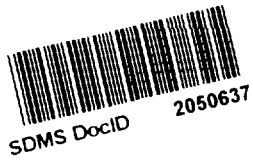
April 30, 2003



Mr. Mitch Cron
USEPA Region III
1650 Arch Street, 3H322
Philadelphia, Pennsylvania 19103

Dear Mr. Cron:

Subject: Report on Initial 1,4-Dioxane Sampling and Analysis Results
Bally Groundwater Contamination Site
CEC Project 91239.0106

On behalf of American Household, Inc. (AHI), Civil & Environmental Consultants, Inc. (CEC) presents this letter report summarizing the results of the initial sampling performed to evaluate the extent of 1,4-dioxane in the municipal water system and the groundwater at the Bally Groundwater Contamination Site (Site). AHI was notified by EPA on February 6, 2003 that EPA had a concern that 1,4-dioxane may be present in the groundwater at the Site. The concern arose from the fact that 1,4-dioxane was often added to 1,1,1-trichloroethane (TCA) as a stabilizer to extend the useful life of TCA and that EPA Region V had recently approved an analytical method for 1,4-dioxane that enabled evaluations at lower detection levels. TCA is one of the primary chemicals of concern in the groundwater at the Site.

1.0 INITIAL SAMPLING OF MUNICIPAL WATER SYSTEM

Although EPA intended to perform the sampling, AHI, in order to avoid delays, and to proactively evaluate the potential health risk, requested that Analytical Laboratory Services, Inc. (ALS) perform 1,4-dioxane analyses on the monthly influent (prior to air stripping) and weekly effluent (after both stripping towers, but prior to the chlorinator) samples that were collected on February 5, 2003 by Bally Borough's maintenance personnel. ALS analyzed the samples using EPA Method 624. The 1,4-dioxane concentrations detected by ALS were <40 ug/l for the system

Pittsburgh 333 Baldwin Road
Pittsburgh, Pennsylvania 15205-9702
Phone 412-429-2324
Fax 412-429-2114
Toll Free 800-365-2324
E-mail info@ceceinc.com

Chicago 877-963-6026
Cincinnati 800-759-5614
Columbus 888-598-6808
Export 800-899-3610
Indianapolis 877-746-0748
Nashville 800-763-2326
St. Louis 866-250-3679

influent and 53.7 ug/l for the system effluent. The results were considered to be inconclusive because the 1,4-dioxane was detected in the effluent, but was not detected in the influent. The test report for that initial sampling is included in Attachment A. Of course, AHI shared all such sampling results with EPA and the Borough of Bally.

Because of the inconclusiveness of the initial sampling results and to collect additional information, EPA and AHI agreed to have ALS analyze the weekly effluent sample obtained on February 12, 2003 for 1,4-dioxane. ALS again analyzed the samples using EPA Method 624. The concentration of 1,4-dioxane detected in the effluent sample was 60.5 ug/l. The laboratory report for that analysis is also included in Attachment A.

2.0 CONFIRMATION SAMPLING OF MUNICIPAL WATER SYSTEM

Upon receipt of the above results, EPA and AHI elected to more thoroughly evaluate 1,4-dioxane concentrations in the water system. On February 20, 2003, CEC personnel sampled the water system at five locations – untreated influent, after the first air stripping tower (50% treatment), system effluent after the second air stripping tower (100% treatment), after chlorination, and at the first available system tap. The samples were shipped to Severn Trent Laboratories (STL) North Canton laboratory for the analysis of 1,4-dioxane using EPA Method 8270C. The use of Method 8270C allowed STL to achieve a lower detection limit (1.3 ug/l) and a lower reporting (10 ug/l) limit. Level IV data reporting was requested to allow for validation of the results. The analytical results from that round of sampling are as follows, and the laboratory reports are included in Attachment B.

Sample Location (Sample I.D.)	1,4-Dioxane Concentration (ug/l)
System Influent (Bally 1)	38
50% Treatment (Bally 2)	35
System Effluent (Bally 3)	40

Sample Location (Sample I.D.)	1,4-Dioxane Concentration (ug/l)
After Chlorination (Bally 4)	36
Duplicate of After Chlorination (Bally Dup 1)	36
First Tap (Bally 5)	29
Duplicate of First Tap (Bally Dup 2)	35

The results of those sample results were validated by Environmental Data Services, Ltd. (EDS). That validation identified no significant data issues. EPA's Fort Meade laboratory has requested that additional information be provided by STL to further confirm the validation. That information has been be provided once it has been received by CEC. The EDS validation report is included in Attachment C to this letter.

3.0 SAMPLING OF DOWNGRADIENT MONITORING NETWORK

Based on the results confirming the presence of 1,4-dioxane in the influent and water system, EPA requested that AHI expand the scope of the Annual Southern Area Monitoring to include additional wells, and expand the analyses performed from only volatile organic compounds (VOCs), and include the analysis for 1,4-dioxane. In addition to the required annual monitoring wells (92-17, 92-18I, 92-19I, 92-20I, and 92-23I), other wells added were Municipal Well #2, [redacted] wells. The locations sampled are shown on Figure 1. The sampling was performed between February 26 and 28, 2003 using the methods specified in the Sampling Plan submitted to EPA on February 19, 2003 and approved by the EPA. The samples collected were analyzed by STL using Level IV data reporting. Purgable halogens were analyzed by EPA Method 624, while 1,4-dioxane was analyzed by EPA Method 8270C.

In general, the total and individual purgable halogen concentrations detected were within the range of historical data. 1,4-dioxane was detected in one monitoring well (97-23I) at an estimated concentration of 5.7 ug/l. Neither purgable halogens nor

1,4-dioxane were detected in the three residential wells sampled. The results of the Southern Area monitoring event are summarized on Table 1, and the laboratory reports are included in Attachment D.

The results of the additional Southern Area sampling will be validated once EPA's Fort Meade laboratory is satisfied with documentation provided by STL.

4.0 CLOSING

We trust this letter report satisfies your request for a summary of the initial 1,4-dioxane evaluation performed at the site. Please call if you have any questions or require additional information.

Very truly yours,

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

Thomas L. Maher, P.G.
Project Manager

Kenneth R. Miller/JK
Kenneth R. Miller, P.E.
Vice President

Enclosures

cc: Toni Hermerka, Bally Borough
Jennifer Werner, SDE
Susan Werner, DEP
Ron Gahagan, American Household
Fred Payne, AGM
Mike Bedard, AGM

L-91239-0106.A30/W

TABLE 1
SUMMARY OF INITIAL 1,4-DIOXANE ANALYSES
BALLY GROUNDWATER CONTAMINATION SITE

	92-17	92-18I	92-19I	92-20I	97-23I	Municipal Well #2	[redacted]	[redacted]	[redacted]	[redacted]	DUP 1 (92-17)	DUP 2 [redacted]	Trip Blank	Equipment Blank
Chloroform	<1.0	<1.0	<1.0	<1.0	**0.46 J**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromochloromethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene	**4.4**	**8.2**	**2.6**	**2.5**	<1.0	**0.95 J**	**0.69 J**	<1.0	<1.0	<1.0	**4.6**	**0.64 J**	<1.0	<1.0
Methylene Chloride	<1.0	<1.0	**0.27 J**	<1.0	**0.28 J**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**0.36 J**	<1.0
Tetrachloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	**1.2**	**4.5**	**2.6**	**2.0**	<1.0	**0.37 J**	**0.99 J**	<1.0	<1.0	<1.0	**1.3**	**0.88 J**	<1.0	<1.0
Trichloroethylene	**9.7**	**19**	**4.6**	**6.2**	**0.47 J**	**0.35 J**	**0.82 J**	<1.0	<1.0	<1.0	**10**	**0.75 J**	<1.0	<1.0
Vinyl Chloride	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dioxane	<10	<10	<10	<10	**5.7 J**	<10	<10	<10	<10	<10	<10	<10	<10	<10

NOTE: J = Estimated Value quantified above the Detection Limit but below the Reporting Limit

ANNUAL

Semi

Semi

Semi annual

AR300025

ATTACHMENT A

ALS LABORATORY RESULTS

ANALYTICAL LABORATORY SERVICES, INC.

www.analyticallab.com

NELAP Accredited
PA 22-293 NJ 77010

ACCREDITED IN ACCORDANCE WITH nelac

34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

February 12, 2003

Mr. Tom Maher
Civil & Engineering Consultant
333 Baldwin Road
Pittsburgh, PA 15205

Lab ID#: **227328**

Project Name: **Sunbeam Corp 624 VOCs + TSS**

PO#:

This report relates only to the sample(s) as received by the laboratory. Laboratory reports may not be reproduced, except in full, without the written approval of the laboratory.

Qualifier Flags - These flags may follow individual results for a specific analyte

- U - Indicates that the analyte was not detected
- J - Indicates an estimated value between method detection limit and the practical quantitation limit for the analyte
- E - Indicates an estimated value outside of the calibration range of the analysis
- B - Indicates that the analyte was found in the method blank associated with the sample

A result of ND indicates that the analyte was Not Detected at the Reporting Detection Limt (RDL).

ALSI is a NELAC accredited laboratory. ALSI certifies that all applicable test results meet the requirements of NELAC. For an inventory of our NELAC accreditations and Scope of Work please visit our website at www.analyticallab.com or contact your Project Manager at (717)944-5541 for a complete listing.

If you have any questions in reference to this laboratory report, please contact your ALSI project coordinator or the laboratory manager listed at the bottom of this report at 717-944-5541.

Note: This document is included as part of the Analytical Report and must be retained as a permanent record thereof.

Raymond J. Martrano
Laboratory Manager

AR300027

FEB 18 2003

ANALYTICAL LABORATORY SERVICES, INC.
www.analyticallab.com
NELAP Accredited
PA 22-293 NJ 77010
ACCREDITED IN ACCORDANCE WITH nelac
34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

February 12, 2003

Mr. Tom Maher
Civil & Engineering Consultant
333 Baldwin Road
Pittsburgh, PA 15205

Lab ID #: **227328001**
Received: 02/05/03 20:00
Discard: 02/26/03

Project Name: **Sunbeam Corp 624 VOCs + TSS**

PO#:

Sample ID: **Well #2 Effluent**
Date Collected: 02/05/03 09:00

Matrix: Waste Water
Collected by: Mr. Joseph Fronheiser

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
VOLATILE ORGANICS							
Chlorodibromomethane	ND	ug/L	0.060	EPA 624	02/11/03 02:29	02/11/03	TMH
Chloroform	ND	ug/L	0.11	EPA 624	02/11/03 02:29	02/11/03	TMH
1,1-Dichloroethane	ND	ug/L	0.13	EPA 624	02/11/03 02:29	02/11/03	TMH
1,2-Dichloroethane	ND	ug/L	0.12	EPA 624	02/11/03 02:29	02/11/03	TMH
1,1-Dichloroethene	0.92	ug/L	0.27	EPA 624	02/11/03 02:29	02/11/03	TMH
Methylene Chloride	ND	ug/L	0.15	EPA 624	02/11/03 02:29	02/11/03	TMH
Tetrachloroethene	ND	ug/L	0.20	EPA 624	02/11/03 02:29	02/11/03	TMH
1,1,1-Trichloroethane	0.61	ug/L	0.12	EPA 624	02/11/03 02:29	02/11/03	TMH
Trichloroethene	0.48	ug/L	0.18	EPA 624	02/11/03 02:29	02/11/03	TMH
Vinyl Chloride	ND	ug/L	0.13	EPA 624	02/11/03 02:29	02/11/03	TMH

Surrogates	Result	Units	Recovery	Limits
1,2-Dichloroethane-d4	34.5	ug/L	115.0%	(76 - 129)
Toluene-d8	33	ug/L	110.0%	(80 - 129)
4-Bromofluorobenzene	27.6	ug/L	92.0%	(82 - 116)

Comments:
The analyte MDL's are being used as the reporting limits.

Raymond J. Martrano
Laboratory Manager

ANALYTICAL LABORATORY SERVICES, INC.
www.analyticallab.com
NELAP Accredited
PA 22-293 NJ 77010
ACCREDITED IN ACCORDANCE WITH nelac
34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

February 12, 2003

Mr. Tom Maher
Civil & Engineering Consultant
333 Baldwin Road
Pittsburgh, PA 15205

Lab ID #: **227328003**
Received: 02/05/03 20:00
Discard: 02/26/03

Project Name: **Sunbeam Corp 624 VOCs + TSS**

PO#:

Sample ID: **Well #3 Eff. 2nd Stage Air Strip** Matrix: Waste Water
Date Collected: 02/05/03 08:30 Collected by: Mr. Joseph Fronheiser

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Total Suspended Solids	ND	mg/L	5	EPA 160.2	02/07/03 21:08		LLJ
VOLATILE ORGANICS							
Chlorodibromomethane	ND	ug/L	0.060	EPA 624	02/11/03 16:29	02/11/03	CAD
Chloroform	ND	ug/L	0.11	EPA 624	02/11/03 16:29	02/11/03	CAD
1,1-Dichloroethane	ND	ug/L	0.13	EPA 624	02/11/03 16:29	02/11/03	CAD
1,2-Dichloroethane	ND	ug/L	0.12	EPA 624	02/11/03 16:29	02/11/03	CAD
1,1-Dichloroethene	ND	ug/L	0.27	EPA 624	02/11/03 16:29	02/11/03	CAD
1,4 Dioxane	53.7	ug/L	4.00	EPA 624	02/11/03 16:29	02/11/03	CAD
Methylene Chloride	ND	ug/L	0.15	EPA 624	02/11/03 16:29	02/11/03	CAD
Tetrachloroethene	ND	ug/L	0.20	EPA 624	02/11/03 16:29	02/11/03	CAD
1,1,1-Trichloroethane	ND	ug/L	0.12	EPA 624	02/11/03 16:29	02/11/03	CAD
Trichloroethene	ND	ug/L	0.18	EPA 624	02/11/03 16:29	02/11/03	CAD
Vinyl Chloride	ND	ug/L	0.13	EPA 624	02/11/03 16:29	02/11/03	CAD

Surrogates	Result	Units	Recovery	Limits
1,2-Dichloroethane-d4	35.5	ug/L	118.0%	(76 - 129)
Toluene-d8	32.4	ug/L	108.0%	(80 - 129)
4-Bromofluorobenzene	26.8	ug/L	89.3%	(82 - 116)

ANALYTICAL LABORATORY SERVICES, INC.
www.analyticallab.com
NELAP Accredited
PA 22-293 NJ 77010
ACCREDITED IN ACCORDANCE WITH nelac
34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

February 12, 2003

Mr. Tom Maher
Civil & Engineering Consultant
333 Baldwin Road
Pittsburgh, PA 15205

Lab ID #: **227328003**
Received: 02/05/03 20:00
Discard: 02/26/03

Project Name: **Sunbeam Corp 624 VOCs + TSS**

PO#:

Sample ID: **Well #3 Eff. 2nd Stage Air Stri**
Matrix: Waste Water
Date Collected: 02/05/03 08:30
Collected by: Mr. Joseph Fronheiser

Comments:

The parameter 1,4 Dioxane was added to the list of Volatile Organic Compounds per the request of Tom Maher. JLK 2/7/03.
The analyte MDL's are being used as the reporting limits.

Raymond J. Martrano
Laboratory Manager

AR300030

ANALYTICAL LABORATORY SERVICES, INC.
Environmental ✦ Industrial Hygiene ✦ Food Science

34 Dogwood Lane
Middletown, PA 17057
TEL: 717-944-5541
FAX: 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Please print. See back of COC for directions

COC #:

Sample Date:

Client Name:

Address:

Contact:

Phone #:

Project Name/#:

Quote/PO #:

TAT: Normal ☐ *Rush ☐ *Rush TAT subject to approval and surcharges

Date Required:

Approved by:

Fax Results ? Y or N #:

SHIPPING INFO (Lab use only)

COOLER TEMP:

COC SEAL INTACT: Y or N

SHIPPING CARRIER:

SHIPPING NO:

SAMPLE DESCRIPTION//LOCATION	G/C *	TIME	MATRIX **	NO. OF CONTAINERS/PARAMETERS/ANALYSIS REQUESTED	COMMENTS/FIELD DATA

300033

Print Name and Company	Signature	Date/Time	Remarks
Sampled by:			
Received by:		14:50	
Relinquished by:			
Received by:		16:20	
Relinquished by:		2000	
Received by:			

METHOD PROTOCOL: SW846 ☐ CFR136 ☐

DRINKING WATER ☐ OTHER:

REPORTING REQUIREMENTS: PADEP ☐

OTHER: PWSID:

G=Grab; C=Composite Matrix - SO=Soil; SD=Solid; DW=Drinking Water; WW=Wastewater; GW=Groundwater; SL=Sludge; OL=Oil

Copies: WHITE - ORIGINAL CANARY - CUSTOMER MAILING PINK - FILE GOLDENROD - CUSTOMER COPY

ANALYTICAL LABORATORY SERVICES, INC.

www.analyticallab.com

NELAP Accredited
PA 22-293 NJ 77010

ACCREDITED IN ACCORDANCE WITH nelac

34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

February 13, 2003

Mr. Tom Maher
Civil & Engineering Consultant
333 Baldwin Road
Pittsburgh, PA 15205

Lab ID#: **227328**

Project Name: **Sunbeam Corp 624 VOCs + TSS**

PO#:

This report relates only to the sample(s) as received by the laboratory. Laboratory reports may not be reproduced, except in full, without the written approval of the laboratory.

Qualifier Flags - These flags may follow individual results for a specific analyte

- U - Indicates that the analyte was not detected
- J - Indicates an estimated value between method detection limit and the practical quantitation limit for the analyte
- E - Indicates an estimated value outside of the calibration range of the analysis
- B - Indicates that the analyte was found in the method blank associated with the sample

A result of ND indicates that the analyte was Not Detected at the Reporting Detection Limt (RDL).

ALSI is a NELAC accredited laboratory. ALSI certifies that all applicable test results meet the requirements of NELAC. For an inventory of our NELAC accreditations and Scope of Work please visit our website at www.analyticallab.com or contact your Project Manager at (717)944-5541 for a complete listing.

If you have any questions in reference to this laboratory report, please contact your ALSI project coordinator or the laboratory manager listed at the bottom of this report at 717-944-5541.

Note: This document is included as part of the Analytical Report and must be retained as a permanent record thereof.

AR300032

Raymond J. Martrano
Laboratory Manager

ANALYTICAL LABORATORY SERVICES, INC.
www.analyticallab.com
NELAP Accredited
PA 22-293 NJ 77010
ACCREDITED IN ACCORDANCE WITH nelac
34 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

February 13, 2003

Mr. Tom Maher
Civil & Engineering Consultant
333 Baldwin Road
Pittsburgh, PA 15205

Lab ID #: **227328002**
Received: 02/05/03 20:00
Discard: 02/27/03

Project Name: **Sunbeam Corp 624 VOCs + TSS**

PO#:

Sample ID: **Well #3 Inf. 1st Stage Air Strip** Matrix: Waste Water
Date Collected: 02/05/03 08:30 Collected by: Mr. Joseph Fronheiser

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
VOLATILE ORGANICS							
Chlorodibromomethane	ND	ug/L	0.60	EPA 624	02/11/03 03:03	02/11/03	CAD
Chloroform	ND	ug/L	1.1	EPA 624	02/11/03 03:03	02/11/03	CAD
1,1-Dichloroethane	ND	ug/L	1.3	EPA 624	02/11/03 03:03	02/11/03	CAD
1,2-Dichloroethane	ND	ug/L	1.2	EPA 624	02/11/03 03:03	02/11/03	CAD
1,1-Dichloroethene	246	ug/L	2.7	EPA 624	02/11/03 03:03	02/11/03	CAD
1,4 Dioxane	ND	ug/L	40.0	EPA 624	02/11/03 03:03	02/11/03	CAD
Methylene Chloride	ND	ug/L	1.5	EPA 624	02/11/03 03:03	02/11/03	CAD
Tetrachloroethene	ND	ug/L	2.0	EPA 624	02/11/03 03:03	02/11/03	CAD
1,1,1-Trichloroethane	625	ug/L	1.2	EPA 624	02/11/03 03:03	02/11/03	CAD
Trichloroethene	608	ug/L	1.8	EPA 624	02/11/03 03:03	02/11/03	CAD
Vinyl Chloride	ND	ug/L	1.3	EPA 624	02/11/03 03:03	02/11/03	CAD

Surrogates	Result	Units	Recovery	Limits
1,2-Dichloroethane-d4	352	ug/L	117.0%	(76 - 129)
Toluene-d8	323	ug/L	108.0%	(80 - 129)
4-Bromofluorobenzene	268	ug/L	89.3%	(82 - 116)

Comments:

The parameter 1,4 Dioxane was added to the list of Volatile Organic Compounds per the request of Tom Maher. JLK 2/7/03.
The analyte MDL's are being used as the reporting limits.
The GCMS volatiles analysis was performed at a dilution - due to the level of target compounds.
This report was revised on 2/13/03 to edit the sample location. JLK 2/13/03

Raymond J. Martrano
Laboratory Manager

ANALYTICAL LABORATORY SERVICES, INC.
www.analyticallab.com
NELAP Accredited
PA 23-283 NJ 77010
ACCREDITED IN ACCORDANCE WITH nelac
34 Dogwood Lane • Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

February 21, 2003

Ms. Toni Hemerka
Bally Borough
428 Chestnut Street
P.O. Box 217
Bally, PA 19503

Lab ID#: 227881

Project Name: Sunbeam Corp 624 VOCs + TSS

PO#:

This report relates only to the sample(s) as received by the laboratory. Laboratory reports may not be reproduced, except in full, without the written approval of the laboratory.

Qualifier Flags - These flags may follow individual results for a specific analyte
- U - Indicates that the analyte was not detected
- J - Indicates an estimated value between method detection limit and the practical quantitation limit for the analyte
- E - Indicates an estimated value outside of the calibration range of the analysis
- B - Indicates that the analyte was found in the method blank associated with the sample

A result of ND indicates that the analyte was Not Detected at the Reporting Detection Limit (RDL).

ALSI is a NELAC accredited laboratory. ALSI certifies that all applicable test results meet the requirements of NELAC. For an inventory of our NELAC accreditations and Scope of Work please visit our website at www.analyticallab.com or contact your Project Manager at (717)944-5541 for a complete listing.

If you have any questions in reference to this laboratory report, please contact your ALSI project coordinator or the laboratory manager listed at the bottom of this report at 717-944-5541.

Note: This document is included as part of the Analytical Report and must be retained as a permanent record thereof.

Raymond J. Martraw
Laboratory Manager

AR300034

ANALYTICAL LABORATORY SERVICES, INC.
www.analyticallab.com
NELAP Accredited
PA 22-285 NJ 77010
ACCREDITED IN ACCORDANCE WITH nelac
54 Dogwood Lane - Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

February 21, 2003

Ms. Toni Hemerka
Bally Borough
425 Chestnut Street
P.O. Box 217
Bally, PA 19503

Lab ID #: **227861001**
Received: 02/12/03 20:45
Discard: 03/07/03

Project Name: **Sunbeam Corp 624 VOCs + TSS**

PO#:

Sample ID: **Well #3 Eff. 2nd Stage Air Stri**
Matrix: **Waste Water**
Date Collected: 02/12/03 08:30
Collected by: Mr. Dennis Schoenly

Analysis Parameter	Result	Units	RDL	Method	Completed	Prep Date	By
WET CHEMISTRY							
Total Suspended Solids	ND	mg/L	5	EPA 160.2	02/14/03 19:00		LLJ
VOLATILE ORGANICS							
Chlorodibromomethane	ND	ug/L	0.060	EPA 624	02/14/03 12:53	02/14/03	CAD
Chloroform	ND	ug/L	0.11	EPA 624	02/14/03 12:53	02/14/03	CAD
1,1-Dichloroethane	ND	ug/L	0.13	EPA 624	02/14/03 12:53	02/14/03	CAD
1,2-Dichloroethane	ND	ug/L	0.12	EPA 624	02/14/03 12:53	02/14/03	CAD
1,1-Dichloroethene	ND	ug/L	0.27	EPA 624	02/14/03 12:53	02/14/03	CAD
1,4 Dioxane	60.5	ug/L	4.00	EPA 624	02/14/03 12:53	02/14/03	CAD
Methylene Chloride	ND	ug/L	0.15	EPA 624	02/14/03 12:53	02/14/03	CAD
Tetrachloroethene	ND	ug/L	0.20	EPA 624	02/14/03 12:53	02/14/03	CAD
1,1,1-Trichloroethane	ND	ug/L	0.12	EPA 624	02/14/03 12:53	02/14/03	CAD
Trichloroethene	ND	ug/L	0.18	EPA 624	02/14/03 12:53	02/14/03	CAD
Vinyl Chloride	ND	ug/L	0.13	EPA 624	02/14/03 12:53	02/14/03	CAD

Surrogates	Result	Units	Recovery	Limits
1,2-Dichloroethane-d4	34	ug/L	113.0%	(76 - 129)
Toluene-d8	32.6	ug/L	109.0%	(80 - 129)
4-Bromofluorobenzene	26.9	ug/L	89.7%	(82 - 116)

AR300035

ANALYTICAL LABORATORY SERVICES, INC.
www.analyticallab.com
NELAP Accredited
PA 22-285 NJ 77010
ACCREDITED IN ACCORDANCE WITH nelac
34 Dogwood Lane • Middletown, PA 17057 Phone: 717-944-5541 Fax: 717-944-1430

Certificate of Analysis

February 21, 2003

Ms. Toni Hemerka
Bally Borough
425 Chestnut Street
P.O. Box 217
Bally, PA 19503

Lab ID #: 227881001
Received: 02/12/03 20:45
Discard: 03/07/03

Project Name: Sunbeam Corp 624 VOCs + TSS

PO#:

Sample ID: Wall #3 Eff. 2nd Stage Air Strip
Matrix: Waste Water
Date Collected: 02/12/03 08:30
Collected by: Mr. Dennis Schoenly

Comments:

The parameter 1,4 Dioxane was added to the 624 Volatile Organic Compound list per the request of Tom Maher JLK 2/14/03

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

Raymond J. Martrano
Laboratory Manager

AR300036

ANALYTICAL LABORATORY SERVICES, INC.
Environmental • Industrial Hygiene • Food Science
34 Dogwood Lane
Middletown, PA 17057
TEL: 717-944-5541
FAX: 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Please print. See back of COC for directions

COC #: [illegible]

Sample Date: 2 / 12 / 03

Client Name: [illegible]

Address: [illegible]

Contact: Toni Hemerka

Phone #: 610 845 2351

Project Name/#:

Quote/PO #:

TAT: Normal ☐ *Rush ☐ *Rush TAT subject to approval and surcharges

Date Required: [illegible]

Approved by: [illegible]

Fax Results (Y) or N #610-845-2023

Analyses requested: WEEKLY TSS (Preservative: NONE) | WEEKLY VOC'S (Preservative: HCl)

SAMPLE DESCRIPTION/LOCATION	G/C*	TIME	MATRIX**	WEEKLY TSS	WEEKLY VOC'S
1 WELL #3 2nd Stage	G			1	2
2 air Stripper					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

Invoice to Sunbeam[?]
Copy to Toni Watson[?]

COOLER TEMP: ____

COC SEAL INTACT: Y or N

SHIPPING CARRIER:

SHIPPING NO:

	Name/Company	Date	Time
Sampled by:	[illegible] Schwartz, Ball, Boro[?]	2-12-03	8:30 AM
Received by:	[illegible]	2/12/03	1453
Relinquished by:	[illegible]	2/12/03	
Received by:	D. Bloom[?] ALSI	2-12-03	1720
Relinquished by:	[illegible]	2-12-03	2045
Received by:	[illegible]	2-12-03	[illegible]

Remarks:

METHOD PROTOCOL: SW846 ☐ CFR136 ☐ DRINKING WATER ☐ OTHER:

REPORTING REQUIREMENTS: PADEP ☐ OTHER: PWSID:

* G=Grab; C=Composite **Matrix - SO=Soil; SD=Solid; DW=Drinking Water; [illegible]

Copies: WHITE - ORIGINAL CANARY - CUSTOMER MAILING PINK - FILE GOLDENROD - CUSTOMER COPY

ATTACHMENT B

STL LABORATORY RESULTS FOR WATER SYSTEM SAMPLES

SEVERN TRENT LABORATORIES, INC.

PRELIMINARY DATA SUMMARY

The results shown below may still require additional laboratory review and are subject to change. Actions taken based on these results are the responsibility of the data user.

Civil & Environmental Consultants, Inc.

Lot #: A3B200123 BALLY **Date Reported:** 2/24/03

Project Number: 91239

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD	
Client Sample ID: BALLY 1					
Sample #: 001 Date Sampled: 02/19/03 Date Received: 02/20/03 Matrix: WATER					
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	**40 E**	**10**	**ug/L**	**SW846 8270C**	
E Estimated result. Result concentration exceeds the calibration range.					
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	**38**	**20**	**ug/L**	**SW846 8270C**	
Client Sample ID: BALLY 2					
Sample #: 002 Date Sampled: 02/19/03 Date Received: 02/20/03 Matrix: WATER					
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	**35**	**10**	**ug/L**	**SW846 8270C**	
Client Sample ID: BALLY 3					
Sample #: 003 Date Sampled: 02/19/03 Date Received: 02/20/03 Matrix: WATER					
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	**40**	**10**	**ug/L**	**SW846 8270C**	
Client Sample ID: BALLY 4					
Sample #: 004 Date Sampled: 02/19/03 Date Received: 02/20/03 Matrix: WATER					
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	**36**	**10**	**ug/L**	**SW846 8270C**	
Client Sample ID: BALLY 5					
Sample #: 005 Date Sampled: 02/19/03 Date Received: 02/20/03 Matrix: WATER					
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	**29**	**10**	**ug/L**	**SW846 8270C**	

(Continued on next page)

AR300039

SEVERN TRENT LABORATORIES, INC.

PRELIMINARY DATA SUMMARY

The results shown below may still require additional laboratory review and are subject to change. Actions taken based on these results are the responsibility of the data user.

Civil & Environmental Consultants, Inc.

Lot #: A3B200123 BALLY **Date Reported:** 2/24/03

Project Number: 91239

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD	
Client Sample ID: BALLY DUP 1					
Sample #: 006 Date Sampled: 02/19/03 Date Received: 02/20/03 Matrix: WATER					
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	**36**	**10**	**ug/L**	**SW846 8270C**	
Client Sample ID: BALLY DUP 2					
Sample #: 007 Date Sampled: 02/19/03 Date Received: 02/20/03 Matrix: WATER					
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	**35**	**10**	**ug/L**	**SW846 8270C**	

AR300040

ATTACHMENT C

EDS VALIDATION REPORT

1,4-DIOXANE DATA ASSESSMENT NARRATIVE

SITE: BALLY

LABORATORY: STL, North Canton

SAMPLE DELIVERY GROUP: A3B200123

This sample delivery group consists of the following water samples:

BALLY 1	BALLY 2	BALLY 3	BALLY 4
BALLY 5	BALLY DUP 1	BALLY DUP 2	

Samples described above were analyzed via SW846 8270C to determine the concentration of 1,4-dioxane in water.

Project specific QA objectives as well as the USEPA Region III Modifications to the National Functional Guidelines for Organics Data Review 9/94, and the current Functional Guidelines for the Evaluation of Organic Analyses have been considered during validation of this data and its usability.

All data are valid and acceptable except those analytes, which have been qualified as described in the attached glossary. Any data qualification related to this group of samples is detailed on the attached sheets.

Major Data Quality Issues

None.

Minor Data Quality Issues

None.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable due to significant QC problems, the data is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on any data tables even as a last resort.

Lastly, no analyte concentration, even if it passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

_____ Date: _____

Diane Waldschmidt
Environmental Scientist/Director

HOLDING TIME

The amount of an analyte can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded the data may not be valid. Those analytes in the samples whose holding times have been exceeded will be qualified as estimated, or unusable when grossly exceeded.

All samples in this delivery group were extracted and analyzed within the allowable holding time.

BLANK CONTAMINATION

Quality assurance blanks, method, trip, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during preparation or field activity. Method blanks measure lab contamination. Trip blanks measure cross contamination during shipment. Field and rinse blanks measure cross contamination during field operations.

Method Blank Contamination

The associated method blank for the water sample matrix had no observed positive value for 1,4-dioxane above the detection limit. Therefore, no qualification of data was necessary.

Field or Rinse Blank Contamination

No rinse blank was collected in association with samples in this delivery group. Therefore, evaluation of potential artificial contamination of samples during sample collection or handling activities could not be performed.

MASS SPECTROMETER TUNING

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds, and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances.

The tuning standard for semi-volatile is decafluorotriphenyl-phosphine (DFTPP). If the mass calibration is in error, or missing, all associated data will be classified as unusable.

Mass spectrometer tuning standard analyses were performed at the proper frequencies and all criteria were met.

CALIBRATION

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative results. The initial calibration curve demonstrates that the instrument is capable of giving acceptable performance at the beginning of an analytical sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance.

Response Factor

The response factor measures the instruments responses to specific chemical compounds. The response factors for the BNA Target Compound List must be greater than or equal to 0.05 in both the initial and continuing calibrations. A value less than 0.05 indicates serious detection and quantitation problems. If the mean RRF of the initial calibration or the continuing calibration have a response factor less than 0.05 for any analyte, those analytes detected in environmental samples will be qualified as estimated. All non-detects for those analytes will be rejected.

All observed RRF's were greater than 0.05.

Percent Relative Standard Deviation (RSD) and Percent Deviation (%D)

Percent RSD is calculated from the initial calibration and is used to indicate stability of a specific compound over the calibration range. %D compares the response factor of the continuing calibration with the mean response factor of the initial calibration. Therefore, %D is a measure of the instruments daily performance.

The following QC criteria has been applied for this project:

% RSD of initial calibration must be <30.0%

% D for continuing calibrations must be <25.0%

A value outside these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated.

All initial and continuing calibrations related to results reported in this delivery group met all validation criteria. Therefore, no qualification of data was necessary.

INTERNAL STANDARDS PERFORMANCE

Internal standard performance criteria is meant to ensure that the GC/MS sensitivity and response are stable during every experimental run.

The internal standard area count must not vary by more than a factor of two from the associated continuing calibration standard. The retention time of the internal standard must not vary by more than +/- 30 seconds from the associated continuing calibration standard. If the area count is outside the (- 50% - 100%) range of the associated standard, all positive results for compounds quantitated using that standard are qualified as estimated, and non detects as UJ, but only if area is < 50%. In the event a severe drop in sensitivity is noted (<25%), non-detects may be rejected.

Internal standard area responses and retention times, observed for all samples and associated blanks within this delivery group, were well within acceptance limits.

SURROGATES

All samples are spiked with surrogate compounds prior to sample preparation and analyses to evaluate overall laboratory performance and efficiency of the analytical technique.

All observed water standard surrogate recoveries for samples and blanks were well within validation guidance acceptance criteria with the following exceptions.

Surrogate standard phenol-d5 was observed at less than 10% recovery in the samples listed below:

BALLY 4
BALLY 5
BALLY DUP 1
BALLY DUP 2

The analyte of interest (1,4-dioxane) is included in the base/neutral extractable fraction, while phenol-d5 represents compounds in the acid extractable fraction. Therefore, data quality for the target analyte is not impacted by the observed poor recovery of phenol-d5. No qualification of data was necessary.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The matrix spike and matrix spike duplicate are generated to determine the precision and accuracy of the analytical procedure in a given matrix. This information may be used to qualify data.

No sample from this delivery group was processed as a matrix spike or matrix spike duplicate. Therefore, matrix specific precision and accuracy could not be evaluated.

The laboratory did process laboratory control samples (LCS) and laboratory control sample duplicates (LCSD) with the samples in the delivery group. Observed precision and accuracy for the LCS/LCSD were acceptable in all cases.

Reporting

Upon reviewing the QA results, the form I (s) are clearly marked as to which to use.

COMPOUND IDENTIFICATION

Volatile and Semi-Volatile Fractions

TCL compounds are identified on the GC/MS by using the analytes relative retention time (RRT) and ion spectra. For the results to be a positive hit, the sample peak must be within $\pm$ 0.06 RRT units of the standard compound, and have an ion spectra which has a ration of the primary and secondary m/e intensities within 20% of that in the standard compound. For tentatively identified compounds (TIC), the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

No analytes were qualified for compound identification.

OTHER QC DATA OUT OF SPECIFICATION

None.

FIELD DUPLICATE

The following samples comprise the field duplicate pairs associated with this sample delivery group.

BALLY 4/BALLY DUP 1
BALLY 5/BALLY DUP 2

The relative percent differences between positive results obtained for each of the pairs (0 and 19, respectively) demonstrate adequate field precision.

SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

No data quality issues were found to impact the results reported. All QC criteria appears to be acceptable.

GLOSSARY OF DATA QUALIFIER CODES (ORGANIC)

Codes Relating to Identification (confidence concerning presence or absence of compounds):

U	-	Not detected. The associated number indicates approximate sample concentration necessary to be detected.
(NO CODE)	-	Confirmed identification.
B	-	Not detected substantially above the level reported in laboratory or field blanks.
R	-	Unreliable result. Analyte may or may not be present in the sample. Supporting data necessary to confirm result.
N	-	Tentative identification. Consider present. Special methods may be needed to confirm its presence or absence in future sampling efforts.

Codes Related to Quantitation (can be used for both positive results and sample quantitation limits):

J	-	Analyte present. Reported value may not be accurate or precise.
K	-	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	-	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
UJ	-	Not detected. Quantitation limit may be inaccurate or imprecise.
UL	-	Not detected. Quantitation limit is probably higher.

Other Codes:

Q	-	No analytical result.
NJ	-	Qualitative identification questionable due to poor resolution, presumptively present at an approximate quantity.

ATTACHMENT D

STL LABORATORY RESULTS FOR SOUTHERN AREA MONITORING

SEVERN TRENT LABORATORIES, INC.

PRELIMINARY DATA SUMMARY

The results shown below may still require additional laboratory review and are subject to change. Actions taken based on these results are the responsibility of the data user.

Civil & Environmental Consultants, Inc.

Lot #: A3B280207 BALLY **Date Reported:** 3/11/03

Project Number: 91239

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD	
Client Sample ID: 92-17-226-3					
Sample #: 001 Date Sampled: 02/26/03 Date Received: 02/28/03 Matrix: WATER					
Purgeables					Reviewed
Chloroform	ND	1.0	ug/L	CFR136A 624	
Dibromochloromethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,2-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethene	**4.4**	**1.0**	**ug/L**	**CFR136A 624**	
Methylene chloride	ND	1.0	ug/L	CFR136A 624	
Tetrachloroethene	ND	1.0	ug/L	CFR136A 624	
1,1,1-Trichloroethane	**1.2**	**1.0**	**ug/L**	**CFR136A 624**	
Trichloroethene	**9.7**	**1.0**	**ug/L**	**CFR136A 624**	
Vinyl chloride	ND	1.0	ug/L	CFR136A 624	
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	ND	10	ug/L	SW846 8270C	
Client Sample ID: 92-18I					
Sample #: 002 Date Sampled: 02/27/03 Date Received: 02/28/03 Matrix: WATER					
Purgeables					Reviewed
Chloroform	ND	1.0	ug/L	CFR136A 624	
Dibromochloromethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,2-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethene	**8.2**	**1.0**	**ug/L**	**CFR136A 624**	
Methylene chloride	ND	1.0	ug/L	CFR136A 624	
Tetrachloroethene	ND	1.0	ug/L	CFR136A 624	
1,1,1-Trichloroethane	**4.5**	**1.0**	**ug/L**	**CFR136A 624**	
Trichloroethene	**19**	**1.0**	**ug/L**	**CFR136A 624**	
Vinyl chloride	ND	1.0	ug/L	CFR136A 624	
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	ND	10	ug/L	SW846 8270C	

(Continued on next page)

AR300049

SEVERN TRENT LABORATORIES, INC.

PRELIMINARY DATA SUMMARY

The results shown below may still require additional laboratory review and are subject to change. Actions taken based on these results are the responsibility of the data user.

Civil & Environmental Consultants, Inc.

Lot #: A3B280207 BALLY **Date Reported:** 3/11/03

Project Number: 91239

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD	
Client Sample ID: 92-19I					
Sample #: 003 Date Sampled: 02/27/03 Date Received: 02/28/03 Matrix: WATER					
Purgeables					Reviewed
Chloroform	ND	1.0	ug/L	CFR136A 624	
Dibromochloromethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,2-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethene	**2.6**	**1.0**	**ug/L**	**CFR136A 624**	
Methylene chloride	**0.27 J**	**1.0**	**ug/L**	**CFR136A 624**	
Tetrachloroethene	ND	1.0	ug/L	CFR136A 624	
1,1,1-Trichloroethane	**2.6**	**1.0**	**ug/L**	**CFR136A 624**	
Trichloroethene	**4.6**	**1.0**	**ug/L**	**CFR136A 624**	
Vinyl chloride	ND	1.0	ug/L	CFR136A 624	
J Estimated result. Result is less than RL.					
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	ND	10	ug/L	SW846 8270C	
Client Sample ID: 92-20I					
Sample #: 004 Date Sampled: 02/27/03 Date Received: 02/28/03 Matrix: WATER					
Purgeables					Reviewed
Chloroform	ND	1.0	ug/L	CFR136A 624	
Dibromochloromethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,2-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethene	**2.5**	**1.0**	**ug/L**	**CFR136A 624**	
Methylene chloride	ND	1.0	ug/L	CFR136A 624	
Tetrachloroethene	ND	1.0	ug/L	CFR136A 624	
1,1,1-Trichloroethane	**2.0**	**1.0**	**ug/L**	**CFR136A 624**	
Trichloroethene	**6.2**	**1.0**	**ug/L**	**CFR136A 624**	
Vinyl chloride	ND	1.0	ug/L	CFR136A 624	
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	ND	10	ug/L	SW846 8270C	

(Continued on next page)

AR300050

SEVERN TRENT LABORATORIES, INC.

PRELIMINARY DATA SUMMARY

The results shown below may still require additional laboratory review and are subject to change. Actions taken based on these results are the responsibility of the data user.

Civil & Environmental Consultants, Inc.

Lot #: A3B280207 BALLY **Date Reported:** 3/11/03

Project Number: 91239

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD	
Client Sample ID: 97-23I					
Sample #: 005 Date Sampled: 02/27/03 Date Received: 02/28/03 Matrix: WATER					
Purgeables					Reviewed
Chloroform	**0.46 J**	**1.0**	**ug/L**	**CFR136A 624**	
Dibromochloromethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,2-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethene	ND	1.0	ug/L	CFR136A 624	
Methylene chloride	**0.28 J**	**1.0**	**ug/L**	**CFR136A 624**	
Tetrachloroethene	ND	1.0	ug/L	CFR136A 624	
1,1,1-Trichloroethane	ND	1.0	ug/L	CFR136A 624	
Trichloroethene	**0.47 J**	**1.0**	**ug/L**	**CFR136A 624**	
Vinyl chloride	ND	1.0	ug/L	CFR136A 624	
J Estimated result. Result is less than RL					
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	**5.7 J**	**10**	**ug/L**	**SW846 8270C**	
J Estimated result. Result is less than RL.					
Client Sample ID: DUP 1					
Sample #: 006 Date Sampled: 02/27/03 Date Received: 02/28/03 Matrix: WATER					
Purgeables					Reviewed
Chloroform	ND	1.0	ug/L	CFR136A 624	
Dibromochloromethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,2-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethene	**4.6**	**1.0**	**ug/L**	**CFR136A 624**	
Methylene chloride	ND	1.0	ug/L	CFR136A 624	
Tetrachloroethene	ND	1.0	ug/L	CFR136A 624	
1,1,1-Trichloroethane	**1.3**	**1.0**	**ug/L**	**CFR136A 624**	
Trichloroethene	**10**	**1.0**	**ug/L**	**CFR136A 624**	
Vinyl chloride	ND	1.0	ug/L	CFR136A 624	
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	ND	10	ug/L	SW846 8270C	

(Continued on next page)

AR300051

SEVERN TRENT LABORATORIES, INC.

PRELIMINARY DATA SUMMARY

The results shown below may still require additional laboratory review and are subject to change. Actions taken based on these results are the responsibility of the data user.

Lot #: A3B280207 BALLY **Date Reported:** 3/11/03

Project Number: 91239

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD	
Client Sample ID: TRIP					
Sample #: 007 Date Sampled: 02/27/03 Date Received: 02/28/03 Matrix: WATER					
Purgeables					Reviewed
Chloroform	ND	1.0	ug/L	CFR136A 624	
Dibromochloromethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,2-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethene	ND	1.0	ug/L	CFR136A 624	
Methylene chloride	**0.36 J**	**1.0**	**ug/L**	**CFR136A 624**	
Tetrachloroethene	ND	1.0	ug/L	CFR136A 624	
1,1,1-Trichloroethane	ND	1.0	ug/L	CFR136A 624	
Trichloroethene	ND	1.0	ug/L	CFR136A 624	
Vinyl chloride	ND	1.0	ug/L	CFR136A 624	

J Estimated result. Result is less than RL.

Client Sample ID: EQUIP					
Sample #: 008 Date Sampled: 02/27/03 Date Received: 02/28/03 Matrix: WATER					
Purgeables					Reviewed
Chloroform	ND	1.0	ug/L	CFR136A 624	
Dibromochloromethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,2-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethene	ND	1.0	ug/L	CFR136A 624	
Methylene chloride	ND	1.0	ug/L	CFR136A 624	
Tetrachloroethene	ND	1.0	ug/L	CFR136A 624	
1,1,1-Trichloroethane	ND	1.0	ug/L	CFR136A 624	
Trichloroethene	ND	1.0	ug/L	CFR136A 624	
Vinyl chloride	ND	1.0	ug/L	CFR136A 624	
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	ND	10	ug/L	SW846 8270C	

AR300052

SEVERN TRENT LABORATORIES, INC.

PRELIMINARY DATA SUMMARY

The results shown below may still require additional laboratory review and are subject to change. Actions taken based on these results are the responsibility of the data user.

Civil & Environmental Consultants, Inc.

Lot #: A3B270203 BALLY **Date Reported:** 3/03/03

Project Number: 91239

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
Client Sample ID: WELL #2				
Sample #: 001 Date Sampled: 02/26/03 11:15 Date Received: 02/27/03 Matrix: WATER				
Purgeables				Reviewed
Chloroform	ND	1.0	ug/L	CFR136A 624
Dibromochloromethane	ND	1.0	ug/L	CFR136A 624
1,1-Dichloroethane	ND	1.0	ug/L	CFR136A 624
1,2-Dichloroethane	ND	1.0	ug/L	CFR136A 624
1,1-Dichloroethene	**0.95 J**	**1.0**	**ug/L**	**CFR136A 624**
Methylene chloride	ND	1.0	ug/L	CFR136A 624
Tetrachloroethene	ND	1.0	ug/L	CFR136A 624
1,1,1-Trichloroethane	**0.37 J**	**1.0**	**ug/L**	**CFR136A 624**
Trichloroethene	**0.35 J**	**1.0**	**ug/L**	**CFR136A 624**
Vinyl chloride	ND	1.0	ug/L	CFR136A 624

J Estimated result. Result is less than RL.

AR300053

SEVERN TRENT LABORATORIES, INC.

PRELIMINARY DATA SUMMARY

The results shown below may still require additional laboratory review and are subject to change. Actions taken based on these results are the responsibility of the data user.

Civil & Environmental Consultants, Inc. PAGE 1

Lot #: A3B270169 BALLY **Date Reported:** 3/03/03

Project Number: 91239

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD	
Client Sample ID: WELL #2					
Sample #: 001 Date Sampled: 02/26/03 11:15 Date Received: 02/27/03 Matrix: WATER					
Semivolatile Organic Compounds by GC/MS					In Review
1,4-Dioxane	ND	10	ug/L	SW846 8270C	

SEVERN TRENT LABORATORIES, INC.

PRELIMINARY DATA SUMMARY

The results shown below may still require additional laboratory review and are subject to change. Actions taken based on these results are the responsibility of the data user.

Civil & Environmental Consultants, Inc.

Lot #: A3C040274 BALLY **Date Reported:** 3/14/03

Project Number: 91239

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD	
Client Sample ID: BALLY RIBBON					
Sample #: 001 Date Sampled: 02/28/03 Date Received: 03/04/03 Matrix: WATER					
Purgeables					Reviewed
Chloroform	ND	1.0	ug/L	CFR136A 624	
Dibromochloromethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,2-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethene	**0.69 J**	**1.0**	**ug/L**	**CFR136A 624**	
Methylene chloride	ND	1.0	ug/L	CFR136A 624	
Tetrachloroethene	ND	1.0	ug/L	CFR136A 624	
1,1,1-Trichloroethane	**0.99 J**	**1.0**	**ug/L**	**CFR136A 624**	
Trichloroethene	**0.82 J**	**1.0**	**ug/L**	**CFR136A 624**	
Vinyl chloride	ND	1.0	ug/L	CFR136A 624	
J Estimated result. Result is less than RL.					
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	ND	10	ug/L	SW846 8270C	
Client Sample ID: MOSER					
Sample #: 002 Date Sampled: 02/28/03 Date Received: 03/04/03 Matrix: WATER					
Purgeables					Reviewed
Chloroform	ND	1.0	ug/L	CFR136A 624	
Dibromochloromethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,2-Dichloroethane	ND	1.0	ug/L	CFR136A 624	
1,1-Dichloroethene	ND	1.0	ug/L	CFR136A 624	
Methylene chloride	ND	1.0	ug/L	CFR136A 624	
Tetrachloroethene	ND	1.0	ug/L	CFR136A 624	
1,1,1-Trichloroethane	ND	1.0	ug/L	CFR136A 624	
Trichloroethene	ND	1.0	ug/L	CFR136A 624	
Vinyl chloride	ND	1.0	ug/L	CFR136A 624	
Semivolatile Organic Compounds by GC/MS					Reviewed
1,4-Dioxane	ND	10	ug/L	SW846 8270C	

(Continued on next page)

AR300055