) of each analyte is assessed. For the pesticide/PCB analyses, the RSDs of the calibration factors (CFs) of the initial calibration and %D of the CFs for the continuing calibration are assessed.

RRF < 0.05:	all compliant
%D > 25%:	bromoform (29.9%) 4-nitrophenol (26.1%)
RSD > 30%:	indeno(1,2,3-cd)pyrene (33.5%) dibenzo(a,h)anthracene (32.9%) benzo(g,h,i)perylene (33.2%)

No action required since analyses associated with these calibrations for these compounds were all non-detect.

Several compounds had CF %Ds > 15% for the pesticide fraction but no analyses required quantitation so the CFs were not used.

Surrogate Recovery

The surrogate recoveries for all VOA, semivolatile and pesticide/PCB analyses were within acceptance criteria except the pesticide/PCB surrogate for sample SMC-SD04-01A (9.2%).

ACTION: No action taken since sample previously flagged "J" for holding time.

MS/MSD Analyses

True samples were used for MS/MSD analyses. Recoveries and RPDs were compliant except for:

volatile MS/MSD recoveries high for benzene (163%,169% / 142%), toluene (165%,163% / 139%) and chlorobenzene (162%,167% / 133%) and trichloroethene (192%,142% / 137%), toluene (143%,143% / 139%) and chlorobenzene (151%,158% / 133%) in the reanalysis. No action taken since potential high bias and all not detected.

semivolatile MSD recovery slightly high for 2,4-dinitrotoluene (90% limit 89%)
No action taken.

Pesticide/PCB - The RPD for heptachlor was high (45% limit 31%) No action taken.

Internal Standard Response

The internal standard response was within acceptable limits for all samples with the following exceptions:

volatile SMC-SD04-01A internal standards low for both original and reanalysis
ACTION:
All compounds flagged "J" estimated for volatile analysis of SMC-SD04-01A.(potential high bias if used for quantitation but all "UJ" except acetone)

semivolatile SMC-SD04-01A perylene high
ACTION:
Compounds which use perylene for quantitation flagged "UJ" (potential low bias if used for quantitation)

Analysis Sequence

The VOA and BNA analyses were run within 12 hours of instrument tune. The CLP contractual 72-hour sequence for pesticide/PCB analysis was used as required.

Method Blank Contamination

The Volatile and Pesticide/PCB method blanks used for these samples contained no identifiable compounds. The volatile method blank associated with the reanalysis of SD04 which was not used contained acetone. The semivolatile method blank contained di-n-butyl phthalate at 940 ug/kg.

ACTION: Di-n-butyl phthalate flagged "U" in SMC-SD03-01A, SMC-SD04-01A and SMC-SDU-01A.

Field and Trip Blank Contamination

The trip blank contained acetone at 13 ppb. The field blank SMC-SDFB01-01A contained acetone at 16 ppb. The reanalysis of SMC-SDFB01-01A semivolatiles contained bis(2-ethylhexyl)phthalate. These analyses were reported with data report 920386.

ACTION: Acetone was flagged "U" non-detect for all samples. Any acetone found in any samples may be false positives. Bis(2-ethylhexyl)phthalate was not found in any samples.

Ion Spectra Match

All ion spectra correctly matched the standard spectrum.

Chromatogram Quality

The chromatograms were of acceptable quality.

Calculations

All checked calculations were correct within rounding errors.

Laboratory Control Sample

Laboratory control samples were analyzed with each fraction as specified by the NYSDEC ASP. The results were within the specified criteria.

Prepared By: Pamela Greenlaw Date: 5 June 1993

Inorganic Validation

Five sediment samples analyzed for Target Analyte List inorganics were validated according to current USEPA Region II protocols. The following information was used to validate the analytical results:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- CRDL standards for AA (CRA) and ICP (CRI)
- Initial calibration blank (ICB), continuing calibration blank (CCB) and preparation blank (PB) analyses
- Spike Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Standard Addition results
- ICP Serial Dilution Analysis
- Instrument Detection Limit (IDL) Analysis
- Interelement corrections for ICP
- Linear Range Analysis
- Furnace QA/QC Analyses
- Calculations

Attached is the New York State Department of Environmental Conservation's (NYSDEC) required summary table.

Sample hold time

All metals and mercury analyses were extracted within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used. A 2-point calibration for ICP, 5-point for mercury and 4-point calibration for furnace AA were used, as required.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

CRDL Standards

The CRDL standards were run at the correct frequency and appropriate concentration for each analyte. Several analytes had non-compliant CRDL (<80->120%) recoveries:

antimony	OK, 146.9%
cadmium	OK, 131.5%
chromium	OK, 126.1%
copper	129.3%, 152%
lead	OK, 154%, 60%, OK
nickel	OK, 124.7%

silver	OK. 135.2%
zinc	OK, 123%

ACTION: SMC-SD01-01A, SMC-SD02-01A, SMC-SD03-01A, SMC-SD04-01A AND SMC-SDU-01Any [redacted] J
chromium J
copper J
nickel J
silver J
zinc J
estimated due to high CRDL recovery. (potential high bias)
No action for lead since the analyses with non-compliant CRDL were not used for reporting.

Laboratory Blanks (ICB, CCB, PB)

All laboratory blanks were analyzed at the correct frequency during the injection sequence. Aluminum, arsenic, barium, chromium, copper, iron, lead, thallium, and zinc were found in the calibration blanks. Aluminum, calcium, copper, magnesium and zinc were found in the preparation blank. All concentrations were below the CRDL. No action was warranted.

Blank Concentrations

	ICB	CCB	PB
Aluminum		33.7,-12,--13.5	2.9
arsenic		1	
barium	23.7	19.7, 36.3, 30.5, 48.7	
calcium			12.9
chromium		5.5	
copper		6.7, 9.6, 8.1, 7.4	1.7
iron	-17.1	-35.3,-31.6,-28.9	
lead		2	
magnesium			13.9
thallium		-1	
zinc		6.6, -6.3	0.6

ICP Interference Check Sample (ICS)

The ICS percent recoveries were all within the acceptance window (80-120 %).

Spiked Sample Analysis

The spike sample recovery was performed on a true sample (SMC-SD04-01A). Spike data were acceptable except antimony, lead and silver.

ACTION: No action taken, samples already flagged for antimony and silver and none required for lead since values in samples greater than 4x spike added.

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on a true sample (SMC-SD04-01A). The data were acceptable and properly flagged (*) by laboratory. No action required.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Standard Addition Results

Method of standard addition analysis was used for determination of lead in samples SMC-SD02-01A, SMC-SD03-01A, SMC-SD04-01A AND SMC-SDU-01A. The correlation coefficient was >0.995 for all analyses.

ICP Serial Dilution Analysis

The ICP aqueous serial dilution was performed on sample (SMC-SDU-01A). All analyses were acceptable except barium which was 487 in initial analysis and 700B diluted.

ACTION: Barium flagged "J" estimated in all samples.

Instrument Detection Limit (IDL) Analysis

The IDLs were all lower than the CRDL and were generated on 3 March 1992 by the laboratory.

Interelement Corrections for ICP

No interelement corrections were applied by the laboratory. The forms were not dated.

Linear Range Analysis

The linear range for the ICP analyses was supplied by the laboratory. None of the concentrations of the samples in this group approached these upper limits.

Furnace AA QC Analyses

Samples were run in duplicate. The acceptance window for the RSD (20%) was exceeded in many cases but all concentrations were less than the CRDL.

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 5 June 1993

General Chemistry

Five sediment samples analyzed for cyanide and TOC were validated using the following information:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- Method blank
- Spike and spike duplicate Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Calculations

Sample hold time

All samples were prepared within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

Method Blank

All laboratory blanks were analyzed at the correct frequency with concentrations of analytes at or below the detection limit.

Spike and Spike Duplicate Sample Analysis

The spike sample recovery was performed on a true sample (SMC-SD04-01A). The recoveries for cyanide were low (61% and 44%) and inconsistent for TOC (74% and 125%).

ACTION: Cyanide flagged "J" estimated in all samples. (potential low bias) No action taken for TOC.

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on true sample and was acceptable for all parameters.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries for analyses used were within the acceptance range (80-120%).

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 5 June 1993

Stauffer Management Company RI/FS
Data Package 920396

This data report covers data package 920396 submitted by EA Laboratories concerning analysis of 12 aqueous samples and two trip blanks collected at Stauffer Management Company Facility at Skaneateles Falls.

SMC-GW11I-01A collected 3/18/92
SMC-GW10I-01A collected 3/18/92
SMC-GW09I-01A collected 3/18/92
SMC-GW08I-01A collected 3/19/92
SMC-GW08S-01A collected 3/19/92
SMC-GW07I-01A collected 3/19/92
SMC-GW07S-01A collected 3/19/92
SMC-GW06I-01A collected 3/19/92
SMC-GW06S-01A collected 3/19/92
SMC-GW05I-01A collected 3/19/92
SMC-GWU-01A collected 3/19/92
SMC-GWFB01-01A collected 3/19/92
Trip blank collected 3/18/92
Trip blank collected 3/19/92

Organic Validation

Fourteen aqueous samples analyzed for Target Compound List (TCL) organics were validated following the United States Environmental Protection Agency (USEPA) Region II procedures for samples analyzed using the Contract Laboratory Program (CLP) Statement of Work (SOW) February, 1988 (as stated in table 1 Analytical Methods attached to the case narrative). These samples were to have been analyzed by the NYSDEC Analytical Services Protocol 1990. The laboratory control samples were analyzed as required by the NYSDEC ASP but the 1990 CLP was not followed. The following information was used to validate the analytical results:

- Sample hold time
- Instrument tune
- Initial and continuing calibration
- Surrogate recoveries
- MS/MSD analysis
- Internal Standards
- Analysis sequence
- Method blank contamination
- Field and trip blank contamination
- Ion spectra match
- Chromatogram quality
- Calculations
- Laboratory Control Sample

The New York State Department of Environmental Conservation's (NYSDEC) required summary table is attached.

Sample Hold Time

All VOA, BNA and Pesticide/PCB samples were originally analyzed within the prescribed hold times. In some cases reextraction was required due to other criteria outside requirements. If these analyses are used the samples will require flagging due to holding time exceedance. (sample SMC-GW06S-01A-see surrogates)

Instrument Tune

The GC/MS's were tuned with BFB (VOA) and DFTPP (BNA). All QC criteria were compliant. No tune is required for pesticide/PCB analyses since they are not performed using a mass spectrometer.

Initial and Continuing Calibration

In the initial calibration of VOAs and BNAs, the relative response factors (RRFs) and relative standard deviations (RSDs) of each analyte is assessed. In the continuing calibration of VOAs and BNAs, the RRF and Percent Difference of the RRFs (%D) of each analyte is assessed. For the pesticide/PCB analyses, the RSDs of the calibration factors (CFs) of the initial calibration and %D of the CFs for the continuing calibration are assessed.

RRF < 0.05:	all compliant
%D > 25%:	hexachlorocyclopentadiene (42.88%) 4-nitrophenol (26.06%)

No action required since analyses for these compounds were all non-detect.

Several compounds had CFs > 15% for the pesticide fraction but no analyses required quantitation so the CFs were not used.

Surrogate Recovery

The surrogate recoveries for all VOA analyses were within acceptance criteria. The BNA surrogate recoveries were acceptable except:

SMC-GW09I-01A: Two acid surrogates had recovery below the acceptable range, the reanalysis of this sample had one base-neutral surrogate above the acceptable range which upon dilution was acceptable. The reextraction was performed outside of holding time regulations.
ACTION: Acid analytes flagged "J" in original analysis (potential low bias).

SMC-GW06S-01A: This sample also required reextraction (performed outside holding time) due to poor acid surrogate recoveries in the original analysis. There were no acid analytes detected in either the original or reanalysis.
ACTION: Use the reanalysis. All analytes flagged "J" (potential low bias) for holding time.

SMC-GW08I-01A: One acid surrogate has recovery less than 10% for this sample. Surrogate recovery forms indicate reanalysis with all surrogate recoveries in range but no supporting data was submitted.
ACTION: Acid analytes flagged "R" in this sample.

SMC-GW07I-01A: One base neutral surrogate had recovery less than 10% for sample due to interference from a high amount of toluic acid. The sample was reanalyzed at a dilution with all surrogates diluted out. The low surrogate recovery should have no effect on the data.

SMC-GW07S-01A: One base neutral surrogate had low recovery. No action required.

SMC-GW05I-01A: One base neutral surrogate had low recovery. No action required.

SMC-GWU-01A: Two base neutral surrogates had low recovery for sample due to interference from a high amount of toluic acid. One of these surrogates was acceptable in the dilution analysis, the other diluted out. No action required.

SMC-GWFB01-01A: One acid surrogate from the field blank had recovery less than 10%. The sample was reanalyzed with all surrogates in range but outside holding time. The reanalysis also seems to have been contaminated. Use the original analysis.

ACTION: All acid analytes flagged "J" estimated (potential low bias).

The surrogate recoveries for the pesticide/PCB analyses were acceptable (24-154%) except for low recoveries for samples:

SMC-GW08S-01A 20.6%
SMC-GW07I-01A 0
SMC-GW07S-01A 7.1%
SMC-GW06I-01A 0
SMC-GW06S-01A 9.1%
SMC-GW05I-01A 8%
SMC-GWU-01A 3.6%

ACTION: All pesticide/PCB compounds flagged "J" estimated in these samples (potential low bias).

MS/MSD Analyses

True samples were used for MS/MSD analyses. Recoveries and RPDs were compliant except for the pesticide/PCB MS/MSD:

The recoveries were low for 6 of the 12 spiked analytes and the surrogate.

ACTION: The pesticide/PCB sample used for matrix spike was already flagged "J" for surrogate recovery, so no further action taken.

Internal Standard Response

The internal standard area counts and retention times for both volatile and semivolatile analyses were within acceptable limits with the following exceptions for semivolatile analyses:

SMC-GW09IRE-01A: The internal standard chrysene had area below the lower limit.

SMC-GWFB01RE-01: The internal standard perylene for sample had area above the upper limit.

ACTION: None since these analyses were not used.

Analysis Sequence

The VOA and BNA analyses were run within 12 hours of instrument tune. The CLP contractual 72-hour sequence for pesticide/PCB analysis was used as required.

Method Blank Contamination

The volatile and pesticide/PCB method blanks contained no identifiable compounds. The semivolatile method blank contained a TIC identified as dimethyl ester carbonic acid.

Field and Trip Blank Contamination

The field and trip blanks contained no identifiable compounds.

Ion Spectra Match

All ion spectra correctly matched the standard spectrum.

Chromatogram Quality

The chromatograms were of acceptable quality although large amounts of toluic acid obscured one portions of the undiluted semivolatile analysis of SMC-GWU-01A. The diluted analysis of this sample should be used for the toluic acid isomers. The o-toluic acid not found in the diluted analyses should be used from the original analyses with an "NJ" qualifier (presumptive evidence.

ACTION: Compound detection limits were elevated to those of the diluted analysis:

4-chloro-3-methylphenol
2-methylnaphthalene

Calculations

All checked calculations were correct within rounding errors. A "J" qualifier should be added to the benzoic acis and phenol results in sample SMC-GW09I-01A.

Laboratory Control Sample

Laboratory control samples were analyzed with each fraction as specified by the NYSDEC ASP. The results were within the specified criteria.

Prepared By: Pamela Meerlar Date: 22 April 1993

Inorganic Validation

Twelve aqueous samples analyzed for Target Analyte List inorganics were validated according to current USEPA Region II protocols. The following information was used to validate the analytical results:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- CRDL standards for AA (CRA) and ICP (CRI)
- Initial calibration blank (ICB), continuing calibration blank (CCB) and preparation blank (PB) analyses
- Spike Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Standard Addition results
- ICP Serial Dilution Analysis
- Instrument Detection Limit (IDL) Analysis
- Interelement corrections for ICP
- Linear Range Analysis
- Furnace QA/QC Analyses
- Calculations

Attached is the New York State Department of Environmental Conservation's (NYSDEC) required summary table.

Sample hold time

All metals and mercury analyses were extracted within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used. A 2-point calibration for ICP, 5-point for mercury and 4-point calibration for furnace AA were used, as required.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

CRDL Standards

The CRDL standards were run at the correct frequency and appropriate concentration for each analyte. Several analytes had non-compliant CRDL (<80->120%) recoveries:

mercury	160%, 160%
lead	OK, 155.3%, 136.7%, 133.3%
selenium	OK, 122%
copper	OK, 129.4%

ACTION: Lead, selenium and copper were flagged "J" estimated (potential high bias) in samples as required. Mercury was flagged "R" as required.

SMC-GW08I-01A	lead
	selenium
	copper

SMC-GW08S-01A	lead
	selenium
	copper
SMC-GW07I-01A	mercury- rejected
	lead
	selenium
	copper
SMC-GW07S-01A	selenium
	copper
SMC-GW06I-01A	selenium
	copper
SMC-GW06S-01A	selenium
SMC-GW05I-01A	selenium
	copper
SMC-GWU-01A	mercury- rejected
	selenium
	copper
SMC-GWFB01-01A	lead
	selenium
	copper

Laboratory Blanks (ICB, CCB, PB)

All laboratory blanks were analyzed at the correct frequency during the injection sequence. Antimony, arsenic cadmium, copper, magnesium, manganese, potassium and sodium were found in the calibration blanks. Arsenic, copper, iron, manganese, and potassium were found in the aqueous preparation blank. All concentrations were below the CRDL. No action was warranted.

Blank Concentrations

	ICB	CCB	PB
antimony		21.1	
arsenic			2.2, 1.1
cadmium		4.2	
copper		7.1	7.7
iron			11.1
magnesium		81.7, 105.3	
manganese	2.7	2.8, 2.6, 2.7	2.8
potassium	-524.8	-651.7,-661.2,-781.7	-635.6,-736.4
	232.1	266.6, 322.7	
sodium		283.8, 311.1	
	-641.1	-742.5,-789.4	

ICP Interference Check Sample (ICS)

The ICS percent recoveries were all within the acceptance window (80-120 %).

Spiked Sample Analysis

The spike sample recovery was performed on true samples (SMC-GW11I-01A and SMC-GW06S-01A). The data were acceptable except for the following outside the acceptance window (75%-125%)

mercury	143%
silver	63.6%
arsenic	199.8%
selenium	68.7%
thallium	72%

ACTION: SMC-GW11I-01A, SMC-GW10I-01A and SMC-GW09I-01A flagged "J" estimated for silver. Arsenic rejected in SMC-GW08S-01A, SNC-GW07I-01A, SMC-GW07S-01A, SMC-GW06I-01A, SMC-GWU-01A, SMC-GW06S-01A and SMC-GW05I-01A. Selenium and thallium flagged "J" in samples SMC-GW08I-01A, SMC-GW08S-01A, SNC-GW07I-01A, SMC-GW07S-01A, SMC-GW06I-01A, SMC-GW06S-01A, SMC-GW05I-01A, SMC-GWU-01A and SMC-GWFB01-01A.

Duplicate Sample Analysis (D)

The laboratory duplicate analyses were performed on a true samples (SMC-GW11I-01A and SMC-GW06S-01A). The duplicate analyses were all acceptable.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Standard Addition Results

Method of standard addition analyses were correctly performed on samples SMC-GWU-01A for As and SMC--GW07I-01A, SMC-GW07S-01A, SMC-GW05I-01A AND SMC-GWU-01A for lead. The correclation coefficient was acceptable for all analyses.

ICP Serial Dilution Analysis

The ICP serial dilution was performed on a true samples. All analyses were compliant except iron (11.8% D limit 10%).

ACTION: Iron flagged "J" estimated in samples SMC-GW09I-01A, SMC-GW10I-01A and SMC-GW11I-01A. (potential low bias)

Instrument Detection Limit (IDL) Analysis

The IDLs were all lower than the CRDL and were generated on 9 March 1992 by the laboratory.

Interelement Corrections for ICP

No interelement corrections were applied by the laboratory. The forms were not dated.

Linear Range Analysis

The linear range for the ICP analyses was supplied by the laboratory. None of the concentrations of the samples in this group approached these upper limits.

Furnace AA QC Analyses

Samples were run in duplicate. The acceptance window for the RSD (20%) was exceeded in many cases but all concentrations were less than the CRDL.

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 22 February 1993

General Chemistry

Twelve aqueous samples analyzed for hardness (reported with inorganic data) alkalinity, chloride, cyanide, DOC, fluoride, sulfate and TSS were validated using the following information:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- Method blank
- Spike and spike duplicate Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Calculations

Sample hold time

All samples were extracted within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

Method Blank

All laboratory blanks were analyzed at the correct frequency during the injection sequence. The method blank for alkalinity was slightly above the detection limit (1.1 limit 1.0 mg/L). This should have little effect on the data since the alkalinity concentration for all samples was >250 (except for the field blank which was the same concentration as the method blank.

Spike and Spike Duplicate Sample Analysis

The spike sample recovery was performed on a true sample (SMC-GW06S-01A).
The % recovery for cyanide was non-compliant (67.8% and 70% recovery). The spike duplicate (39.3%) and %RPD (72.3%) were non-compliant for alkalinity.

ACTION: Cyanide was qualified "J" in samples SMC-GW07I-01A, SMC-GW07S-01A, SMC-GW06I-01A, SMC-GWU-01A and SMC-GWFB01-01A. Cyanide was qualified "UJ" in all other samples. (potential low bias)

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on a true sample (SMC-GW06S-01A). The analyses were compliant.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 22 April 1993

Stauffer Management Company RI/FS
Data Package 920398

This data report covers data package 920398 submitted by EA Laboratories concerning analysis of 12 aqueous samples and two trip blanks collected at Stauffer Management Company Facility at Skaneateles Falls.

SMC-GW02I-01A collected 3/20/92
SMC-GW02S-01A collected 3/20/92
SMC-GW03I-01A collected 3/20/92
SMC-GW04S-01A collected 3/20/92
SMC-GW04I-01A collected 3/20/92
SMC-GWU-02A collected 3/20/92
SMC-GW07S-01A collected 3/20/92
SMC-GWFB02-01A collected 3/20/92
SMC-GW01S-01A collected 3/21/92
SMC-GW01I-01A collected 3/21/92
SMC-BS01-01A collected 3/21/92
SMC-BSU-02A collected 3/21/92
SMC-BSFB01-01A collected 3/21/92
Trip blank collected 3/20/92
Trip blank collected 3/21/92

Organic Validation

Fourteen aqueous samples analyzed for Target Compound List (TCL) organics were validated following the United States Environmental Protection Agency (USEPA) Region II procedures for samples analyzed using the Contract Laboratory Program (CLP) Statement of Work (SOW) February, 1988 (as stated in table 1 Analytical Methods attached to the case narrative). These samples were to have been analyzed by the NYSDEC Analytical Services Protocol 1990. The laboratory control samples were analyzed as required by the NYSDEC ASP but the 1990 CLP was not followed. The following information was used to validate the analytical results:

- Sample hold time
- Instrument tune
- Initial and continuing calibration
- Surrogate recoveries
- MS/MSD analysis
- Internal Standards
- Analysis sequence
- Method blank contamination
- Field and trip blank contamination
- Ion spectra match
- Chromatogram quality
- Calculations
- Laboratory Control Sample

The New York State Department of Environmental Conservation's (NYSDEC) required summary table is attached.

Sample Hold Time

All VOA, BNA and Pesticide/PCB samples were extracted and analyzed originally within the prescribed hold times. SMC-GW02S-01A, semivolatiles, was reextracted outside holding times.

ACTION: All semivolatile compounds flagged "J" estimated for SMC-GW02S-01A.

Instrument Tune

The GC/MS's were tuned with BFB (VOA) and DFTPP (BNA). All QC criteria were compliant. No tune is required for pesticide/PCB analyses since they are not performed using a mass spectrometer.

Initial and Continuing Calibration

In the initial calibration of VOAs and BNAs, the relative response factors (RRFs) and relative standard deviations (RSDs) of each analyte is assessed. In the continuing calibration of VOAs and BNAs, the RRF and Percent Difference of the RRFs (%D) of each analyte is assessed. For the pesticide/PCB analyses, the RSDs of the calibration factors (CFs) of the initial calibration and %D of the CFs for the continuing calibration are assessed.

RRF < 0.05:	all compliant
%D > 25%:	2-hexanone (27.7%, 30.6%) trans-1,3-dichloropropene (34.8%) chloroethane (28.6%)

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No action required since analyses for these compounds were all non-detect.

Several compounds had CFs > 15% for the pesticide fraction but no analyses required quantitation so the CFs were not used.

Surrogate Recovery

The surrogate recoveries for all VOA analyses were within acceptance criteria. The BNA surrogate recoveries were acceptable except:

SMC-GW02SI-01A: Two base-neutral surrogates had recovery below the acceptable range (0% and 23%), the reanalysis of this sample was acceptable. The reextraction was performed outside of holding time regulations. Use the reanalysis.

SMC-GW03I-01A: This sample had two base-neutral surrogates with recoveries below the acceptable range (24% and 23%). It was rerun at a dilution with the surrogates diluted out. One of the low surrogates elutes in the same region as toluic acid which is present at high levels in this sample.

ACTION: All base neutral SMC-GW03I-01A compounds flagged "UJ" (potential low bias).

The surrogate recoveries for the pesticide/PCB analyses were acceptable (24-154%) except for low recoveries for samples:

SMC-GW02I-01A	5.1%
SMC-GW02S-01A	17.5%
SMC-GW04I-01A	10.5%
SMC-GWU-02A	6%
SMC-GW01I-01A	9.3%
SMC-BS01-01A	7.3%
SMC-BSU-01A	9.4%

ACTION: All pesticide/PCB compounds flagged "UJ" estimated in these samples (potential low bias).

MS/MSD Analyses

True samples were used for MS/MSD analyses. Recoveries and RPDs were compliant except for the pesticide/PCB and the semivolatile on SMC-GW02S-01A MS/MSD:

The pesticide recoveries were low for 6 of the 12 spiked analytes and the surrogate. The semivolatile was low for 12 of 22 spiked analytes.

ACTION: The pesticide/PCB sample used for matrix spike was already flagged "J" for surrogate recovery, so no further action taken. The semivolatile required no action since all recoveries were greater than 10%.

Internal Standard Response

The internal standard area counts and retention times for both volatile and semivolatile analyses were within acceptable limits with the following exceptions for semivolatile analyses:

SMC-GW03I-01A: The internal standards except acenapthene had areas outside the limits.

SMC-GW02I-01A: The internal standards chrysene and perylene had areas outside the limits.

SMC-GWU-01A: The internal standard perylene for sample had area outside the limit.

SMC-GW04S-01A: The internal standard perylene for sample had area outside the limit.

ACTION: Affected compounds were flagged "J" or "UJ" estimated (potential high bias)

SMC-GW03I-01A: compounds not previously flagged for surrogate recovery:
- phenol
- 2-chlorophenol
- benzyl alcohol
- 2-methylphenol
- 4-methylphenol
- 2-nitrophenol
- 2,4-dimethylphenol
- benzoic acid
- o-toluic acid
- m-toluic acid
- p-toluic acid
- 2,4-dichlorophenol
- 4-chloro-3-methylphenol
- 4,6-dinitro-2-methylphenol
- pentachlorophenol

SMC-GW02I-01A:
- pyrene
- butylbenzylphthalate
- 3,3'-dichlorobenzidine
- benzo(a)-anthracene
- bis(2-ethylhexyl)phthalate
- chrysene
- di-n-octylphthalate
- benzo(k)fluoranthene
- benzo(a)pyrene
- indeno(1,2,3-cd)pyrene
- dibenz(a,h)anthracene
- benzo(g,h,i)perylene

SMC-GWU-01A and SMC-GW04S-01A:
- di-n-octylphthalate
- benzo(k)fluoranthene
- benzo(a)pyrene
- indeno(1,2,3-cd)pyrene

dibenz(a,h)anthracene
benzo(g,h,i)perylene

Analysis Sequence

The VOA and BNA analyses were run within 12 hours of instrument tune. The contractural 72-hour sequence for pesticide/PCB analysis was used as required.

Method Blank Contamination

One volatile method blank contained methylene chloride. The other volatile and pesticide/PCB method blanks contained no identifiable compounds. The semivolatile method blank contained a TIC identified as dimethyl ester carbonic acid.

ACTION:
GW03I and GWU-02A flagged "U" non-detect for methylene chloride (false positive).

Field and Trip Blank Contamination

The trip blank contained no identifiable compounds. The field blank contained tetrachloroethene and xylenes. No action required.

Ion Spectra Match

All ion spectra correctly matched the standard spectrum.

Chromatogram Quality

The chromatograms were of acceptable quality although large amounts of toluic acid obscured one portions of the undiluted semivolatile analysis of several samples. The diluted analysis of this sample should be used for the toluic acid isomers although the o-toluic acid not found in the diluted samples should be used from the original analyses with an "NJ" presumptive evidence qualifier.

ACTION: Compound detection limits were elevated to those of the diluted analysis in samples SMC-GWU-02A, SMC-GW03I-01A, SMC-GW02I-01A AND SMC-GW01I-01A:

4-chloro-3-methylphenol
2-methylnaphthalene

Calculations

All checked calculations were correct within rounding errors. Quantitation of the toluic acid was difficult for several samples due to large amounts requiring dilution. In samples SMC-GW03I-01A, SMC-GWU-02A, SMC-GW03I-01A and SMC-GW01IA use amounts of the toluic acid isomers calculated from the diluted analysis. Sample SMC-GW04I-01A has toluic acid identified and quantified as the TIC's 2 and 3-methylbenzoic acid (o and m toluic acid). Quantities were transferred to Form I and flagged "NJ" since library not actual instrument response were used to identify and quantitate the toluic acid.

Laboratory Control Sample

Laboratory control samples were analyzed with each fraction as specified by the NYSDEC ASP. The results were within the specified criteria.

Prepared By: Pamela Beerlan Date: 24 May 1993

Inorganic Validation

Twelve aqueous samples analyzed for Target Analyte List inorganics were validated according to current USEPA Region II protocols. The following information was used to validate the analytical results:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- CRDL standards for AA (CRA) and ICP (CRI)
- Initial calibration blank (ICB), continuing calibration blank (CCB) and preparation blank (PB) analyses
- Spike Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Standard Addition results
- ICP Serial Dilution Analysis
- Instrument Detection Limit (IDL) Analysis
- Interelement corrections for ICP
- Linear Range Analysis
- Furnace QA/QC Analyses
- Calculations

Attached is the New York State Department of Environmental Conservation's (NYSDEC) required summary table.

Sample hold time

All metals and mercury analyses were extracted within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used. A 2-point calibration for ICP, 5-point for mercury and 4-point calibration for furnace AA were used, as required.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

CRDL Standards

The CRDL standards were run at the correct frequency and appropriate concentration for each analyte. Several analytes had non-compliant CRDL (<80->120%) recoveries:

aluminum	OK, 18.5%
barium	OK, 27.2%
beryllium	OK, 1.2%
mercury	160%, 160%
lead	OK, 130.7%, OK, 122%
selenium	OK, 122%
copper	OK, 28.7%
iron	OK, 26.1%
manganese	OK, 19.7%
nickel	OK, 39.2%

vanadium	OK, 11%
zinc	127.5%, 58%, OK, 130.2%

ACTION: Aluminum, barium, and iron have no criteria. Selenium was not detected. Beryllium, mercury, lead, copper, manganese, mercury, nickel, vanadium and zinc were flagged as required.

SMC-GWFB02-01A	beryllium	R
	copper	R
	manganese	R
	nickel	R
	vanadium	R
	zinc	J (potential low bias)
	mercury	R
SMC-GW01S-01A	beryllium	R
	vanadium	R
	mercury	R
SMC-GW01I-01A	beryllium	R
	copper	R
	vanadium	R
	zinc	J (potential low bias)
	mercury	R
SMC-BS01-01A	beryllium	R
	nickel	R
	vanadium	R
	zinc	J (potential low bias)
	mercury	R
SMC-BSU-01A	beryllium	R
	nickel	R
	vanadium	R
	zinc	J (potential low bias)
SMC-BSFB01-01A	beryllium	R
	copper	R
	manganese	R
	nickel	R
	vanadium	R
	zinc	J (potential low bias)
	mercury	R
SMC-GW02S-01A	mercury	R
SMC-GW03I-01A	mercury	R
SMC-GW04S-01A	mercury	R
SMC-GWU-02A	mercury	R

Laboratory Blanks (ICB, CCB, PB)

All laboratory blanks were analyzed at the correct frequency during the injection sequence. Arsenic, barium, nickel, selenium, and sodium were found in the calibration blanks. Barium and iron were found in the aqueous preparation blank. All concentrations were below the CRDL. No action was warranted.

Blank Concentrations

	ICB	CCB	PB
arsenic	3.1	2.8, 3.2	
barium	125.7	26, 18.5, 81.3, 70.4	-23.2
nickel		15.8, 11.2, 11.2	
iron			11.1
selenium		-1	

	ICB	CCB	PB
sodium	241.5	326.8, 470, 327.2	
thallium	2.3	2.4	

ICP Interference Check Sample (ICS)

The ICS percent recoveries were all within the acceptance window (80-120 %).

Spiked Sample Analysis

The spike sample recoveries were performed on true samples (SMC-BS01-01A and SMC-GW02I-01A). The BS01 data were acceptable except for the following outside the acceptance window (75%-125%)

selenium	0%
silver	48.1%

The BS samples were incorrectly flagged "N" by the lab for the non-compliant GW spike sample recoveries. The GW02I data were unacceptable except arsenic, cobalt, copper and zinc.

ACTION:
The GW samples were all flagged as follows if not previously flagged: (potential low bias)

aluminum	J
antimony	R
barium	J
beryllium	J
cadmium	J
chromium	J
iron	J
lead	R
manganese	J
mercury	J
nickel	J
selenium	R
silver	J
thallium	J
vanadium	J

The BS samples were flagged:

selenium	R
Silver	J

Duplicate Sample Analysis (D)

The laboratory duplicate analyses were performed on a true samples (SMC-GW02I-01A and SMC-BS01-01A). The duplicate analyses were all acceptableexcept arsenic and copper in SMC-GW02I-01A.

ACTION:
Copper and arsenic flagged "J" estimated in all GW samples if not previously flagged.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Standard Addition Results

Method of standard addition analyses were correctly performed on samples SMC-GW02I-01A, SMC-GW02S-

01A, SMC-GW03I-01A, SMC-GW04I-01A and SMC-GW01I-01A for As and SMC-GW02S-01A, SMC-GW01S-01A, SMC-BS01-01A and SMC-BSU-01A for lead. The correlation coefficient was acceptable for all analyses.

ICP Serial Dilution Analysis

The ICP serial dilution was performed on a true samples. All analyses were compliant except sodium.

ACTION: Sodium flagged "J" estimated in samples SMC-GW06S-01A, SMC-GW07S-01A, SMC-GW08S-01A and SMC-FB01-01A. Sodium flagged "R" rejected in samples SMC-GW01S-01A, SMC-GW01D-01A, SMC-GW02S-01A, SMC-GW02D-01A, SMC-GW03I-01A, SMC-GWU-02A, SMC-BS01-01A, SMC-BSU-01A, SMC-BSFB.

Instrument Detection Limit (IDL) Analysis

The IDLs were all lower than the CRDL and were generated on 9 March 1992 by the laboratory.

Interelement Corrections for ICP

No interelement corrections were applied by the laboratory. The forms were not dated.

Linear Range Analysis

The linear range for the ICP analyses was supplied by the laboratory. None of the concentrations of the samples in this group approached these upper limits.

Furnace AA QC Analyses

Samples were run in duplicate. The acceptance window for the RSD (20%) was exceeded in many cases but all concentrations were less than the CRDL.

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 24 May 1993

General Chemistry

Twelve aqueous samples analyzed for hardness (reported with inorganic data) alkalinity, chloride, cyanide, DOC, fluoride, sulfate and TSS were validated using the following information:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- Method blank
- Spike and spike duplicate Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Calculations

Sample hold time

All samples were extracted within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

Method Blank

All laboratory blanks were analyzed at the correct frequency during the injection sequence. The method blank for alkalinity was slightly above the detection limit (1.1 limit 1.0 mg/L). This should have little effect on the data since the alkalinity concentration for all samples was >250 (except for the field blank which was the same concentration as the method blank.

Spike and Spike Duplicate Sample Analysis

The spike sample recovery was performed on true sampless (SMC-GW02I-01A and SMC-BS01-01A).
The % recovery for alkalinity was low (7.9% and 13.1% GW and 69.7% BS) and DOC (70.8% and 90.8 GW).
The RPD for cyanide was high (31.9%) and recovery low (76.7% and 55.6%) in the BS MS/MSD.

ACTION:
All samples flagged "J" estimated for alkalinity (GW samples not flagged R since alkalinity very high in spiked sample). No action was taken for DOC. Cyanide flagged "J" estimated in the BS samples. (all potential low bias)

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on true samples (SMC-GW02I-01A and GW-BS01-01A). The analyses were compliant.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the

acceptance range (80-120%).

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 24 May 1993

Stauffer Management Company RI/FS
Data Package 920461

This data report covers data package 920461 submitted by EA Laboratories concerning analysis of 4 aqueous samples, one trip blank and one soil sample collected at Stauffer Management Company Facility at Skaneateles Falls.

SMC-CS01-01A collected 4/7/92
SMC-CS02-01A collected 4/7/92
SMC-CS03-01A collected 4/7/92
SMC-CS04-01A collected 4/7/92
SMC-SS03-01A collected 4/7/92
Trip blank collected 4/7/92

Organic Validation

Five aqueous samples and one soil sample analyzed for Target Compound List (TCL) organics were validated following the United States Environmental Protection Agency (USEPA) Region II procedures for samples analyzed using the Contract Laboratory Program (CLP) Statement of Work (SOW) February, 1988 (as stated in table 1 Analytical Methods attached to the case narrative). These samples were to have been analyzed by the NYSDEC Analytical Services Protocol 1990. The laboratory control samples were analyzed as required by the NYSDEC ASP but the 1990 CLP was not followed. The following information was used to validate the analytical results:

- Sample hold time
- Instrument tune
- Initial and continuing calibration
- Surrogate recoveries
- MS/MSD analysis
- Internal Standards
- Analysis sequence
- Method blank contamination
- Field and trip blank contamination
- Ion spectra match
- Chromatogram quality
- Calculations
- Laboratory Control Sample

The New York State Department of Environmental Conservation's (NYSDEC) required summary table is attached.

Sample Hold Time

All VOA, BNA and Pesticide/PCB samples were analyzed within the prescribed hold times.

Instrument Tune

The GC/MS's were tuned with BFB (VOA) and DFTPP (BNA). All QC criteria were compliant. No tune is required for pesticide/PCB analyses since they are not performed using a mass spectrometer.

Initial and Continuing Calibration

In the initial calibration of VOAs and BNAs, the relative response factors (RRFs) and relative standard deviations (RSDs) of each analyte is assessed. In the continuing calibration of VOAs and BNAs, the RRF and Percent Difference of the RRFs (%D) of each analyte is assessed. For the pesticide/PCB analyses, the RSDs of the calibration factors (CFs) of the initial calibration and %D of the CFs for the continuing calibration are assessed.

RRF < 0.05:	all compliant
%D > 25%:	4-methyl-2-pentanone (31.1%) 2-hexanone (29.8%) trans-1,3-dichloropropene (27.6%)
	chloroethane (26.3%) 2-hexanone (27%)
	acetone (32.3%) 2-butanone (28.7%) 1,2-dichloroethane (33.2%) 4-methyl-2-pentanone (34.8%) 2-hexanone (30.1%) trans-1,3-dichloropropene (32%)
RSD > 30%	trans-1,3-dichloropropene (35.4%)

No action required since analyses for these compounds were all non-detect.

Several compounds had CFs > 15% for the pesticide fraction but no analyses required quantitation so the CFs were not used.

Surrogate Recovery

The surrogate recoveries for all VOA, BNA, and pesticide/PCB analyses were within acceptance criteria, except:

SMC-CS03-01A: semivolatile - one acid and two base surrogates had recoveries outside the QC limits but one base surrogate was out due to interference from toluic acid which was present in high levels requiring a dilution analysis of this sample. No action taken.

SMC-CS02-01A, SMC-CS03-01A, and SMC-CS04-01A: pesticide/PCB - surrogate recoveries very low.

SMC-CS02-01A: 6.4%
SMC-CS03-01A: 5.3%
SMC-CS04-01A: 11.5%

ACTION: All compounds flagged "UJ" estimated for pesticide/PCBs in samples SMC-CS02- 01A, SMC-CS03-01A, and SMC-CS04-01A. (potential low bias)

MS/MSD Analyses

True samples were used for MS/MSD analyses. Recoveries and RPDs were compliant except for the soil MS/MSD:

Volatile - All of the internal standard areas were low and the recovery for one spiked compound was high.

Pesticide/PCB - The recoveries were low for 10 of the 12 spiked analytes.

ACTION: No action taken for the volatile fraction since the sample internal standard areas were acceptable and the high recovery was based on low internal standards. The pesticide/PCB sample used for matrix spike was already flagged "J" for surrogate recovery, so no further action taken.

Internal Standard Response

The internal standard area counts and retention times for both volatile and semivolatile analyses were within acceptable limits with the following exception:

SMC-CS03-01A: semivolatile - The areas for Acenapthene-d10 (low) and chrysene-d12 (high) were outside the required areas. The diluted analysis of the same sample was compliant.

ACTION: The following analytes were flagged "UJ" estimated:

(potential high bias but all non-detect)	4-nitroaniline
	dimethylphthalate
	acenaphthylene
	3-nitroaniline
	acenapthene
	2,4-dintrophenol
	4-nitrophenol
	dibenzofuran
	2,4-dinitrotoluene
	2,6-dinitrotoluene
	diethylphthalate
	4-chlorophenyl phenylether
	fluorene
(potential low bias)	pyrene
	butylbenzylphthalate
	3.3'-dichlorobenzidine
	benzo(a)anthracene

Analysis Sequence

The VOA and BNA analyses were run within 12 hours of instrument tune. The CLP contractual 72-hour sequence for pesticide/PCB analysis was used as required.

Method Blank Contamination

The Semivolatile and Pesticide/PCB method blanks contained no identifiable compounds. The volatile method blanks contained methylene chloride less than the CRQL. The chromatogram for the pesticide/PCB soil method blank was not included in the package.

All ion spectra correctly matched the standard spectrum.

Chromatogram Quality

The chromatograms were of acceptable quality although large amounts of toluic acid obscured some portions of the undiluted semivolatile chromatograms. The o-toluic acid found in sample SMC-CS02-01A should be flagged "NJ" presumptive evidence since the high amounts of toluic acid inhibited separation of the toluic acid isomers. The values of the other toluic acid isomers should be used from the diluted sample analysis.

ACTION: Several compound detection limits were elevated to those of the diluted analysis in samples SMC-CS02-01A, SMC-CS03-01A and SMC-CS04-01A:

4-chloro-3-methylphenol
2-methylnaphthalene
hexachlorocyclopentadiene
2,4,6-trichlorophenol
2,4,5-trichlorophenol
2-nitroaniline

Calculations

All checked calculations were correct within rounding errors.

Laboratory Control Sample

Laboratory control samples were analyzed with each fraction as specified by the NYSDEC ASP. The results were within the specified criteria.

Prepared By: Pamela Greenlaw Date: 22 February 1993

Inorganic Validation

Four aqueous and one soil samples analyzed for Target Analyte List inorganics were validated according to current USEPA Region II protocols. The following information was used to validate the analytical results:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- CRDL standards for AA (CRA) and ICP (CRI)
- Initial calibration blank (ICB), continuing calibration blank (CCB) and preparation blank (PB) analyses
- Spike Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Standard Addition results
- ICP Serial Dilution Analysis
- Instrument Detection Limit (IDL) Analysis
- Interelement corrections for ICP
- Linear Range Analysis
- Furnace QA/QC Analyses
- Calculations

Attached is the New York State Department of Environmental Conservation's (NYSDEC) required summary table.

Sample hold time

All metals and mercury analyses were extracted within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used. A 2-point calibration for ICP, 5-point for mercury and 4-point calibration for furnace AA were used, as required.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

CRDL Standards

The CRDL standards were run at the correct frequency and appropriate concentration for each analyte. Several analytes had non-compliant CRDL (<80->120%) recoveries:

Aqueous

lead	137.3%, 40%
antimony	148.2%, 143.6%
barium	125.4%, 97.6%
cadmium	119.3%, 78.6%
copper	130%, 122.9%

ACTION: Lead did not require flagging since all the samples were outside the affected ranges. Antimony, barium, cadmium and copper were flagged "J" estimated in samples as required:

SMC-CS01-01A	antimony barium copper
SMC-CS02-01A	antimony cadmium
SMC-CS03-01A	cadmium
SMC-CS04-01A	antimony cadmium

Soil

cadmium	71.6%, 125.3%
copper	124%, 128.8%
nickel	89.4%, 44.4%
zinc	99%, 129.7%

ACTION: These analytes were flagged "J" estimated in the sample SMC-SS03-01A.

Laboratory Blanks (ICB, CCB, PB)

All laboratory blanks were analyzed at the correct frequency during the injection sequence. Aluminum, barium, calcium, chromium, copper, iron, lead, sodium, and zinc were found in the aqueous calibration blanks. Aluminum, barium, cadmium, chromium, copper, iron, magnesium, nickel, selenium, sodium, thallium and zinc were found in the soil calibration blanks. Aluminum, calcium, copper, iron, magnesium, sodium and zinc were found in the aqueous preparation blank. Aluminum, barium, calcium, chromium, copper, iron, magnesium, nickel, selenium, sodium, and zinc were found in the soil preparation blank. All concentrations were below the CRDL. No action was warranted.

Blank Concentrations

	ICB	CCB	PB
aluminum	-15.2	-13.9	14.6 aqueous
	-53.2	-50.5,-33.2	-2.3 soil
barium	29.8	-68.1, 55.3, 23.4	aqueous
	-53.4	-91.5,-18.5	2.6 soil
cadmium		4.6, 4.1	soil
calcium		49.3	126.1 aqueous
			8.1 soil
chromium		-4.2	aqueous
	-6.5		-0.9 soil
copper	8.2	6.3, 6.6, 9.4	9.7 aqueous
	6.5	9.9, 10.6	2.0 soil
iron		-9.1	-8.4 aqueous
	-30.9	-28.9,-12.3	-1.1 soil
lead	-3.3	-2.9,-2.8	aqueous
magnesium			81.2 aqueous
	127.1	146.6, 127.1	16.2 soil
nickel	-24.7	-19.8,-25	-3.7 soil
selenium		-1.2,-1.2,-1.2	-o.1 soil
sodium	367.8	2633.8, 344.6, 486.3	401.4 aqueous
	313.6	546.1, 364	49.4 soil
thallium		-1	soil
zinc	7.5	4.8, 4.7, 6.8	8.7 aqueous
	-3.9	-4.9	-1.1 soil

ICP Interference Check Sample (ICS)

The ICS percent recoveries were all within the acceptance window (80-120 %).

Spiked Sample Analysis

The aqueous spike sample recovery was performed on a true sample (SMC-CS01-01A). All data were acceptable except silver. The soil spike was outside the acceptance window (75%-125%) for antimony (18.1%), cadmium (71.6%), selenium (59.4%), and silver (43.8%).

ACTION: Antimony, cadmium, selenium and silver were flagged "J" estimated (potential low bias) in sample SMC-SS03-01A. Silver flagged "UJ" in samples SMC-CS01-01A, SMC-CS02-01A, SMC-CS03-01A and SMC-CS04-01A..

Duplicate Sample Analysis (D)

The aqueous laboratory duplicate analysis was performed on a true sample (SMC-CS01-01A). Mercury (0.56 and 1.06 control limit +0.2) was outside the acceptance window. The soil duplicate analyses were all acceptable.

ACTION: Mercury was qualified with a "J" in all aqueous samples.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Standard Addition Results

Method of standard addition analyses were correctly performed on samples CS04-01A for arsenic and CS01-01A for lead. The correclation coefficient was acceptable for both analyses.

ICP Serial Dilution Analysis

The ICP aqueous serial dilution was performed on a true sample (SMC-CS04-01A). All analyses were compliant except copper, vanadium and zinc. The soil serial dilution was non-compliant for barium (88.3% D limit 10%).

ACTION: Barium flagged "J" estimated in sample SMC-SS03-01A. (potential high bias) Copper and vanadium were flagged "J" in samples SMC-CS02-01A, SMC-CS03-01A AND SMC-CS04-01A. Zinc was flagged "J" in samples SMC-CS01-01A, SMC-CS02-01A, SMC-CS03-01A AND SMC-CS04-01A.

Instrument Detection Limit (IDL) Analysis

The IDLs were all lower than the CRDL and were generated on 3 March 1992 by the laboratory.

Interelement Corrections for ICP

No interelement corrections were applied by the laboratory. The forms were not dated.

Linear Range Analysis

The linear range for the ICP analyses was supplied by the laboratory. None of the concentrations of the samples in this group approached these upper limits.

Furnace AA QC Analyses

Samples were run in duplicate. The acceptance window for the RSD (20%) was exceeded in many cases but all concentrations were less than the CRDL.

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 22 February 1993

General Chemistry

Four aqueous and one soil samples analyzed for cyanide were validated using the following information:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- Method blank
- Spike and spike duplicate Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Calculations

Sample hold time

All samples were extracted within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

Method Blank

All laboratory blanks were analyzed at the correct frequency during the injection sequence.

Spike and Spike Duplicate Sample Analysis

The spike sample recovery was performed on a true samples (SMC-CS01-01A and SS03-01A).
The % recovery for cyanide in the soil spike was non-compliant (-53.3% recovery).

ACTION: Cyanide was qualified "J" in SMC-SS03-01A. (potential low bias)

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on a true samples (CS01-01A and SS03-01A). The soil duplicate for cyanide was non-compliant (165.5% RPD 2.2 and 0.21).

ACTION: Cyanide estimated in the soil sample (SMC-SS03-01A) but previously qualified. (potential high bias)

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 22 February 1993

Stauffer Management Company RI/FS
Data Package 920508

This data report covers data package 920508 submitted by EA Laboratories concerning analysis of 7 aqueous samples and two trip blanks collected at Stauffer Management Company Facility at Skaneateles Falls.

SMC-GW09D-01A collected 4/27/92
SMC-GW06D-01A collected 4/28/92
SMC-GW03D-01A collected 4/28/92
SMC-GW04D-01A collected 4/28/92
SMC-GW01D-01A collected 4/28/92
SMC-GW02D-01A collected 4/29/92
SMC-FB03-01A collected 4/29/92
Trip blank collected 4/29/92
Trip blank collected 4/27/92

Organic Validation

Nine aqueous samples sample analyzed for Target Compound List (TCL) organics were validated following the United States Environmental Protection Agency (USEPA) Region II procedures for samples analyzed using the Contract Laboratory Program (CLP) Statement of Work (SOW) February, 1988 (as stated in table 1 Analytical Methods attached to the case narrative). These samples were to have been analyzed by the NYSDEC Analytical Services Protocol 1990. The laboratory control samples were analyzed as required by the NYSDEC ASP but the 1990 CLP was not followed. The following information was used to validate the analytical results:

- Sample hold time
- Instrument tune
- Initial and continuing calibration
- Surrogate recoveries
- MS/MSD analysis
- Internal Standards
- Analysis sequence
- Method blank contamination
- Field and trip blank contamination
- Ion spectra match
- Chromatogram quality
- Calculations
- Laboratory Control Sample

The New York State Department of Environmental Conservation's (NYSDEC) required summary table is attached.

Sample Hold Time

All VOA, BNA and Pesticide/PCB samples were analyzed within the prescribed hold times.

Instrument Tune

The GC/MS's were tuned with BFB (VOA) and DFTPP (BNA). All QC criteria were compliant. No tune is required for pesticide/PCB analyses since they are not performed using a mass spectrometer.

Initial and Continuing Calibration

In the initial calibration of VOAs and BNAs, the relative response factors (RRFs) and relative standard deviations (RSDs) of each analyte is assessed. In the continuing calibration of VOAs and BNAs, the RRF and Percent Difference of the RRFs (%D) of each analyte is assessed. For the pesticide/PCB analyses, the RSDs of the calibration factors (CFs) of the initial calibration and %D of the CFs for the continuing calibration are assessed.

RRF < 0.05:	all compliant
%D > 25%:	bromoform (30.47%, 34.70%) 2-butanone (30.96%)
RSD > 30%	hexachlorocyclopentadiene (32.4%)

No action required since analyses for these compounds were all non-detect.

Several compounds had CF %Ds > 15% for the pesticide fraction but no analyses required quantitation so the CFs were not used.

Surrogate Recovery

The surrogate recoveries for all VOA and semivolatile analyses were within acceptance criteria. The pesticide/PCB surrogate recoveries were also within acceptable limits except:

SMC-GW01D-01A, SMC-GW04D-01A, and SMC-GW02D-01A: pesticide/PCB - surrogate recoveries very low.

SMC-GW01D-01A: 7.8%
SMC-GW04D-01A: 9.8%
SMC-GW02D-01A: 3.4%

ACTION: All compounds flagged "UJ" estimated for pesticide/PCBs in samples SMC-GW01D-01A, SMC-GW02D-01A, and SMC-GW04D-01A.(potential low bias)

MS/MSD Analyses

True samples were used for MS/MSD analyses. Recoveries and RPDs were compliant in the VOA.

Semivolatile - The recoveries were low for 4-nitrophenol, 2,4,dinitrotoluene and pentachlorophenol; the RPD was non-compliant for 1,2-dichlorobenzene.

Pesticide/PCB - The recoveries were low for 4 of the 12 spiked analytes (DDT and lindane in both MS and MSD).

ACTION: The pesticide/PCB sample, SMC-GW06D-01A, used for matrix spike was flagged "UJ" for DDT and lindane.(potential low bias)

Internal Standard Response

The internal standard response was within acceptable limits for all samples.

Analysis Sequence

The VOA and BNA analyses were run within 12 hours of instrument tune. The CLP contractual 72-hour sequence for pesticide/PCB analysis was used as required.

Method Blank Contamination

The Volatile, Semivolatile and Pesticide/PCB method blanks contained no identifiable compounds.

Field and Trip Blank Contamination

The trip blank shipped 4/27/92 contained acetone at 31 ppb. The trip blank shipped 4/29/92 and the field blank contained methylene chloride less than the CRQL.

ACTION: None required since all samples were non-detect for these analytes.
Any acetone found in any samples may be false positives.

Ion Spectra Match

All ion spectra correctly matched the standard spectrum.

Chromatogram Quality

The chromatograms were of acceptable quality.

Calculations

All checked calculations were correct within rounding errors. Use the diluted results for the toluic acid isomers in samples GW01D and GW02D.

Laboratory Control Sample

Laboratory control samples were analyzed with each fraction as specified by the NYSDEC ASP. The results were within the specified criteria.

Prepared By: Pamela Breedlove Date: 15 March 1993

Inorganic Validation

Seven aqueous and samples analyzed for Target Analyte List inorganics were validated according to current USEPA Region II protocols. The following information was used to validate the analytical results:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- CRDL standards for AA (CRA) and ICP (CRI)
- Initial calibration blank (ICB), continuing calibration blank (CCB) and preparation blank (PB) analyses
- Spike Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Standard Addition results
- ICP Serial Dilution Analysis
- Instrument Detection Limit (IDL) Analysis
- Interelement corrections for ICP
- Linear Range Analysis
- Furnace QA/QC Analyses
- Calculations

Attached is the New York State Department of Environmental Conservation's (NYSDEC) required summary table.

Sample hold time

All metals and mercury analyses were extracted within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used. A 2-point calibration for ICP, 5-point for mercury and 4-point calibration for furnace AA were used, as required.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

CRDL Standards

The CRDL standards were run at the correct frequency and appropriate concentration for each analyte. Several analytes had non-compliant CRDL (<80->120%) recoveries:

lead	129.3%, 40%
mercury	4530.0%, 1335.0%
cadmium	73%, 73%
silver	76.4%, 79.4%

ACTION: SMC-GW01D-01A: mercury rejected (R) due to high CRDL recovery.

Silver flagged "J" in all samples.(potential low bias) Lead flagged "J" in SMC-GW01D-01A, SMC-GW09D-01A, SMC-GW02D-01A and SMC-GW04D-01A.(potential high bias) Cadmium flagged "J" in all samples.(potential low bias)

Laboratory Blanks (ICB, CCB, PB)

All laboratory blanks were analyzed at the correct frequency during the injection sequence. Copper, aluminum, barium, calcium, chromium, cobalt, copper, iron, magnesium, nickel, potassium, sodium, and vanadium were found in the calibration blanks. Barium, cobalt, copper, iron, nickel, and vanadium were found in the preparation blank for SMC-GW09D-01A. Chromium, copper, magnesium, potassium, and sodium were found in the aqueous preparation blank for the remaining samples. All concentrations were below the CRDL. No action was warranted.

Blank Concentrations

	ICB	CCB	PB
Aluminum	-31.8	37.3,-37.9	
barium	-33.7	14.44	90.2
calcium		-57.7,-98.9	
chromium		-4.6,-6.3	-5
cobalt	-14.3	23.5, 18.4	8
copper	10.6, 11.2	8.8, 9.3, 14.9, 13.6	15.9, 14.4
iron	-39.6	-35.3,-36.1	-22.9
magnesium	100.2	-253.9, 134.4, 137.2	136.3
nickel	-23	39.3	11.3
potassium		451	-652.9
sodium	582.9	577.7, 1078.2, 937.2,-1752.7	928.7
vanadium	7.2		-6.1

ICP Interference Check Sample (ICS)

The ICS percent recoveries were all within the acceptance window (80-120 %).

Spiked Sample Analysis

The spike sample recoveries were performed on true samples (SMC-GW06D-01A and SMC-GW09-01A). All data were acceptable except silver (42.8% SMC-GW06D-01A), mercury (55% SMC-GW09-01A) and silver (48.1% SMC-GW09D-01A).

ACTION: Silver flagged "J" in samples SMC-GW06D-01A and SMC-GW09D-01A. Mercury flagged "J" in SMC-GW09D-01A. (potential low bias)

Duplicate Sample Analysis (D)

The first laboratory duplicate analysis was performed on a true sample (SMC-GW09D-01A). Mercury (0.2U and 0.66 control limit +0.2) was outside the acceptance window. The other duplicate analysis was acceptable.

ACTION: Mercury was qualified with a "J" in SMC-GW09D-01A.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance

range (80-120%).

Standard Addition Results

Method of standard addition analysis was correctly performed on sample SMC-GW02D-01A for arsenic. The correlation coefficient was acceptable.

ICP Serial Dilution Analysis

The ICP aqueous serial dilutions were performed on samples (SMC-GW09D-01A and SMC-GW06D-01A). All analyses were compliant except magnesium, manganese, potassium, and copper.

ACTION: Copper and potassium flagged "R" rejected in samples GW01D, GW02D, GW03D, GW04D AND GW06D.

Magnesium and manganese were flagged "J" estimated in samples GW01D, GW02D, GW03D, GW04D AND GW06D.

Instrument Detection Limit (IDL) Analysis

The IDLs were all lower than the CRDL and were generated on 3 March 1992 by the laboratory.

Interelement Corrections for ICP

No interelement corrections were applied by the laboratory. The forms were not dated.

Linear Range Analysis

The linear range for the ICP analyses was supplied by the laboratory. None of the concentrations of the samples in this group approached these upper limits.

Furnace AA QC Analyses

Samples were run in duplicate. The acceptance window for the RSD (20%) was exceeded in many cases but all concentrations were less than the CRDL.

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 15 March 1993

General Chemistry

Seven aqueous samples analyzed for alkalinity, chloride, cyanide, DOC, fluoride, sulfate and TSS were validated using the following information:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- Method blank
- Spike and spike duplicate Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Calculations

Sample hold time

All samples were prepared within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

Method Blank

All laboratory blanks were analyzed at the correct frequency with concentrations of analytes at or below the detection limit during the injection sequence.

Spike and Spike Duplicate Sample Analysis

The spike sample recovery was performed on a true sample and was compliant.

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on true sample and was acceptable for all parameters.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 15 March 1993

Stauffer Management Company RI/FS
Data Package 920523

This data report covers data package 920523 submitted by EA Laboratories concerning analysis of one soil sample collected at Stauffer Management Company Facility at Skaneateles Falls.

SMC-MW05-01A collected 4/22/92

Organic Validation

One soil sample analyzed for Target Compound List (TCL) organics and total petroleum hydrocarbons (TPH)was validated following the United States Environmental Protection Agency (USEPA) Region II procedures for samples analyzed using the Contract Laboratory Program (CLP) Statement of Work (SOW) February, 1988 (as stated in table 1 Analytical Methods attached to the case narrative). These samples were to have been analyzed by the NYSDEC Analytical Services Protocol 1990. The laboratory control samples were analyzed as required by the NYSDEC ASP but the 1990 CLP was not followed. The following information was used to validate the analytical results:

- Sample hold time
- Instrument tune
- Initial and continuing calibration
- Surrogate recoveries
- MS/MSD analysis
- Internal Standards
- Analysis sequence
- Method blank contamination
- Field and trip blank contamination
- Ion spectra match
- Chromatogram quality
- Calculations
- Laboratory Control Sample

The New York State Department of Environmental Conservation's (NYSDEC) required summary table is attached.

Sample Hold Time

The BNA, TPH and Pesticide/PCB analyses were performed within the prescribed hold times. The volatile analysis was performed on 5/5/92 with collection on 4/22/92, 13 days after collection. The Region 2 recommended holding time is ten days.

ACTION: All VOA analytes except xylenes flagged "UJ" estimated. Xylenes flagged "J" estimated. All potential low bias.

Instrument Tune

The GC/MS's were tuned with BFB (VOA) and DFTPP (BNA). All QC criteria were compliant. No tune is required for TPH or pesticide/PCB analyses since they are not performed using a mass spectrometer.

Initial and Continuing Calibration

In the initial calibration of VOAs and BNAs, the relative response factors (RRFs) and relative standard deviations (RSDs) of each analyte is assessed. In the continuing calibration of VOAs and BNAs, the RRF and Percent Difference of the RRFs (%D) of each analyte is assessed. For the pesticide/PCB and TPH analyses, the RSDs of the calibration factors (CFs) of the initial calibration and %D of the CFs for the continuing calibration are assessed.

RRF < 0.05:	all compliant
%D > 25%:	bromoform (31.80%)
RSD > 30%	4-methylphenol (31.02%) N-nitroso-di-n-propylamine (33.23%) isophorone (31.53%)

No action required since analyses for these compounds were all non-detect.

Several compounds had CF %Ds > 15% for the pesticide fraction but no analyses required quantitation so the CFs were not used. The TPH calibrations weree within control limits.

Surrogate Recovery

The surrogate recoveries for all VOA, TPH and semivolatile analyses were within acceptance criteria. The pesticide/PCB surrogate recoveries was above the acceptable limit. (178% limit 150%)

ACTION: All compounds flagged "J" estimated for pesticide/PCBs in sample. (all non-detect potential high bias)

MS/MSD Analyses

A true sample was used for MS/MSD analyses. Recoveries and RPDs were compliant except for the soil MS/MSD:

Semivolatile: very low recovery of 2,4-dinitrotoluene due to large interfering unknown peak, slightly high RPD for 4-nitrophenol.

ACTION: 2,4-dinitrotoluene rejected "R"

Pesticide/PCB - The recovery was high for endrin due to coelution. No action since endrin was not detected in sample.

Internal Standard Response

The internal standard response was within acceptable limits for all samples.

Analysis Sequence

The VOA and BNA analyses were run within 12 hours of instrument tune. The CLP contractual 72-hour sequence for pesticide/PCB analysis was used as required.

Method Blank Contamination

The Volatile, Semivolatile, TPH and Pesticide/PCB method blanks contained no identifiable compounds.

Field and Trip Blank Contamination

There were no field or trip blanks analyzed with this sample delivery group.

Ion Spectra Match

All target compound ion spectra correctly matched the standard spectrum. Three TIC's were rejected in the semivolatile fraction because they are on the volatile target compound list.

Chromatogram Quality

The chromatograms were of acceptable quality.

Calculations

All checked calculations were correct within rounding errors.

Laboratory Control Sample

Laboratory control samples were analyzed with each fraction as specified by the NYSDEC ASP. The results were within the specified criteria.

Prepared By: Pamela Greenlaw Date: 15 March 1993

Inorganic Validation

One soil sample analyzed for Target Analyte List inorganics was validated according to current USEPA Region II protocols. The following information was used to validate the analytical results:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- CRDL standards for AA (CRA) and ICP (CRI)
- Initial calibration blank (ICB), continuing calibration blank (CCB) and preparation blank (PB) analyses
- Spike Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Standard Addition results
- ICP Serial Dilution Analysis
- Instrument Detection Limit (IDL) Analysis
- Interelement corrections for ICP
- Linear Range Analysis
- Furnace QA/QC Analyses
- Calculations

Attached is the New York State Department of Environmental Conservation's (NYSDEC) required summary table.

Sample hold time

All metals and mercury analyses were extracted within holding times.

Instrument Calibration

No raw data included, so calibration not verified.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

CRDL Standards

The CRDL standards were run at the correct frequency and appropriate concentration for each analyte, all recoveries were compliant.

Laboratory Blanks (ICB, CCB, PB)

All laboratory blanks were analyzed at the correct frequency during the injection sequence. Aluminum, antimony, barium, calcium, cobalt, iron, magnesium, nickel, sodium, thallium, and vanadium were found in the calibration blanks. Antimony, barium, calcium, chromium, cobalt, iron, magnesium, nickel, potassium, sodium and vanadium were found in the preparation blank. All concentrations were below the CRDL. No action was warranted.

Blank Concentrations

	ICB	CCB	PB
Aluminum	-159,-38.9	-118.3,-18.1,-98.7,-126.6	
antimony		-25	-3.3
barium	113.5	-61.4,-50.1	-6.9
calcium	67.4	77.9, 66	8.4
chromium			-0.6
cobalt	-10.1	-9.8	-2.2
iron	-19.9	-17.5,-19.6, 6.1	-2.1
magnesium	218	295.6, 247.8	33.3
nickel	-16.8	-8.4	-2
potassium			32.7
sodium	1412	2065.6, 1900	250
thallium		1.2	
vanadium	-11.2		-2

ICP Interference Check Sample (ICS)

The ICS percent recoveries were all within the acceptance window (80-120 %).

Spiked Sample Analysis

The spike sample recoveries were performed on the sample. The data were acceptable except antimony (14.1%), cadmium (62.6%), chromium (68%), mercury (296.3%), selenium (70.7%) and silver (50.6%).

ACTION: Antimony, cadmium, chromium, selenium and silver flagged "J" in sample. (potential low bias) Mercury rejected in the sample.

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on the sample. Calcium, chromium, copper, lead, magnesium, mercury and zinc had RPDs >20% but less than 100%. No action required, analytes correctly flagged *.

Laboratory Control Sample (LCS) Analysis

An LCS was prepared and analyzed at the correct frequency, however, an aqueous LCS was used rather than a solid LCS as required. The percent recovery for silver was only 36.1%. All other recoveries were within the acceptance range (80-120%).

ACTION: All analytes not previously qualified, flagged "J" estimated.

Standard Addition Results

Method of standard addition analysis was not required.

ICP Serial Dilution Analysis

The ICP aqueous serial dilution was performed on the sample as required. Barium (18.6%) and chromium (14.7%) were correctly flagged E (%D> 10%). No action taken since all analytes flagged "J".

Instrument Detection Limit (IDL) Analysis

The IDLs were all lower than the CRDL and were generated on 3 March 1992 by the laboratory.

Interelement Corrections for ICP

No interelement corrections were applied by the laboratory. The forms were not dated.

Linear Range Analysis

The linear range for the ICP analyses was supplied by the laboratory. None of the concentrations of the samples in this group approached these upper limits.

Furnace AA QC Analyses

Samples were run in duplicate. The raw data was not supplied so RSDs could not be checked. Selenium was flagged "W".

Calculations

Raw data not supplied so calculations not checked.

Prepared By: Pamela Greenlaw Date: 15 March 1993

General Chemistry

One soil sample analyzed for cyanide was validated using the following information:

- Sample hold time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- Method blank
- Spike and spike duplicate Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Calculations

Sample hold time

The sample was extracted within holding times.

Instrument Calibration

The instrument was calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

Method Blank

All laboratory blanks were analyzed at the correct frequency with concentrations of analytes at or below the detection limit during the injection sequence.

Spike and Spike Duplicate Sample Analysis

The spike sample recovery was performed on a true sample and was compliant.

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on true sample and was acceptable for all parameters.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 15 March 1993

Stauffer Management Company RI/FS
Data Package 920562

This data report covers data package 920562 submitted by EA Laboratories concerning analysis of 3 water samples and one trip blank collected at Stauffer Management Company Facility at Skaneateles Falls.

SMC-GW05D-01A collected 5/14/92
SMC-GW10D-01A collected 5/14/92
SMC-GW11D-01A collected 5/14/92
Trip blank collected 5/14/92

Organic Validation

Four aqueous samples analyzed for Target Compound List (TCL) organics using the New York Analytical Services Protocol 1990 were validated following the United States Environmental Protection Agency (USEPA) Region II SOP HW-6 revision 7 for samples analyzed using methods from the Contract Laboratory Program (CLP) Statement of Work (SOW) February, 1988 (as stated in table 1 Analytical Methods attached to the case narrative). These samples were to have been analyzed by the NYSDEC Analytical Services Protocol 1990. The laboratory control samples were analyzed as required by the NYSDEC ASP but the 1990 CLP was not followed. The following information was used to validate the analytical results:

- Sample holding time
- Instrument tune
- Initial and continuing calibration
- Surrogate recoveries
- MS/MSD analysis
- Internal Standards
- Analysis sequence
- Method blank contamination
- Field and trip blank contamination
- Ion spectra match
- Chromatogram quality
- Calculations
- Laboratory Control Sample (LCS)

The summary of qualified data is attached.

Sample Holding Time

All VOA, BNA and Pesticide/PCB samples were analyzed within the prescribed hold times except GW05D-01A pesticide/PCB (5 days prescribed holding time) which required reextraction due to interference in the original analysis. The MS/MSD were also performed on this sample and were non-detect for all target compounds.

Table of holding time violations:

sample	matrix	preserved	date sampled	date received	date extracted
GW05D-01A	aqueous	ice only	5/14/92	5/15/92	6/1/92

ACTION: All analytes in the GW05D-01A pesticide/PCB analysis were flagged "UJ" estimated. (potential low bias)

Instrument Tune

The GC/MS's were tuned with BFB (VOA) and DFTPP (BNA). All QC criteria were compliant. No tune is required for pesticide/PCB analyses.

Initial and Continuing Calibration

In the initial calibration of VOAs and BNAs, the relative response factors (RRFs) and relative standard deviations (RSDs) of each analyte is assessed. In the continuing calibration of VOAs and BNAs, the RRF and Percent Difference of the RRFs (%D) of each analyte is assessed. For the pesticide/PCB analyses, the RSDs of the calibration factors (CFs) of the initial calibration and %D of the CFs for the continuing calibration are assessed.

RRF <0.05:	none
RSD >30%:	none
%D >25%:	chloromethane (29.9) bromomethane (26.2) methylene chloride (30.5) carbon disulfide (27.4) 1,1,1-trichloroethane (33.5) carbon tetrachloride (31.6) bromodichloromethane (30.6) 4-methyl-2-pentanone (32.5) trans-1,3-dichloropropene (32)

ACTION: No action is required since these compounds were not detected in the samples.

Surrogate Recovery

The surrogate recoveries for all VOA, BNA, and pesticide/PCB analyses were within acceptance criteria.

MS/MSD Analyses

A true sample (GW05D-01A) was used for MS/MSD analyses. All recoveries and RPDs were compliant.

Internal Standards

Internal standards are required for VOA and BNA analysis only. The internal standard areas and retention times were within the specified criteria.

Analysis Sequence

The VOA and BNA analyses were run within 12 hours of instrument tune. The CLP contractual 72-hour sequence for pesticide/PCB analysis was used as required.

Method Blank Contamination

The method blanks contained no identifiable compounds.

Field and Trip Blank Contamination

The trip blank contained no identifiable compounds. There were no field blanks with this package.

Ion Spectra Match

All ion spectra correctly matched the standard spectrum.

Chromatogram Quality

All chromatograms were of acceptable quality except for the original analysis of sample GW05D-01A which according to the case narrative had a large group of peaks in the middle of the chromatogram. The MS and MSD of the same sample did not contain these peaks so the sample was reextracted. The reextracted sample did not contain the extra peaks but was extracted 13 days outside of holding time.

Calculations

All checked calculations were correct within rounding errors.

Laboratory Control Sample

Laboratory control samples were analyzed along with each fraction as required by the NYSDEC ASP. The results were all within the specified criteria.

Prepared By: Pamela Beeler Date: 25 January 1993

Inorganics

Three aqueous samples analyzed for Target Analyte List (TAL) inorganics were validated according to current USEPA Region II protocols. The following information was used to validate the analytical results:

- Sample holding time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- CRDL standards for AA (CRA) and ICP (CRI)
- Initial calibration blank (ICB), continuing calibration blank (CCB) and preparation blank (PB) analyses
- Spike Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- ICP Serial Dilution Analysis
- Instrument Detection Limit (IDL) Analysis
- Interelement corrections for ICP
- Linear Range Analysis
- Furnace QA/QC Analyses
- Calculations

The validated data are attached (Attachment A). Attachment B is the New York State Department of Environmental Conservation's (NYSDEC) required summary table.

Sample holding time

All metals and mercury analyses were extracted within holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used. A 2-point calibration for ICP, 5-point for mercury and 4-point calibration for furnace AA were used, as required.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

CRDL Standards

The CRDL standards were run at the correct frequency and appropriate concentration for each analyte. Silver had non-compliant CRDL recovery (73.6%) for the final CRDL standard.

ACTION: Silver was flagged "J" estimated in samples GW10D-01A and GW11D-01A. (potential low bias.)

Laboratory Blanks (ICB, CCB, PB)

All laboratory blanks were analyzed at the correct frequency during the injection sequence.

	ICB	CCB	PB
aluminum	-30.4	46.5, 13.7	31.1
antimony			-55.5
barium	31.8	65.0, 129.7, 42.5	121.5
calcium			88.5
chromium		-4.5	5.0
cobalt	-14.0	-8.8, -9.8	
copper	15.2	18.9, 14.7, 8.0	22.4
iron			36.3
magnesium	115.2	156.9, 105.8	162.8
potassium	-1057.8	-631.2, -597.8	-856.3
selenium	-1.3	-1.1, -1.3	-1.1
sodium	1098.6	1379.6, 959.6, 635.7	1479.1

All concentrations were below the CRDL. No action was warranted.

ICP Interference Check Sample (ICS)

The ICS percent recoveries were all within the acceptance window (80-120 %).

Spiked Sample Analysis

The spike sample recovery was performed on a true sample (GW05D-01A). Silver (65.2%) and thallium (70.8%) were outside the acceptance window (75-125%).

ACTION: Silver and thallium were qualified with a "J" in all samples. (potential low bias)

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on a true sample (GW-05D-01A). Barium was outside the acceptance window of + CRDL. (543.5 and 271.6 - CRDL 200)

ACTION: Barium was qualified "J" estimated in all samples.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

ICP Serial Dilution Analysis

The ICP serial dilution was performed on a true sample (GW11D-01A). Aluminum (119.3%), barium (100%), copper (252.4%), manganese (100%), nickel (100%), potassium (100%) and sodium(17.3%) exceeded the acceptance criteria for percent difference (10%). Samples which had concentrations above 10x IDL not previously flagged were qualified.

ACTION: Aluminum, barium and potassium were qualified "R" (rejected) in GW05D-01A, GW05D-01A and GW11D-01A.

Sodium was qualified "J" in all samples.

Instrument Detection Limit (IDL) Analysis

The IDLs were all lower than the CRDL and were generated on 3 March 1992 by the laboratory.

Interelement Corrections for ICP

No interelement corrections were applied by the laboratory. The forms were no dated.

Linear Range Analysis

The linear range for the ICP analyses was supplied by the laboratory. None of the concentrations of the samples in this group approached these upper limits.

Furnace AA QC Analyses

Samples were run in duplicate. The acceptance window for the RSD (20%) was exceeded in many cases but all concentrations were less than the CRDL. Post digestion spike samples were also analyzed and correctly flagged "W" when out of the control limits:
selenium: GW05D-01A and GW10D-01A
thallium: GW05-01A, GW10D-01A, and GW11D-01A

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 25 January 1993

General Chemistry

Three aqueous samples analyzed for alkalinity, chloride, cyanide, DOC, fluoride, sulfate and TSS were validated using the following information:

- Sample holding time
- Instrument calibration
- Initial calibration verification (ICV) and continuing calibration verification (CCV)
- Method blank
- Spike and spike duplicate Sample Analysis
- Duplicate sample analysis
- Laboratory Control Sample (LCS) Analysis
- Calculations

Sample hold time

All samples for general chemistry and cyanide analyses were extracted within specified holding times.

Instrument Calibration

All instruments were calibrated daily with dates and times clearly shown on the raw data. The proper sequence of instrument blanks and standards were used.

ICV and CCV

The percent recovery for all analytes were within the prescribed windows and analyzed at the correct frequency in the injection sequence.

Method Blank

All laboratory blanks were analyzed at the correct frequency during the injection sequence. The method blank for alkalinity measured 1.0 (the detection limit). No action taken since the samples were much greater than the detection limit.

Spike and Spike Duplicate Sample Analysis

The spike sample recovery was performed on a true sample (GW05D-01A). Alkalinity had low recoveries for both spike and spike duplicate were low (36.6% and 41.9%) Recovery for sulfate and DOC were slightly low for one analysis (74.2% and 70.0%).

ACTION: Alkalinity was qualified "J" in all samples. (potential low bias)

Duplicate Sample Analysis (D)

The laboratory duplicate analysis was performed on a true sample (GW-05D-01A). All Relative percent differences were within acceptable ranges.

Laboratory Control Sample (LCS) Analysis

The LCS was prepared and analyzed at the correct frequency. All percent recoveries were within the acceptance range (80-120%).

Calculations

All checked calculations were within rounding errors.

Prepared By: Pamela Greenlaw Date: 25 January 1993

ORGANIC DATA LIMITATION AND VALIDATION REPORT

Project Site: ICI Skaneateles Falls, NY
Sample Type: Water(4) and soils(9)
Analysis Type: CLP volatiles Organics
Laboratory: EA Laboratories Inc.
SDG No.: MW5-SB01

A. INTRODUCTION

Four aqueous samples (1 field blank, two trip blanks, and open pit) and nine soil samples analyzed by CLP Volatile Organics were validated following the procedures outlined in the EPA Region 2 Standard Operating Procedure No. HW-6 (Revision No. 8 January 1992). The following information was used to validate the analytical results:

- Sample holding time before analysis
- Instrument tune
- Initial and continuing calibration
- Surrogate recoveries
- Internal standard areas
- MS/MSD analyses
- Laboratory control samples
- Analysis Sequence
- Method blank contamination
- Compound identification and Ion spectra match
- Chromatogram quality
- Calculations
- Other QC

The holding time tables are attached to this report.

B. **CONTRACT AND TECHNICAL REVIEW**

Site: ICI Skaneateles Falls, NY
Type: CLP Volatiles Organics
Laboratory: EA Laboratories Inc.
SDG No.: MW5-SB01
Sample Identification:

Field ID	Lab ID
MW5-SB06	9684
MW5-SB01	9685
MW5-SB2B	9686
MW5-SB03	9687
FB (11/20/92)	9688
TB (11/20/92)	9689
MW5-SB07	9927
MW5-SB04	9928
MW5-SB09	9929
MW5-SB08	9930
MW5-SB05	9931
TB (11/22/92)	9932
OPEN PIT	9944

Contract and Technical Review (CTR) Comments

1. Sample Hold Time Before Analysis: All VOA analyses were performed within NYSDEC ASP contractual and EPA technical holding times except field blank(9688) and trip blank(9689).

   Action(s):

   a. Aromatic analytes in field blank(9688) and trip blank(9689) were estimated "J" due to holding time.

2. Instrument Tune: The GC/MS was tuned with BFB (VOA). All QC criteria were compliant and all samples were analyzed within 12 hours of the tune.

3. Initial and Continuing Calibrations: In the initial calibration of VOAs, the relative response factors (RRFs) and relative standard deviations (RSDs) of each analyte in the multi-concentration calibration is assessed. In the continuing calibration, the RRF and percent difference of the RRFs (%D) of each analyte is assessed. The following non-compliance were noted in one or more calibrations.

RSD>30%	chloromethane (37.1), and 2-butanone(38.8).
%D>25%	chloromethane (25.94,54.01), chloroethane (25.94), acetone (78.52,88.59,27.48), 2-hexanone (35.67,45.61,39.56,), vinyl chloride (29.40), 1,2-dichloroethane(total) (30.11), 4-methyl-2-pentanone (28.32), and 2-butanone (49.04).

Action(s):

a. Chloromethane was estimated "J" in nine soil samples MW5-SB06, MW5-SB01, MW5-SB2B MW5-SB03, MW5-SB07, MW5-SB04, MW5-SB09, MW5-SB08, and MW5-SB05 due to RSD>30%.

b. Chloromethane was estimated "J" in three diluted soil sample MW5-SB01DL, MW5-SB04DL, and MW5-SB05DL due to RSD>30%.

c. 2-butanone was estimated "J" in two samples TB (9932) and OPEN PIT (9944) due to RSD>30%

d. Acetone and 2-hexanone were estimated "J" in eight soil samples MW5-SB06, MW5-SB01, MW5-SB2B MW5-SB03, MW5-SB07, MW5-SB04, MW5-SB08, and MW5-SB05 due to %D>25%.

e. Acetone, vinyl chloride, 1,2-dichloroethane(total), and 2-hexanone were estimated "J" in one soil sample MW5-SB09 due to %D>25%.

f. 2-hexanone and 4-methyl-2-pentanone were estimated "J" in two samples TB (9932) and OPEN PIT (9944) due to %D>25%.

g. Acetone was estimated "J" in three diluted soil sample MW5-SB01DL, MW5-SB04DL, and MW5-SB05DL due to %D>25%.

h. No actions were taken for 2-butanone, 2-hexanone, and 4-methyl-2-pentanone in the field blank(9688) and trip blanks(9689,9932) since they were already qualified for other criteria.

4. Surrogate Recovery: Surrogates measures the ability of the laboratory to extract the targeted analytes by evaluating the recovery of three indicator compounds which are structurally similar to some targeted analytes as indicators for all the analytes. The surrogate recoveries for the VOA analyses were within acceptable limits.

5. Internal Standards: GC/MS analytes concentrations are calculated based on the analytes detector response normalized to a standard(s) injected with the sample. Quantification was based upon three internal standards (bromochloromethane, 1,4-difluorobenzene, and chlorobenzene). All internal standards areas were compliant except 1,4-difluorobenzene in sample MW5-SB09.

   Action(s):
   a. 2-hexanone, 4-methyl-2-pentanone, tetrachloroethane, 1,1,2,2-tetrachloroethane, toluene, chlorobenzene, ethylbenzene, styrene, and xylene(total) in sample MW5-SB09 were estimated "J" due to low internal standard area.

6. Matrix Spike/Matrix Spike Duplicate: The MS/MSD recovery measures the potential for matrix interferences in the recovery of selected spiking compounds. The MS/MSD recoveries in the VOA analyses were within acceptable limits.

7. LCS Recoveries: The LCS (or matrix spike blank) measures the ability to recover selected analytes in water sample and is used to confirm that the laboratory can comply with the sample extraction analysis requirements. The LCS recoveries in the VOA analyses were within acceptable limits.

8. Analysis Sequence: VOA sample analyses are required to be run within 12 hours of GC/MS tune. The VOA analyses complied with the analysis sequences.

9. Method Blank Contamination:A method blank measures the potential for false-positive results introduced by internal laboratory contamination. A total of 3 VOA method blanks were analyzed. The three blanks were not contaminated with any target analyte. However, all the three blanks contained TICs.

Action(s):

a. One TIC (RT 10.71 min) in nine samples MW5-SB06, MW5-SB01, MW5-SB2B MW5-SB03, MW5-SB07, MW5-SB04, MW5-SB08, and MW5-SB05, MW5-SB09, and one TIC (RT 18.53 min) in four samples MW5-SB01DL, MW5-SB04DL, MW5-SB05DL, and OPEN PIT (9944) were qualified with an "R" due to method blank contamination.

10. Field and Trip Blank Contamination:Field and Trip Blank Contamination :The field blank (FB) measures the potential for false-positive results introduced by improper field decontamination procedures of sampling equipment. The trip blank (TB) measures the potential for false-positive results introduced during sample holding in the shipping containers. A total of 2 trip blanks and 1 field blank were analyzed. The trip blanks (9689 and 9932) contained TICs (RT 18.52 min and 18.49 min). A FB (9688) contained TIC (RT 18.52 min), 1,1-dichloroethene, and total xylene. 1,1-dichloroethene was not found in any associated samples, hence no qualification was required. Futhermore no qualificatons were required for the TICs since associated samples were already qualified due to method blank contamination. Total xylene in sample MW5-SB06 was qualified with a "U" due to field blank contamination.

11. Compound Identification and Spectra Match:Verification of identification of an analyte is based upon the match between the relative ratios of the molecular fragments to the corresponding standard fragments in the GC/MS analysis of VOA compounds. All VOA ion spectra for the targeted analytes correctly matched the standard spectra.

12. Chromatogram Quality:The quality of the VOA chromatograms are evaluated to determine whether there are any interfering unknowns present which prevent the identification of the targeted analytes. All chromatograms were of acceptable quality.

13. Calculations:The reported analyte concentrations and any internal QC calculations are verified for their accuracy. All checked calculations were correct within rounding errors.

14. Other QC:Xylene exceeded calibration range in three samples MW5-SB01, MW5-SB04, and MW5-SB05. The laboratory correctly qualified the values with a "E". The reviewer transfered xylene values from diluted samples to undiluted samples. The Form 1 of the original samples should be used.

C. DATA LIMITATION OVERVIEW:

The VOA analyses of three water and nine soil samples from the ICI Skaneateles Falls, NY showed compliance with the QC requirements of EPA Region 2 SOP with the following EPA usability actions:

In field blank(9688) and trip blank(9689) aromatic analytes were estimated "J" due to holding time.

In nine soil samples MW5-SB06, MW5-SB01, MW5-SB2B MW5-SB03, MW5-SB07, MW5-SB04, MW5-SB09, MW5-SB08,and MW5-SB05 chloromethane was estimated "J" due to RSD>30%.

In three diluted soil samples MW5-SB01DL, MW5-SB04DL, and MW5-SB05DL chloromethane was estimated "J"due to RSD>30%.

In two water samples TB (9932) and OPEN PIT (9944) 2-butanone was estimated "J" due to RSD>30%.

In eight soil samples MW5-SB06, MW5-SB01, MW5-SB2B MW5-SB03, MW5-SB07, MW5-SB04, MW5-SB08, and MW5-SB05 acetone,chloroethane and 2-hexanone were estimated "J" due to %D>25%.

In one soil sample MW5-SB09 due to %D>25%. acetone, vinyl chloride, 1,2-dichloroethane(total), and 2-hexanone were estimated "J"

In three diluted soil sample MW5-SB01DL, MW5-SB04DL, and MW5-SB05DL acetone was estimated "J" due to %D>25%.

In two water samples TP (9932) and OPEN PIT (9944) 2-hexanone and 4-methyl-2-pentanone were estimated "J" due to %D>25.

In one sample MW5-SB09 2-hexanone, 4-methyl-2-pentanone, tetrachloroethane, 1,1,2,2-tetrachloroethane, toluene, chlorobenzene, ethylbenzene, stryrene,and xylene(total) were estimated "J" due to low internal standard area.

In nine samples MW5-SB06, MW5-SB01, MW5-SB2B MW5-SB03, MW5-SB07, MW5-SB04, MW5-SB08, MW5-SB05,and MW5-SB09 one TIC (RT 10.71 min) and in four samples MW5-SB01DL, MW5-SB04DL, MW5-SB05DL, and OPEN PIT (9944) one TIC (RT 18.53 min) were qualified with an "R" due to method blank contamination.

In sample MW5-SB06 total xylene was qualified with a "U" due to field blank contamination.

No data qualifiers were applied to internal laboraatory QC samples (e.g. MS/MSD, method blanks). No qualifiers were applied since these analyses are not provided to the data user.

Prepared by: Emmanuel A. Nyako Date:10 January 1993
Emmanuel A. Nyako

ORGANIC DATA LIMITATION AND VALIDATION REPORT

Project Site: ICI Skaneateles Falls, NY
Sample Type: Air(4)
Analysis Type: EPA Method TO-2 Organics
Laboratory: CTM Analytical Laboratories Ltd.
SDG No.: SMC-01

A. INTRODUCTION

Four air samples analyzed by EPA Method TO-2 Volatile Organics were validated following the procedures outlined in the EPA Region 2 Standard Operating Procedure No. HW-6 (Revision No. 8 January 1992). The following information was used to validate the analytical results:

- Sample holding time before analysis
- Instrument tune
- Initial and continuing calibration
- Surrogate recoveries
- Internal standard areas
- MS/MSD analyses
- Laboratory control samples
- Analysis Sequence
- Method blank contamination
- Compound identification and Ion spectra match
- Chromatogram quality
- Calculations
- Other QC

The holding time tables are attached to this report.

B. **CONTRACT AND TECHNICAL REVIEW**

Site: ICI Skaneateles Falls, NY
Type: EPA Method TO-2 Organics
Laboratory: CTM Analytical Laboratories Ltd.
SDG No.: SMC-01

Sample Identification:

Field ID	Lab ID
SMCAS-1	921105N-01
SMCAS-2	921105N-02
SMCAS-3	921105N-03
SMCAS-4	921105N-04

Contract and Technical Review (CTR) Comments

1. Sample Hold Time Before Analysis: All TO-2 analyses were performed within NYSDEC ASP contractual and EPA technical holding times.

2. Instrument Tune: The GC/MS was tuned with BFB (VOA). All QC criteria were compliant and all samples were analyzed within 12 hours of the tune.

3. Initial and Continuing Calibrations: In the initial calibration of VOAs, the relative response factors (RRFs) and relative standard deviations (RSDs) of each analyte in the multi-concentration calibration is assessed. In the continuing calibration, the RRF and percent difference of the RRFs (%D) of each analyte is assessed. The following non-compliance were noted in one or more calibrations.

RRF<0.050	2-chloroethylvinylether (.0427)
RSD>30%	2-chloroethylvinylether (34.991), trichlorofluoromethane (46.818), and vinyl acetate (52.151).
%D>25%	vinyl acetate (69.58), 2-chloroethylvinylether(356.53),and bromomethane(27.68),

Action(s):

a. Trichlorofluoromethane and vinyl acetate were estimated "J" in four air samples SMCAS-1, SMCAS-2, SMCAS-3, and SMCAS-4 due to RSD>30%.

b. Bromomethane was estimated "J" in four air samples SMCAS-1, SMCAS-2, SMCAS-3, and SMCAS-4 due to %D>25%.

4. Surrogate Recovery:Surrogates measures the ability of the laboratory to extract the targeted analytes by evaluating the recovery of three indicator compounds which are structurally similar to some targeted analytes as indicators for all the analytes. The surrogate recoveries for the VOA analyses were within acceptable limits.

5. Internal Standards:GC/MS analytes concentrations are calculated based on the analytes detector response normalized to a standard(s) injected with the sample. Quantification was based upon three internal standards (bromochloromethane, 1,4-difluorobenzene, and chlorobenzene). All internal standards areas were compliant.

6. Matrix Spike/Matrix Spike Duplicate:The MS/MSD recovery measures the potential for matrix interferences in the recovery of selected spiking compounds. The MS/MSD recoveries in the VOA analyses were within acceptable limits.

7. LCS Recoveries:The LCS (or matrix spike blank) measures the ability to recover selected analytes in water sample and is used to confirm that the laboratory can comply with the sample extraction analysis requirements. The LCS recoveries in the VOA analyses were within acceptable limits.

8. Analysis Sequence:VOA sample analyses are required to be run within 12 hours of GC/MS tune. The VOA analyses complied with the analysis sequences.

9. Method Blank Contamination:A method blank measures the potential for false-positive results introduced by internal laboratory contamination. One method blank was analyzed. The one blank was not contaminated with any target analyte.

10. Field and Trip Blank Contamination:Field and Trip Blank Contamination :The field blank (FB) measures the potential for false-positive results introduced by improper field decontamination procedures of sampling equipment. The trip blank (TB) measures the potential for false-positive results introduced during sample holding in the shipping containers. No trip blank or field blank was not provided for this SDG.

11. Compound Identification and Spectra Match:Verification of identification of an analyte is based upon the match between the relative ratios of the molecular fragments to the corresponding standard fragments in the GC/MS analysis of VOA compounds. All VOA ion spectra for the targeted analytes correctly matched the standard spectra.

12. Chromatogram Quality:The quality of the VOA chromatograms are evaluated to determine whether there are any interfering unknowns present which prevent the identification of the targeted analytes. All chromatograms were of acceptable quality.

13. Calculations:The reported analyte concentrations and any internal QC calculations are verified for their accuracy. All checked calculations were correct within rounding errors.

14. Other QC: 2-chloroethylvinylether was not part of the target analytes, hence it was not necessary to apply any qualification. All TIC's were qualified with "JN".

C. DATA LIMITATION OVERVIEW:

The VOA analyses of four air samples from the ICI Skaneateles Falls, NY showed compliance with the QC requirements of EPA Region 2 SOP with the following EPA usability actions:

a. In four air samples SMCAS-1, SMCAS-2, SMCAS-3, and SMCAS-4 trichlorofluoromethane and vinyl acetate were estimated "J" due to RSD>30%.

b. In four air samples SMCAS-1, SMCAS-2, SMCAS-3, and SMCAS-4 to bromomethane was estimated "J" due to %D>25%.

No data qualifiers were applied to internal laboraatory QC samples (e.g. MS/MSD, method blanks). No qualifiers were applied since these analyses are not provided to the data user.

Prepared by: Emmanuel A. Nyakotmon Date:10 January 1993
Emmanuel A. Nyako