

Tonawanda 1180-1-19a

144



SAIC Engineering, Inc.

A Subsidiary of Science Applications International Corporation

An Employee-Owned Company

November 30, 2001

██████████
Coordinator Pre-Treatment Division
Town of Tonawanda
Two Mile Creek Road
Tonawanda, New York 14150

Dear ██████████:

This letter is a follow-up to our conversation on October 22, 2001. SAIC has prepared this letter to request the permission of the Town of Tonawanda Water Resource Department to discharge collected water into the Town's municipal sanitary sewer system. The water was collected by SAIC at the Town of Tonawanda project site as part of the completed field investigation activities which included the washing and decontamination of field equipment and tools. Per your request, a brief history regarding the source of the water and a summary of the analytical data results are presented below.

The water was collected from an equipment wash pad located within the Tonawanda Landfill. The water was collected in ten (10) 55-gallon steel drums, estimated volume is approximately 330 gallons. SAIC collected a composite sample of the decontamination water identified as IDW-1, and submitted the sample for chemical analysis. The sample was analyzed for organic, inorganic, and radiochemistry parameters.

Analysis results indicated volatile organic compounds (VOCS) were not detected above the method detection limit, except for the compound 2-Butanone which was detected at an estimated concentration of 24.9 µg/l (parts per billion). Semi-volatile organic compounds (semi-VOCs) were not detected above the method detection limit, except for the compounds 0-Cresol which was detected at a concentration of 304 µg/l (ppb) and the compound m,p-Cresols detected at an estimated concentration of 23.5 µg/l (ppb). Results of the analysis for organic pesticides were non- detect above the method detection limits. Similarly, PCBs were not detected above the method detection limits. Total metals analysis indicated the concentrations of the eight target analytes were below the method detection limits and the cyanide concentration was 5.39 µg/l. Results of radiochemistry parameters were below the New York CRR per Subpart 380-4.2 "Disposal by Release into Sanitary Sewers". Results of the analyses are summarized in Table 1 and the attached laboratory data sheets.

As discussed, the Town's Water Resource Department will attempt to identify a sewer discharge location to the Town's sewer for the drummed water. The location for the Town's sewer discharged is anticipated to be within the property limits of the landfill. However, if the location is outside of the landfill property, SAIC will transport the water in a vacuum truck by a



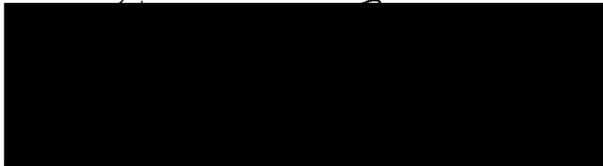
licensed transporter to the identified discharge location. Precedent for this request was established at the Linde FUSRAP site in Tonawanda, New York. Waste water generated at the Linde FUSRAP site is currently being permitted for discharge directly into the Town's sewer system.

Also, please provide information regarding any associated fees due to the Town to allow for the discharge of the IDW water.

Thank you for your assistance. If you have any comments or require additional information, please do not hesitate to call me at (508) 923-5118.

Sincerely,

SCIENCE APPLICATIONS INTERNATIONAL CORPORATION



Project Engineer

cc: [Redacted], Corps of Engineers
[Redacted], Corps of Engineers
[Redacted], NYSDEC
[Redacted], NYSDEC
[Redacted], SAIC
[Redacted], SAIC

Attachments: Table
Laboratory data sheets

**Table 1
Analytical Results
Incidental Drilling Waste**

Parameters	Analytical Results		Quantitation Levels ^a	NYCRR Part 380
	Concentration Units (µg/L)	Qualifier	Water Units(µg/L)	Concentration Limits
TAL Metals (Total)				
Arsenic	27.1	B	26.0	
Barium	39.1	B	2.480	
Cadmium	4.16	U	4.160	
Chromium	5.70	U	5.700	
Cyanide, Total	5.39		2.89	
Lead	24.3	U	24.3	
Mercury	0.642	U	0.642	
Selenium	34.90	U	34.9	
Silver	6.66	U	6.660	
TCL Volatiles				
Benzene	10.0	U	10.0	
2-Butanone/MEK	24.9	J	24.9	
Carbon Tetrachloride	10.0	U	10.0	
Chlorobenzene	10.0	U	10.0	
Chloroform	10.0	U	10.0	
1,4-Dichlorobenzene	10.0	U	10.0	
1,1-Dichloroethylene	10.0	U	10.0	
Trichloroethylene	10.0	U	10.0	
Tetrachloroethylene	10.0	U	10.0	
1,2-Dichloroethane	10.0	U	10.0	
Vinyl Chloride	10.0	U	10.0	
TCL Semivolatiles				
o-Cresol	304			
m,p-Cresol	23.5	J	23.5	
Pyridine	50.0	U	50.0	
1,4-Dichlorobenzene	50.0	U	50.0	
2,4-Dinitrotoluene	50.0	U	50.0	
Hexachlorobenzene	50.0	U	50.0	
Hexachlorobutadiene	50.0	U	50.0	
Hexachloroethane	50.0	U	50.0	
Nitrobenzene	50.0	U	50.0	
Pentachlorophenol	50.0	U	50.0	
2,4,5-Trichlorophenol	50.0	U	50.0	
2,4,6-Trichlorophenol	50.0	U	50.0	

**Table 1
Analytical Results
Incidental Drilling Waste**

Parameters	Analytical Results		Quantitation Levels ^a	NYCRR Part 380
	Concentration Units (µg/L)	Qualifier	Water Units(µg/L)	Concentration Limits
TCL Pesticides/PCBs				
Aldrin	0.020	U	0.020	
alpha-BHC	0.020	U	0.020	
beta-BHC	0.020	U	0.020	
gamma-BHC (Lindane)	0.020	U	0.020	
delta-BHC	0.020	U	0.020	
alpha-Chlordane	0.020	U	0.020	
gamma-Chlordane	0.020	U	0.020	
4,4'-DDT	0.040	U	0.040	
4,4'-DDE	0.040	U	0.040	
4-4'-DDD	0.040	U	0.040	
Dieldrin	0.040	U	0.040	
Endosulfan I	0.020	U	0.020	
Endosulfan II	0.040	U	0.040	
Endosulfan Sulfate	0.040	U	0.040	
Endrin	0.040	U	0.040	
Endrin Aldehyde	0.040	U	0.040	
Endrin Ketone	0.040	U	0.040	
Heptachlor	0.020	U	0.020	
Heptachlor Epoxide	0.020	U	0.020	
Methoxychlor	0.20	U	0.20	
Aroclor 1016	1.0	U	1.0	
Aroclor 1221	1.0	U	1.0	
Aroclor 1232	1.0	U	1.0	
Aroclor 1242	1.0	U	1.0	
Aroclor 1248	1.0	U	1.0	
Aroclor 1254	1.0	U	1.0	
Aroclor 1260	1.0	U	1.0	
Toxaphene	1.0	U	1.0	

Table 1
Analytical Results
Incidental Drilling Waste

Parameters	Analytical Results		Quantitation Levels ^a	NYCRR Part 380
	Concentration Units (pCi/L)	Qualifier	Water Units(pCi/L)	Concentration Limits Radionuclide
Radiochemical Parameters				
Iso-Uranium 233,234, 236, 238	0.3368 pCi/L	U	1 pCi/L	3,000,000 pCi/L
Iso-Thorium 228, 230, 232	0.187 pCi/L	U	1 pCi/L	3,000,000 pCi/L
Radium 226	0.948 pCi/L	N/A	0.5 pCi/L	6,000,000 pCi/L
Radium 228	0.371 pCi/L	N/A	1 pCi/L	6,000,000 pCi/L
Gross Alpha	5.15 pCi/L	N/A	2.79 pCi/L	N/A
Gross Beta	14.3 pCi/L	N/A	2.29 pCi/L	N/A
Total Uranium	3.79 μ Ci/L	N/A	0.110 μ g/L	N/A

^aThese are expected quantitation limits based on reagent-grade water or a purified solid matrix. Actual quantitation limits may be higher depending upon the nature of the sample matrix. The limit reported on final laboratory reports will take into account the actual sample volume or weight, percent solids (where applicable), and the dilution factor, if any. The quantitation limits for additional analytes to this list may vary, depending upon the results of laboratory studies. All solids will be reported on a dry-weight basis, with the associated sample percent moisture reported separately.

Analysis was performed by General Engineering Laboratories of Charlestown, SC. Data qualifiers are defined as follows:

For Organic Analysis

- J-This flag indicates an estimated value concerning either, (1) estimating a concentration for tentatively identified compounds, or (2) analyte detected at a level less than the Reportable Detection Limit (RDL) and greater than or equal to the Method Detection Limit (MDL).
- U-Compound analyzed for but not detected (sample quantitation limit has been adjusted to reflect dilutions and percent moisture).

For Inorganic Analysis

- B-the qualifier is used to indicate that the reported result fell above the IDL/MDL but below the CRDL.
- U-The analyte's result was less than the IDL/MDL.

TOTAL METALS
 - 1 -
INORGANIC ANALYSIS DATA PACKAGE

SDG No.: 46755

Method Type: SW-846

Sample ID: 46755002

Client ID: IDW-1

Contract: SAIC00101

Lab Code: GEL

Case No.: GEL

SAS No.:

Matrix: TCLP

Date Received: 8/2/01

Level: LOW

% Solids: 0.00

CAS No.	Analyte	Concentration	Units	C	Qual	M	DL	Instrument ID	Analytical
									Run
7440-38-2	Arsenic	27.1	µg/L	B		P	26.0	TJA61 Trace ICP2	81001
7440-39-3	Barium	39.1	µg/L	B		P	2.480	TJA61 Trace ICP2	81001
7440-43-9	Cadmium	4.160	µg/L	U		P	4.160	TJA61 Trace ICP2	81001
7440-47-3	Chromium	5.700	µg/L	U		P	5.700	TJA61 Trace ICP2	81001
7439-92-1	Lead	24.3	µg/L	U		P	24.3	TJA61 Trace ICP2	81001
7439-97-6	Mercury	0.642	µg/L	U		AV	0.642	PE CVAA	81001wpHg
7782-49-2	Selenium	34.9	µg/L	U		P	34.9	TJA61 Trace ICP2	81001
7440-22-4	Silver	6.660	µg/L	U		P	6.660	TJA61 Trace ICP2	81001

Color Before:

Clarity Before:

Texture:

Color After:

Clarity After:

Artifacts:

Comments:

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IDW-1

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 46755

Matrix: (soil/water) WATER Lab Sample ID: 46755002

Sample wt/vol: 5.000 (g/ml) ML Lab File ID: 2W409

Level: (low/med) LOW Date Received: 08/02/01

% Moisture: not dec. _____ Date Analyzed: 08/16/01

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-01-4-----	Vinyl chloride	10.0	U
75-35-4-----	1,1-Dichloroethylene	10.0	U
78-93-3-----	2-Butanone	24.9	J
67-66-3-----	Chloroform	10.0	U
56-23-5-----	Carbon tetrachloride	10.0	U
107-06-2-----	1,2-Dichloroethane	10.0	U
71-43-2-----	Benzene	10.0	U
79-01-6-----	Trichloroethylene	10.0	U
127-18-4-----	Tetrachloroethylene	10.0	U
108-90-7-----	Chlorobenzene	10.0	U
106-46-7-----	1,4-Dichlorobenzene	10.0	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IDW-1

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 46755

Matrix: (soil/water) WATER Lab Sample ID: 46755002

Sample wt/vol: 200.0 (g/mL) ML Lab File ID: 4G621

Level: (low/med) LOW Date Received: 08/02/01

% Moisture: _____ decanted: (Y/N) _____ Date Extracted: 08/09/01

Concentrated Extract Volume: 1.00 (mL) Date Analyzed: 08/11/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
110-86-1-----	Pyridine	50.0	U
106-46-7-----	1,4-Dichlorobenzene	50.0	U
95-48-7-----	o-Cresol	304	
106-44-5-----	m,p-Cresols	23.5	J
67-72-1-----	Hexachloroethane	50.0	U
98-95-3-----	Nitrobenzene	50.0	U
87-68-3-----	Hexachlorobutadiene	50.0	U
88-06-2-----	2,4,6-Trichlorophenol	50.0	U
95-95-4-----	2,4,5-Trichlorophenol	50.0	U
121-14-2-----	2,4-Dinitrotoluene	50.0	U
118-74-1-----	Hexachlorobenzene	50.0	U
87-86-5-----	Pentachlorophenol	50.0	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IDW-1

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 46755

Matrix: (soil/water) WATER Lab Sample ID: 46755001

Sample wt/vol: 500.0 (g/mL) mL Lab File ID: 008F0801

% Moisture: _____ decanted: (Y/N) _____ Date Received: 08/02/01

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/06/01

Concentrated Extract Volume: 2.50 (mL) Date Analyzed: 08/09/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	--	---

319-84-6-----	alpha-BHC	0.020	U -
319-85-7-----	beta-BHC	0.020	U
319-86-8-----	delta-BHC	0.020	U
58-89-9-----	gamma-BHC (Lindane)	0.020	U
76-44-8-----	Heptachlor	0.020	U
309-00-2-----	Aldrin	0.020	U
1024-57-3-----	Heptachlor epoxide	0.020	U
959-98-8-----	Endosulfan I	0.020	U
60-57-1-----	Dieldrin	0.040	U
72-55-9-----	4,4'-DDE	0.040	U
72-20-8-----	Endrin	0.040	U
33213-65-9-----	Endosulfan II	0.040	U
72-54-8-----	4,4'-DDD	0.040	U
1031-07-8-----	Endosulfan sulfate	0.040	U
50-29-3-----	4,4'-DDT	0.040	U
72-43-5-----	Methoxychlor	0.20	U
53494-70-5-----	Endrin ketone	0.040	U
7421-93-4-----	Endrin aldehyde	0.040	U
8001-35-2-----	Toxaphene	1.0	U
5103-74-2-----	gamma-Chlordane	0.020	U
5103-71-9-----	alpha-Chlordane	0.020	U



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Certificate of Analysis

Company : SAIC
Address : 101 East Grove Street

Middleboro, Massachusetts 02346

Report Date: August 22, 2001

Contact: [REDACTED]
Project: Tonawanda Landfill

Page 2 of 2

Client Sample ID: IDW-1
Sample ID: 46755001

Project: SAIC00101
Client ID: SAIC042

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	Analyst	Date	Time	Batch	Mtd.
Rad Total U												
<i>KPA, Total U, liquid</i>												
Total Uranium		3.79	+/-0.0674	0.110		10.0	ug/L	ATB1	08/07/01	1900	10182	8
											6	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3510C	3510C PCB Prep H2O Federal	JPB	08/06/01	1338	101810
SW846 3510C	3510C PEST Prep H2O Federal	JPB	08/06/01	1348	101457
SW846 9010B Prt	SW9012A Total Cyanide	JM1	08/08/01	1813	101077

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL 300
2	DOE EML HASL 300
3	EPA 901.1
4	EPA 900.0
5	EPA 904.0
6	RAD-SOP-A-014
7	EPA 903.1
8	ASTM D 5174

Notes:

The Qualifiers in this report are defined as follows :

- ** Indicates the analyte is a surrogate compound.
- < Actual result is less than amount reported
- > Actual result is greater than amount reported
- J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
- U Indicates the compound was analyzed for but not detected above the detection limit

The above sample is reported on an "as received" basis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Valeric Davis.

Reviewed by [REDACTED]

Certificate of Analysis

Company : SAIC
 Address : 101 East Grove Street
 Middleboro, Massachusetts 02346

Report Date: August 10, 2001

Contact: [REDACTED]
 Project: Tonawanda Landfill

Page 1 of 1

Client Sample ID: IDW-1
 Sample ID: 46755001
 Matrix: Water
 Collect Date: 01-AUG-01
 Receive Date: 02-AUG-01
 Collector: Client

Project: SAIC00101
 Client ID: SAIC042

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rapid Flow Analysis Federal											
<i>SW9012A Cyanide, Total Federal</i>											
Cyanide, Total		5.39	2.89	5.00	ug/L	1	DAR	08/08/01	1926	10409	1
										8	

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3510C	3510C PCB Prep H2O Federal	JPB	08/06/01	1338	101810
SW846 3510C	3510C PEST Prep H2O Federal	JPB	08/06/01	1348	101457
SW846 9010B Prep	SW9012A Total Cyanide	JM1	08/08/01	1813	101077

The following Analytical Methods were performed

Method	Description	Analyst Comments
I	SW846 9012A	

Notes:

The Qualifiers in this report are defined as follows :

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- < Actual result is less than amount reported
- > Actual result is greater than amount reported
- J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
- U Indicates the compound was analyzed for but not detected above the detection limit

The above sample is reported on an "as received" basis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Valerie Davis.

Reviewed by [REDACTED]

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IDW-1

Lab Name: GENERAL ENGINEERING LABOR Contract: N/A

Lab Code: N/A Case No.: N/A SAS No.: N/A SDG No.: 46755

Matrix: (soil/water) WATER Lab Sample ID: 46755001

Sample wt/vol: 500.0 (g/mL) mL Lab File ID: 013B1301

% Moisture: _____ decanted: (Y/N) _____ Date Received: 08/02/01

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 08/06/01

Concentrated Extract Volume: 0.50 (uL) Date Analyzed: 08/20/01

Injection Volume: 1.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
12674-11-2-----	Aroclor-1016	1.0	U
11104-28-2-----	Aroclor-1221	1.0	U
11141-16-5-----	Aroclor-1232	1.0	U
53469-21-9-----	Aroclor-1242	1.0	U
12672-29-6-----	Aroclor-1248	1.0	U
11097-69-1-----	Aroclor-1254	1.0	U
11096-82-5-----	Aroclor-1260	1.0	U



GENERAL ENGINEERING LABORATORIES

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Company : SAIC
Address : 101 East Grove Street

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Project: Tonawanda Landfill

Page 1 of 2

Client Sample ID: IDW-1
Sample ID: 46755001
Matrix: Water
Collect Date: 01-AUG-01
Receive Date: 02-AUG-01
Collector: Client

Project: SAIC00101
Client ID: SAIC042

Parameter	Qualifier	Result	DL	TPU	RL	Units	DF	AnalystDate	Time	Batch Mtd.
Rad Alpha Spec										
<i>Alphaspec Th, liquid</i>										
Thorium-228	U	0.118	+/-0.148	0.431	0.150	1.00		HOT1 08/21/01 1405	10250 1	6
Thorium-230	U	0.026	+/-0.0812	0.284	0.0813	1.00				
Thorium-232	U	0.0434	+/-0.0601	0.0588	0.0606	1.00				
<i>Alphaspec U, liquid</i>										
Uranium-233/234	U	0.232	+/-0.153	0.264	0.156	1.00		HOT1 08/21/01 1410	10250 2	9
Uranium-235/236	U	0.0203	+/-0.0669	0.238	0.0669	1.00				
Uranium-238	U	0.0845	+/-0.112	0.310	0.113	1.00				
Rad Gamma Spec										
<i>Gammasespec, Gamma, liquid</i>										
Actinium-228	U	6.80	+/-13.7	16.2	13.7	20.0		CRB 08/13/01 0847	10194 3	4
Americium-241	U	-6.58	+/-9.84	17.1	9.84	25.0				
Potassium-40	U	62.7	+/-58.0	30.8	58.0					
Protactinium-231	U	23.2	+/-82.5	144	82.5	1.00				
Protactinium-234m	U	119	+/-237	419	237	1.00				
Thorium-234	U	48.5	+/-83.6	153	83.6	250				
Uranium-235	U	9.62	+/-13.4	23.9	13.4	50.0				
Rad Gas Flow										
<i>GFPC, Gross A/B, liquid</i>										
Alpha		5.15		2.79	2.24	1.00		AB2 08/10/01 0647	10231 4	3
Beta		14.3		2.29	3.21	1.00				
<i>GFPC, Ra228, liquid</i>										
Radium-228		3.71	+/-0.777	1.56	1.02	3.00		AS1 08/14/01 1531	10192 5	0
Rad Liquid Scint										
<i>Liquid Scint. Total activity</i>										
Total Activity	U	-253	+/-3580	6100	3580	10.0		RDD 08/09/01 1518	10179 6	3
Rad Radium-226										
<i>Lucas Cell, Ra226, liquid</i>										
Radium-226		0.948	+/-0.420	0.477	0.757	1.00		RDD 08/13/01 1245	10062 7	0
Rad Total U										

P O Box 30712 • Charleston, SC 29417 • 2040 Savage Road • 29407

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