REPORT

Final Construction Engineering Report

Volume III of IV

Bern Metal/Universal Metal
Buffalo, New York

January 2003
(Revised April 2003 and May 2003)

BBL
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Final Construction Engineering Report
Volume III of IV

Bern Metal/Universal Metal
Buffalo, New York

MAY – April ~~January~~ 2003

BBL
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engineers & scientists

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REPORT

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BBL®
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Appendix J

Appendix J

Analytical Laboratory Reports for Post-Excavation Confirmatory Soil Samples (STL)

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-8717

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

09/10/2002

This report contains 1007 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2871703	BM1 (1-4) COMPOSITE	09/03/2002	15:00	09/03/2002	17:10
A2871702	R.O.C.-02	09/03/2002	14:45	09/03/2002	17:10
A2871701	T.S.R.-01	09/03/2002	13:36	09/03/2002	17:10

METHODS SUMMARY

Job#: A02-8717

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
METHOD 8260 - TCL VOLATILE ORGANICS	SW8463 8260
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS	SW8463 8270
METHOD 8081 - TCL PESTICIDES	SW8463 8081
METHOD 8082 - POLYCHLORINATED BIPHENYLS	SW8463 8082
METHOD 8151 - HERBICIDES Full list	SW8463 8151
Aluminum - Total	SW8463 6010
Antimony - Total	SW8463 6010
Arsenic - Total	SW8463 6010
Barium - Total	SW8463 6010
Beryllium - Total	SW8463 6010
Cadmium - Total	SW8463 6010
Calcium - Total	SW8463 6010
Chromium - Total	SW8463 6010
Cobalt - Total	SW8463 6010
Copper - Total	SW8463 6010
Iron - Total	SW8463 6010
Lead - Total	SW8463 6010
Magnesium - Total	SW8463 6010
Manganese - Total	SW8463 6010
Mercury - Total	SW8463 7471
Nickel - Total	SW8463 6010
Potassium - Total	SW8463 6010
Selenium - Total	SW8463 6010
Silver - Total	SW8463 6010
Sodium - Total	SW8463 6010
Thallium - Total	SW8463 6010
Vanadium - Total	SW8463 6010
Zinc - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-8717

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-8717

Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
Sample(s) from BB&L were received at a temperature of >10°C. However the samples were collected the same day, it was not possible for the samples to cool to 4°C prior to receipt. There is no impact on the data.

Samples BM1 (1-4) were composited in sample control.

GC/MS Volatile Data

The analyte Toluene was detected in Method Blank VBLK91 at a level below the project established reporting limit. No corrective action is necessary for any values in Method Blanks that are below the requested reporting limits.

The analyte Methylene Chloride was detected in Method Blank VBLK91 at a level above the project established reporting limit. Samples had levels of Methylene Chloride less than ten times that of the Method Blank value. US EPA CLP National Functional Guidelines for Data Review suggests that all sample detections for Methylene Chloride should be considered a product of laboratory contamination and that the reporting limit be raised to the concentration found in the sample.

Initial calibration standard curve A2I0000908-1 exhibited the %RSD of four analytes as greater than 15%. However, the mean RSD of all compounds is 8.16%.

GC/MS Semivolatile Data

The analyte Di-n-butyl phthalate was detected in the Method Blank A2B0854603 at a level below the project established reporting limit. No corrective action is necessary for any values in Method Blanks that are below the requested reporting limits.

GC Extractable Data

Sample T.S.R.-01 analyzed for Method 8081 required dilution prior to analysis due to sample matrix interferences. The recovery of surrogate Decachlorobiphenyl was outside of established quality control limits due to the sample matrix and dilution. The recovery of surrogate Tetrachloro-m-xylene was within quality control limits; no corrective action was required.

For method 8081, a few analytes in the associated continuing calibration verifications exhibited a percent difference greater than 15% from the expected amount. The average of all analytes was within 15% and the associated laboratory quality control recoveries were compliant. No corrective action was required.

For method 8151, Picloram in the associated continuing calibration verifications exhibited a percent difference greater than 15% from the expected amount. The average of all analytes was within 15% and the associated laboratory quality control recoveries were compliant. No corrective action was required.

Metals Data

The recovery of sample T.S.R.-01 Matrix Spike fell above the Quality Control Limits for Lead and fell below the Quality Contol Limits for Antimony and Thallium. The recovery of sample T.S.R.-01 Matrix Spike Duplicate fell below the Quality Control Limits for Antimony, Potassium, and Thallium. The LFB was acceptable for all elements.

The recovery of Zinc fell above the QC limits in sample T.S.R.-01 Matrix Spike and Matrix Spike Duplicate. The recovery of Iron and Manganese fell below the QC limits in sample T.S.R.-01 Matrix Spike and Matrix Spike Duplicate. The sample results were more than four times greater than the spike added, therefore, no qualifiers were needed. The LFB was acceptable for all elements.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

for Susan L. Mazur
Laboratory Director

9/11/02
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM1 (1-4) COMPOSI	A2871703	-	-	-	-	SW8463	-
R.O.C.-02	A2871702	SW8463	SW8463	-	SW8463	SW8463	-
T.S.R.-01	A2871701	SW8463	SW8463	-	SW8463	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM1 (1-4) COMPOSITE	SOIL	T PB	09/03/2002	09/04/2002	09/05/2002
R.O.C.-02	SOIL	HSL ME	09/03/2002	09/04/2002	09/04-06/2002
T.S.R.-01	SOIL	HSL ME	09/03/2002	09/04/2002	09/04-05/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM1 (1-4) COMPOSITE	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
R.O.C.-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
T.S.R.-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance The value obtained should be considered an estimate
*	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM1 (1-4) COMPOSITE

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-8717

Matrix (soil/water): SOIL Lab Sample ID: AD224858

Level (low/med): LOW Date Received: 9/3/02

% Solids: 80

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	517		N	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: GRAY Clarity After: CLDY/FI Artifacts:

ments:

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	9/3/02	114688

Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page 1 of 1
1400 Sweet Home Rd. Suite 1	(716) 689-1544 / (716) 689-1568		

City	State	Zip Code	Site Contact	Lab Contact
Buffalo	NY	14228		

Project Name and Location (State)	Carrier/Waybill Number
Bern Metals, Buffalo, NY	

Contract/Purchase Order/Quote No.

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Analysis: Total Lead	TCL Volatiles	TCL Semi Volatiles	Pesticides	PCB's	Herbicides	TAL Metals (25)	Special Instructions/ Conditions of Receipt
T.S.R-01	9/3/02	1:36				X								X	X	X	X	X	X	Composite (4)
R.O.C.-02	9/3/02	2:45				X								X	X	X	X	X	X	Composite (4)
BM1-01	9/3/02	3:06				X							X							Area 1 Grab N
BM1-02	9/3/02	3:00				X							X							Area 1 Grab S
BM1-03	9/3/02	3:00				X							X							Area 1 Grab E
BM1-04 (Composite)	9/3/02	3:00				X							X							Area 1 Grab W
																				Appx result turnaround
																				Further analytical
																				may be needed.

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Brian G. Fox	9/3/02	5:10	James D. Rukin	9/3/02	1710
2.						
3.						

Comments

Gimbrent

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-8806

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Kenneth E. Kasprzak
Susan L. Mazur
Laboratory Director

09/12/2002

This report contains 208 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2880601	BM2-01	09/05/2002	10:15	09/05/2002	16:45
A2880602	BM2-03	09/05/2002	10:20	09/05/2002	16:45

METHODS SUMMARY

Job#: A02-8806

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-8806

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-8806
Sample Cooler(s) were received at the following temperature(s); 14 °C
Sample(s) were received at a temperature of 14°C. However, ice was present in the cooler and as the samples were collected the same day, it was not possible for the samples to cool to 4°C prior to receipt. There is no impact on the data.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

SEVERN TRENT SERVICES

000005

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The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

K. E. Kasperek

Susan L. Mazur
Laboratory Director

9/10/2002

Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM2-01	A2880601	-	-	-	-	SW8463	-
BM2-03	A2880602	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM2-01	SOIL	T PB	09/05/2002	09/06/2002	09/08/2002
BM2-03	SOIL	T PB	09/05/2002	09/06/2002	09/08/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM2-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM2-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

)ATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
›	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate
*	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM2-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-8806

Matrix (soil/water): SOIL Lab Sample ID: AD225125

Level (low/med): LOW Date Received: 9/5/02

% Solids: 49

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	13.5			P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: YELLOW Clarity After: CLR/FIL Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM2-03

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8806

Matrix (soil/water): SOIL Lab Sample ID: AD225126

Level (low/med): LOW Date Received: 9/5/02

% Solids: 61

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	55.4			P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: YELLOW Clarity After: CLR/FIL Artifacts: _____

Comments: _____

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BM2-03 MS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8806

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 60.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	86.1470		55.4017		32.89	93.5		P

Comments: _____

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BM2-03 SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8806

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 60.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	82.1750		55.4017		32.24	83.0		P

Comments: _____

BLASLAND BOUCK & LEE, INC.
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.: BM2-03A

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8806

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		396.77		330.16		200.0	33.3		P

Comments: _____

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8806

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

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BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8806

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U	50.0	U			P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: Blasland, Bouck & Lee, Inc.	Project Manager: Brian Shah	Date: 9/5/02	Chain of Custody Number: 135498
Address: 1400 Sweet Home Road, Suite 1	Telephone Number (Area Code)/Fax Number: (716) 689-1544 x17 / (716) 689-1568	Lab Number:	Page 1 of
City: Amherst; State: NY; Zip Code: 14228	Site Contact: Andy Fraser	Lab Contact: Candace Fox	
Project Name and Location (State): Berlin Metal/Universal Site - Buffalo, NY	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.: 778.11.005			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4oz	Analysis (Attach list if more space is needed): Total Lead - 6010
BM2-01	9/5/02	1015				X	X						X	✓
BM2-03	9/5/02	1020				X	X						X	✓

Special Instructions/ Conditions of Receipt

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required: ☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify): NYS ASP

	Date	Time		Date	Time
1. Relinquished By: Michael M. Ruszczyk	9/5/02	1645	1. Received By: [signature] my ee	9-05-02	16:45
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments: 14° C

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-8933

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

09/16/2002

This report contains 200 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2893301	BM25-01	09/09/2002	15:30	09/10/2002	16:56

METHODS SUMMARY

Job#: A02-8933

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-8933

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-8933
Sample Cooler(s) were received at the following temperature(s); 4 °C
All samples were received in good condition.

Metals Data

The recovery of Lead fell below the QC limits in sample BM25-01 Matrix Spike. The sample result was greater than four times the spike amount, therefore a qualifier was not needed. The LCS was acceptable.

SEVERN TRENT SERVICES

000005

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The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

K.E. Kasperek

Susan L. Mazur
Laboratory Director

9/17/2002

Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM25-01	A2893301	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM25-01	SOIL	T PB	09/10/2002	09/11/2002	09/12/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM25-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM25-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-8933

Matrix (soil/water): SOIL Lab Sample ID: AD225829

Level (low/med): LOW Date Received: 9/10/02

% Solids: 97

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	1900		E	P

Color Before: BROWN Clarity Before: N/A Texture: CONGLOM

Color After: GREEN Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BM25-01 MS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8933

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 97.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		1812.0250		1898.9020		21.00	-413.7		P

Comments: _____

BLASLAND BOUCK & LEE, INC.
-5B-
POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

BM25-01A

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8933

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		18617.10		18824.54		200.0	-103.7		P

Comments: _____

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8933

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8933

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U	50.0	U			P

Chain of Custody Record

SEVERN TRENT SERVICES — **Severn Trent Laboratories, Inc.**

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	9/9/02	099086
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 2**
1400 Sweet Home Rd. Suite 1	(716) 689-1544 / (716) 689-1568		
City / State / Zip Code	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	853-2557		
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals Buffalo (NY)			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed	Soil	Containers & Preservatives: Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Other	Analysis: Total Lead (NIOSH 7300)	Total Dust (NIOSH 0500)	Total Lead - 6010 (24 hr. TAT)	Total Lead - 6010 (Standard TAT)	Special Instructions/ Conditions of Receipt
D.M. North	9/6/02	8:15	X				X							X	X			2.001 LPM for 9.25 hrs
D.M. South	9/6/02	8:22	X				X							X	X		7-DAY	1.999 LPM for 9.07 hrs
D.M. East	9/6/02	8:10	X				X							X	X		TURN-	1.999 LPM for 9.25 hrs
D.M. West	9/6/02	8:17	X				X							X	X		GAUSON	2.004 LPM for 9.18 hrs
P.I.D.-01	9/9/02	7.55	X				X							X	[illegible]		LABS	2.026 LPM for 9.00 hrs
BM25-01	9/9/02	15:30				X	X						X	[illegible]		X		24 hr. Turn around
BM5-01 (12.5)	9/10/02	1320				X	X						X				X	
BM5-02 (37.5)		1325				X	X						X				X	
BM5-03 (62.5)		1330				X	X						X				X	STANDARD TURNAROUND
BM5-04 (87.5)		1335				X	X						X				X	
BM5-05 (112.5)		1340				X	X						X				X	
BM5-06 (133)		1345				X	X						X	–			X	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For 1 Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☒ 7 Days (NIOSH) ☐ 14 Days ☐ 21 Days ☒ Other 24 hrs. on BM25-01

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	[signature]	9/10/02	16:17	[signature]	9/10/02	1615
2.	[signature]	9/10/02	1654	[signature]	9/10/02	1656
3.	[signature]			[signature]		

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

SEVERN TRENT SERVICES

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10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-8996

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

09/18/2002

This report contains 165 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2899601	BM5-01 (12.5)	09/10/2002	13:20	09/10/2002	16:56
A2899602	BM5-02 (37.5)	09/10/2002	13:25	09/10/2002	16:56
A2899603	BM5-03 (62.5)	09/10/2002	13:30	09/10/2002	16:56
A2899604	BM5-04 (87.5)	09/10/2002	13:35	09/10/2002	16:56
A2899605	BM5-05 (112.5)	09/10/2002	13:40	09/10/2002	16:56
A2899606	BM5-06 (133)	09/10/2002	13:45	09/10/2002	16:56

METHODS SUMMARY

Job#: A02-8996

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-8996

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-8996
Sample Cooler(s) were received at the following temperature(s); 4 °C
All samples were received in good condition.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

SEVERN TRENT SERVICES

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

9/20/01
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM5-01 (12.5)	A2899601	-	-	-	-	SW8463	-
BM5-02 (37.5)	A2899602	-	-	-	-	SW8463	-
BM5-03 (62.5)	A2899603	-	-	-	-	SW8463	-
BM5-04 (87.5)	A2899604	-	-	-	-	SW8463	-
BM5-05 (112.5)	A2899605	-	-	-	-	SW8463	-
BM5-06 (133)	A2899606	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM5-01 (12.5)	SOIL	T PB	09/10/2002	09/13/2002	09/17/2002
BM5-02 (37.5)	SOIL	T PB	09/10/2002	09/13/2002	09/17/2002
BM5-03 (62.5)	SOIL	T PB	09/10/2002	09/13/2002	09/17/2002
BM5-04 (87.5)	SOIL	T PB	09/10/2002	09/13/2002	09/17/2002
BM5-05 (112.5)	SOIL	T PB	09/10/2002	09/13/2002	09/17/2002
BM5-06 (133)	SOIL	T PB	09/10/2002	09/13/2002	09/17/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM5-01 (12.5)	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM5-02 (37.5)	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM5-03 (62.5)	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM5-04 (87.5)	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM5-05 (112.5)	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM5-06 (133)	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P"
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

STL BUFFALO

Blasland Bouck & Lee, Inc.

000019

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM5-01 (12.5)

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8996

Matrix (soil/water): SOIL Lab Sample ID: AD226186

Level (low/med): LOW Date Received: 9/10/02

% Solids: 84

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	21.0			P

Color Before: MIX Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts: _____

Comments: _____

Blasland Bouck & Lee, Inc.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM5-02 (37.5)

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-8996

Matrix (soil/water): SOIL Lab Sample ID: AD226187

Level (low/med): LOW Date Received: 9/10/02

% Solids: 84

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	22.0			P

Color Before: GRAY Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

Blasland Bouck & Lee, Inc.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM5-03 (62.5)

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8996

Matrix (soil/water): SOIL Lab Sample ID: AD226188

Level (low/med): LOW Date Received: 9/10/02

% Solids: 84

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	67.6			P

Color Before: MIX Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts: _____

Comments: _____

Blasland Bouck & Lee, Inc.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM5-04 (87.5)

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-8996

Matrix (soil/water): SOIL Lab Sample ID: AD226189

Level (low/med): LOW Date Received: 9/10/02

% Solids: 80

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	43.6			P

Color Before: MIX Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

Blasland Bouck & Lee, Inc. 000074

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM5-05 (112.5)

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-8996

Matrix (soil/water): SOIL Lab Sample ID: AD226190

Level (low/med): LOW Date Received: 9/10/02

% Solids: 82

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	64.9			P

Color Before: MIX Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

Blasland Bouck & Lee, Inc.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM5-06 (133)

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-8996

Matrix (soil/water): SOIL Lab Sample ID: AD226191

Level (low/med): LOW Date Received: 9/10/02

% Solids: 81

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	14.1			P

Color Before: GRAY Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

Blasland Bouck & Lee, Inc.

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8996

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8996

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U							P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	9/9/02	099086

Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page
1400 Sweet Home Rd. Suite 1	(716) 689-1544 / (716) 689-1568		Page 1 of 2

City	State	Zip Code	Site Contact	Lab Contact
Amherst	NY	14228	853-2557	

Project Name and Location (State)	Carrier/Waybill Number
Bern Metals Buffalo (NY)	

Contract/Purchase Order/Quote No.

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Other	Analysis: Total Lead (NIOSH 7300)	Total Dust (NIOSH 0500)	TOTAL LEAD - GOLD (24 hr. TURN)	TOTAL LEAD - GOLD (STANDARD TURN)	Special Instructions/ Conditions of Receipt
D.M. North	9/6/02	8:15	X				X							X	X			2.001 LPM for 9.25 hrs.
D.M. South	9/6/02	8:22	X				X							X	X		7-DAY	1.999 LPM for 9.07 hrs.
D.M. East	9/6/02	8:10	X				X							X	X		TURN -	1.999 LPM for 9.25 hrs.
D.M. West	9/6/02	8:17	X				X							X	X		GAUSON	2.004 LPM for 9.18 hrs
P.I.D.-01	9/9/02	7:55	X				X							X	[illegible]		LABS	2.026 LPM for 9.00 hrs.
BM25-01	9/9/02	15:30				X	X						X	[illegible]		X		24 hr. Turn around
BM5-01 (12.5)	9/10/02	1320				X	X						X				X	STANDARD TURNAROUND
BM5-02 (37.5)		1325				X	X						X				X	
BM5-03 (62.5)		1330				X	X						X				X	
BM5-04 (87.5)		1335				X	X						X				X	
BM5-05 (112.5)		1340				X	X						X				X	
BM5-06 (133)		1345				X	X						X				X	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☐ Archive For 1 Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☒ 7 Days (NIOSH) ☐ 14 Days ☐ 21 Days ☒ Other 24 hrs. on BM25-01

QC Requirements (Specify)

1. Relinquished By	Date	Time	1. Received By	Date	Time
[signature]	9/10/02	16:17	[signature]	9/10/02	1615
2. Relinquished By	Date	Time	2. Received By	Date	Time
[signature]	9/10/02	1654	[signature] STL	09/10/02	1656
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

4°C

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

000085

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-9263

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

09/20/2002

This report contains 108 pages which are individually numbered.

000001

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2926304	BD091802	09/18/2002	13:11	09/18/2002	17:20
A2926301	BM5A-01	09/18/2002	13:00	09/18/2002	17:20
A2926302	BM5A-02	09/18/2002	13:05	09/18/2002	17:20
A2926303	BM5A-03	09/18/2002	13:10	09/18/2002	17:20

METHODS SUMMARY

Job#: A02-9263

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY 000004

Job#: A02-9263

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9263
Sample Cooler(s) were received at the following temperature(s); 14 °C
All Samples were received at a temperature of 14°C. Ice was not present in the cooler.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

SEVERN TRENT SERVICES

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan D. Mazur
Laboratory Director

9/23/2002
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

000006

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BD091802	A2926304	-	-	-	-	SW8463	-
BM5A-01	A2926301	-	-	-	-	SW8463	-
BM5A-02	A2926302	-	-	-	-	SW8463	-
BM5A-03	A2926303	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BD091802	SOIL	T PB	09/18/2002	09/19/2002	09/19/2002
BM5A-01	SOIL	T PB	09/18/2002	09/19/2002	09/19/2002
BM5A-02	SOIL	T PB	09/18/2002	09/19/2002	09/19/2002
BM5A-03	SOIL	T PB	09/18/2002	09/19/2002	09/19/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BD091802	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM5A-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM5A-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM5A-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

000009

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate
*	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

STL BUFFALO

Blasland Bouck & Lee, Inc.

-1-

000010

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BD091802

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9263

Matrix (soil/water): SOIL Lab Sample ID: AD227171

Level (low/med): LOW Date Received: 9/18/02

% Solids: 88

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	623			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

Blasland Bouck & Lee, Inc.

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000011

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM5A-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9263

Matrix (soil/water): SOIL Lab Sample ID: AD227168

Level (low/med): LOW Date Received: 9/18/02

% Solids: 68

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	211			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

Blasland Bouck & Lee, Inc.

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INORGANIC ANALYSIS DATA SHEET

000012

SAMPLE NO.

BM5A-02

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9263

Matrix (soil/water): SOIL Lab Sample ID: AD227169

Level (low/med): LOW Date Received: 9/18/02

% Solids: 75

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	573			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: GRAY Clarity After: CLDY/FI Artifacts:

ments:

STL BUFFALO

Blasland Bouck & Lee, Inc.

000013

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM5A-03

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9263

Matrix (soil/water): SOIL Lab Sample ID: AD227170

Level (low/med): LOW Date Received: 9/18/02

% Solids: 90

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	414			P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

Blasland Bouck & Lee, Inc.

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000014

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9263

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

Blasland Bouck & Lee, Inc.

-3-

BLANKS

000015

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9263

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U					P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	9/18/02	099089
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1400 Sweet Home Suite 1	(716) 689-1544 / (716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	Andy Fraser	Candice Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo, NY			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/NaOH	4°C	Analysis: Total Lead	Special Instructions/ Conditions of Receipt
BM 5A - 01	9/18/02	13:00				X							X	X	7 Day Turn Around
BM 5A - 02	9/18/02	13:05				X							X	X	7 Day Turn Around
BM 5A - 03	9/18/02	13:10				X							X	X	7 Day Turn Around
BD 091802	9/18/02	13:11				X							X	X	7 Day Turn Around
BM 25 - 03	9/18/02	15:00				X							X	X	24 hr. Turn Around
BM 25 - 04	9/18/02	15:05				X							X	X	24 hr. Turn Around
BM 13 - 02	9/18/02	15:20				X							X	X	24 hr. Turn Around
BM 13 - 03	9/18/02	15:25				X							X	X	24 hr. Turn Around

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required
☒ 24 Hours ☐ 48 Hours ☒ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other See note

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Bm G. Arm	9/18/02	17:20	1. Received By: STL	9-18-02	17:20
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-9226

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

09/20/2002

This report contains 426 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2922604	BM13-01	09/17/2002	15:45	09/17/2002	18:20
A2922602	BM20-01	09/17/2002	15:00	09/17/2002	18:20
A2922603	BM20-02	09/17/2002	15:05	09/17/2002	18:20
A2922601	BM25-02	09/17/2002	15:15	09/17/2002	18:20

METHODS SUMMARY

Job#: A02-9226

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-9226

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9226
Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
All samples were received in good condition.

Metals Data

The recovery of Lead fell below the QC limits in sample BM25-02 Matrix Spike and Matrix Spike Duplicate. The sample result is more than four times greater than the spike added, therefore, no qualifiers are needed. The LCS was acceptable.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

9/23/2002
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

000006

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM13-01	A2922604	-	-	-	-	SW8463	-
BM20-01	A2922602	-	-	-	-	SW8463	-
BM20-02	A2922603	-	-	-	-	SW8463	-
BM25-02	A2922601	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM13-01	SOIL	T PB	09/17/2002	09/17/2002	09/19/2002
BM20-01	SOIL	T PB	09/17/2002	09/17/2002	09/19/2002
BM20-02	SOIL	T PB	09/17/2002	09/17/2002	09/19/2002
BM25-02	SOIL	T PB	09/17/2002	09/17/2002	09/19/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM13-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM20-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM20-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM25-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

)ATA COMMENT PAGE

000009

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P"
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance The value obtained should be considered an estimate
*	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0 995

STL BUFFALO

BLASLAND BOUCK & LEE, INC.
-1-
INORGANIC ANALYSIS DATA SHEET

000010

SAMPLE NO.
BM13-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9226

Matrix (soil/water): SOIL Lab Sample ID: AD227167

Level (low/med): LOW Date Received: 9/17/02

% Solids: 89

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	37.2			P

Color Before: BROWN Clarity Before: N/A Texture: CONGLOM

Color After: GRAY Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

000011

SAMPLE NO.

BM20-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9226

Matrix (soil/water): SOIL Lab Sample ID: AD227165

Level (low/med): LOW Date Received: 9/17/02

% Solids: 87

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	576			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

000012

SAMPLE NO.

BM20-02

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9226

Matrix (soil/water): SOIL Lab Sample ID: AD227166

Level (low/med): LOW Date Received: 9/17/02

% Solids: 72

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	460			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

000013

SAMPLE NO.

BM25-02

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9226

Matrix (soil/water): SOIL Lab Sample ID: AD226938

Level (low/med): LOW Date Received: 9/17/02

% Solids: 92

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	1880		E	P

Color Before: RED Clarity Before: N/A Texture: SILT

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-5A-

000014

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BM25-02 MS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9226

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 92.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		1034.3490		1881.0031		21.65	-3910.7		P

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

000015

SAMPLE NO.

BM25-02 SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9226

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 92.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		1251.6770		1881.0031		22.09	-2848.7		P

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

000016

SAMPLE NO.

BM25-02A

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9226

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		17885.79		18071.77		200.0	-93.0		P

Comments:

BLASLAND BOUCK & LEE, INC.

000017

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9226

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

000018

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9226

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U					P

BLASLAND BOUCK & LEE, INC.

BLANKS

000019

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9226

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

000020

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9226

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C		M
Lead			50.0	U	50.0	U	50.0	U				P

BLASLAND BOUCK & LEE, INC.

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9226

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U					P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	9/17/02	099087
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1400 Sweet Home Suite 1	(716) 689-5544 / (716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser		
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals Buffalo, NY			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4°C	Analysis: Total Lead	Total Dust	Special Instructions/ Conditions of Receipt
77811 North 9/9/02	9/9/02	8:00	X										X	X	X	7 Day Turn Around
77811 South 9/9/02	9/9/02	8:00	X										X	X	X	7 Day Turn Around
77811 East 9/9/02	9/9/02	8:00	X										X	X	X	7 Day Turn Around
77811 West 9/9/02	9/9/02	8:00	X										X	X	X	7 Day Turn Around
BM20-01	9/17/02	15:00				X							X	X		Hold Till notified — 24 hr. Turn Around
BM20-02	9/17/02	15:05				X							X	X		Hold Till notified — 24 hr. Turn Around
BM25-02	9/17/02	15:15				X							X	X		24 hr. Turn Around
BM13-01	9/17/02	15:45				X							X	X		Hold Till notified — 24 hr. Turn Around

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other See note

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Dan G. Fraser	9/17/02	18:20	GR	9/17/02	1820
2.						
3.						

Comments: Gardient

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-9262

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

09/20/2002

This report contains 145 pages which are individually numbered.

000001

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2926203	BM13-02	09/18/2002	15:20	09/18/2002	17:20
A2926204	BM13-03	09/18/2002	15:25	09/18/2002	17:20
A2926201	BM25-03	09/18/2002	15:00	09/18/2002	17:20
A2926202	BM25-04	09/18/2002	15:05	09/18/2002	17:20
A2926205	BM5A-04	09/18/2002	13:25	09/18/2002	17:20
A2926206	BM5A-05	09/18/2002	13:20	09/18/2002	17:20
A2926206MS	BM5A-05MS	09/18/2002	13:20	09/18/2002	17:20
A2926206SD	BM5A-05SD	09/18/2002	13:20	09/18/2002	17:20
A2926207	BM5A-06	09/18/2002	13:30	09/18/2002	17:20
A2926208	BM5A-07	09/18/2002	13:32	09/18/2002	17:20

METHODS SUMMARY

Job#: A02-9262

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-9262

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9262
Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
All samples were received in good condition.

Metals Data

The recovery of sample BM5A-05 Matrix Spike and Matrix Spike Duplicate fell below the quality control limits for Lead. In addition, the relative percent difference between this Matrix Spike and Matrix Spike Duplicate exceeded quality control criteria for Lead. However, the LCS was compliant.

SEVERN TRENT SERVICES

000005

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The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

9/23/2002
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

000006

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM13-02	A2926203	-	-	-	-	SW8463	-
BM13-03	A2926204	-	-	-	-	SW8463	-
BM25-03	A2926201	-	-	-	-	SW8463	-
BM25-04	A2926202	-	-	-	-	SW8463	-
BM5A-04	A2926205	-	-	-	-	SW8463	-
BM5A-05	A2926206	-	-	-	-	SW8463	-
BM5A-06	A2926207	-	-	-	-	SW8463	-
BM5A-07	A2926208	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

000007

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM13-02	SOIL	T PB	09/18/2002	09/18/2002	09/19/2002
BM13-03	SOIL	T PB	09/18/2002	09/18/2002	09/19/2002
BM25-03	SOIL	T PB	09/18/2002	09/18/2002	09/19/2002
BM25-04	SOIL	T PB	09/18/2002	09/18/2002	09/19/2002
BM5A-04	SOIL	T PB	09/18/2002	09/18/2002	09/19/2002
BM5A-05	SOIL	T PB	09/18/2002	09/18/2002	09/19/2002
BM5A-06	SOIL	T PB	09/18/2002	09/18/2002	09/19/2002
BM5A-07	SOIL	T PB	09/18/2002	09/18/2002	09/19/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

000008

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM13-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM13-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM25-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM25-04	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM5A-04	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM5A-05	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM5A-06	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM5A-07	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P"
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
•	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

STL BUFFALO

Blasland Bouck & Lee, Inc.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM13-02 000010

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9262

Matrix (soil/water): SOIL Lab Sample ID: AD227095

Level (low/med): LOW Date Received: 9/18/02

% Solids: 84

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	93.3		E*	P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts: _____

Comments: _____

Blasland Bouck & Lee, Inc.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM13-03

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9262

Matrix (soil/water): SOIL Lab Sample ID: AD227096

Level (low/med): LOW Date Received: 9/18/02

% Solids: 88

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	176		E*	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

Blasland Bouck & Lee, Inc.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO. 000012

BM25-03

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9262

Matrix (soil/water): SOIL Lab Sample ID: AD227093

Level (low/med): LOW Date Received: 9/18/02

% Solids: 80

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	275		E*	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

Blasland Bouck & Lee, Inc.

-1-

000013

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM25-04

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9262

Matrix (soil/water): SOIL Lab Sample ID: AD227094

Level (low/med): LOW Date Received: 9/18/02

% Solids: 84

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	14.5		E*	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: BROWN Clarity After: CLDY/FI Artifacts: _____

Comments: _____

STL BUFFALO

Blasland Bouck & Lee, Inc.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO. 000014

BM5A-04

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9262

Matrix (soil/water): SOIL Lab Sample ID: AD227097

Level (low/med): LOW Date Received: 9/18/02

% Solids: 93

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	270		E*	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

Blasland Bouck & Lee, Inc.

000015

-I-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM5A-05

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9262

Matrix (soil/water): SOIL Lab Sample ID: AD227098

Level (low/med): LOW Date Received: 9/18/02

% Solids: 78

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	4360		E*	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

Blasland Bouck & Lee, Inc.

-1-

INORGANIC ANALYSIS DATA SHEET

000016

SAMPLE NO.

BM5A-06

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9262

Matrix (soil/water): SOIL Lab Sample ID: AD227101

Level (low/med): LOW Date Received: 9/18/02

% Solids: 62

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	563		E*	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

.mments:

STL BUFFALO

Blasland Bouck & Lee, Inc.

-1-

INORGANIC ANALYSIS DATA SHEET

000017

SAMPLE NO.

BM5A-07

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9262

Matrix (soil/water): SOIL Lab Sample ID: AD227102

Level (low/med): LOW Date Received: 9/18/02

% Solids: 87

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	13.5		E*	P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts:

ments:

Blasland Bouck & Lee, Inc.

-5A-

SPIKE SAMPLE RECOVERY

000018

SAMPLE NO.

BM5A-05MS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9262

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 77.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		2904.7119		4357.9761		25.26	-5752.2		P

Comments: _____

STL BUFFALO

Blasland Bouck & Lee, Inc.

-5A-

SPIKE SAMPLE RECOVERY

000019

SAMPLE NO.

BM5A-05SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9262

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 77.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		1974.0400		4357.9761		25.77	-9250.9		P

Comments: _____

Blasland Bouck & Lee, Inc.
-5B-

000020

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.
BM5A-05A

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9262

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		33544.76		34498.69		200.0	-477.0		P

Comments: _____

Blasland Bouck & Lee, Inc.
-6-
DUPLICATES

000021

SAMPLE NO.

BM5A-05SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9262

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 77.6 % Solids for Duplicate: 77.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead		2904.7119		1974.0400		38.2	*	P

Blasland Bouck & Lee, Inc.

-3-

BLANKS

000022

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9262

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C		M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U		P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	9/18/02	099089
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1400 Sweet Home Suite 1	(716) 689-1544 / (716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	Andy Fraser	Candice Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Rafralo, NY			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4°C	Analysis (Attach list if more space is needed): Total Lead	Special Instructions/ Conditions of Receipt
BM5A-01	9/18/02	13:00				X							X	X	7 Day Turn Around
BM5A-02	9/18/02	13:05				X							X	X	7 Day Turn Around
BM5A-03	9/18/02	13:10				X							X	X	7 Day Turn Around
BD091802	9/18/02	13:11				X							X	X	7 Day Turn Around
BM25-03	9/18/02	15:00				X							X	X	24 hr. Turn Around
BM25-04	9/18/02	15:05				X							X	X	24 hr. Turn Around
BM13-02	9/18/02	15:20				X							X	X	24 hr. Turn Around
BM13-03	9/18/02	15:25				X							X	X	24 hr. Turn Around

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☒ Archive For ____ Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required

☒ 24 Hours ☐ 48 Hours ☒ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other See note

QC Requirements (Specify)

1. Relinquished By	Date	Time	1. Received By	Date	Time
Bruce A. Fraser	9/18/02	17:20	STL	9-18-02	17:20
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

0003

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	9/18/02	099088
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1400 Sweet Home Suite 1	(716) 689-1544/(716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser	Candice Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo (NY)			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/NaOH	4°C	Analysis (Attach list if more space is needed): Total Lead
BMSA-04	9/18/02	13:25				X							X	X
BMSA-05 MS/MSD	9/18/02	13:20				X							X	X
BMSA-06	9/18/02	13:30				X							X	X
BMSA-07	9/18/02	13:32				X							X	X

Special Instructions/ Conditions of Receipt

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☐ Disposal By Lab ☐ Archive For 1 Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required
☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	9/18/02	14:35	1. Received By	9/18/02	1435
2. Relinquished By	9/18/02	1503	2. Received By STL	9/18/02	15:10
3. Relinquished By			3. Received By		

Comments

AMBIENT

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-8846

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Candace L. Fox
Project Manager

Susan L. Mazur
Susan L. Mazur
Laboratory Director

09/20/2002

This report contains 138 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2884602	BCS-02	09/06/2002	10:45	09/06/2002	16:20
A2884603	BM25A-01	09/06/2002	15:15	09/06/2002	16:20

METHODS SUMMARY

Job#: A02-8846

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
METHOD 8260 - TCL VOLATILE ORGANICS	SW8463 8260
METHOD 8270 - TCL SEMI-VOLATILE ORGANICS	SW8463 8270
METHOD 8081 - TCL PESTICIDES	SW8463 8081
METHOD 8082 - POLYCHLORINATED BIPHENYLS	SW8463 8082
METHOD 8151 - HERBICIDES Full list	SW8463 8151
Aluminum - Total	SW8463 6010
Antimony - Total	SW8463 6010
Arsenic - Total	SW8463 6010
Barium - Total	SW8463 6010
Beryllium - Total	SW8463 6010
Cadmium - Total	SW8463 6010
Calcium - Total	SW8463 6010
Chromium - Total	SW8463 6010
Cobalt - Total	SW8463 6010
Copper - Total	SW8463 6010
Iron - Total	SW8463 6010
Lead - Total	SW8463 6010
Magnesium - Total	SW8463 6010
Manganese - Total	SW8463 6010
Mercury - Total	SW8463 7471
Nickel - Total	SW8463 6010
Potassium - Total	SW8463 6010
Selenium - Total	SW8463 6010
Silver - Total	SW8463 6010
Sodium - Total	SW8463 6010
Thallium - Total	SW8463 6010
Vanadium - Total	SW8463 6010
Zinc - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-8846

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-8846
Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
LAF-01 was composited in SC into 1 1LGA.

BCS-02 was composited in SC into 1 1LGA.

Hold LAF-01 amd BCS-02 at clients request.

GC/MS Volatile Data

As a result of low volume, sample BCS-02 was analyzed from a jar with headspace.

The analytes Acetone and Methylene Chloride were detected in the Method Blank (VBLK98) at a level below the project established reporting limit. No corrective action is necessary for any values in Method Blanks that are below the requested reporting limits.

GC/MS Semivolatile Data

No deviations from protocol were encountered during the analytical procedures.

GC Extractable Data

For Method 8082 analysis, the continuing calibration verification for Aroclor 1016 analyzed just prior to the samples slightly exceeded the quality control limit of less than or equal to 15 percent difference. All other quality control criteria were met. There were no sample hits for Aroclor 1016; no corrective action was indicated.

SEVERN TRENT SERVICES

For method 8151 surrogate Dichlorophenyl Acetic Acid was elevated above quality control limits for sample A2B0883301 (MSB). No corrective action was taken, all other quality control is compliant and all field samples were non-detect for all target analytes.

Metals Data

The recovery of Antimony fell below the QC limits in sample BCS-02 Matrix Spike and Matrix Spike Duplicate. The LCS was acceptable.

The recovery of sample BCS-02 Matrix Spike fell above the Quality Control Limits for Iron, Magnesium, and Manganese. The recovery of sample BCS-02 Matrix Spike Duplicate fell above the Quality Control Limits for Aluminum, Iron, Magnesium, and Manganese. The sample results were more than four times greater than the spike added, therefore, no qualifiers are needed. The LCS was acceptable for all elements.

The recovery of Lead fell above the QC limits in sample BM25A-01 Matrix Spike and Matrix Spike Duplicate. The sample results are more than four times greater than the spike added, therefore, no qualifiers are needed. The LCS was acceptable.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

9/20/95
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

000006

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BCS-02	A2884602	SW8463	SW8463	-	SW8463	SW8463	-
BM25A-01	A2884603	-	-	-	-	SW8463	-
LAF-01	A2884601	-	-	-	-	-	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BCS-02	SOIL	HSL ME	09/06/2002	09/10,13/2002	09/11,13/2002
BM25A-01	SOIL	T PB	09/06/2002	09/09/2002	09/10/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BCS-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM25A-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

)ATA COMMENT PAGE

000013

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
›	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P"
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance The value obtained should be considered an estimate
•	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0 995

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

000022

SAMPLE NO.

BM25A-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-8846

Matrix (soil/water): SOIL Lab Sample ID: AD225218

Level (low/med): LOW Date Received: 9/6/02

% Solids: 88

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	1290		E	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

000036

SAMPLE NO.

BM25A-01 MS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8846

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 88.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		1965.9490		1290.7190		23.20	2910.6		P

Comments: _____

Form V (PART 1) - IN SW8463 3RD ED

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

000037

SAMPLE NO.

BM25A-01 SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-8846

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 88.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		1457.1230		1290.7190		23.68	702.7		P

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

000039

SAMPLE NO.

BM25A-01A

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-8846

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		11226.13		11127.37		200.0	49.4		P

Comments: _____

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
Blasland, Bouck & Lee	Joe Molina	9/6/02	099065
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1400 Sweet Home Rd. Suite 1	(716) 689-1544 / (716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Buffalo / NY / 14228	B. Andrew Fraser	CANDACE FOX	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo, NY			
Contract/Purchase Order/Quote No.			
778.01.005			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Total Cont. - 6010	Analysis: TCL VOCs	TCL SVOCs	PCBs	Pesticides	Herbicides	TAL Metals
LAF-01	9/6/02	10:00				X	(4) X					(4) X		✓	✓	✓	✓	✓	✓
BCS-02	9/6/02	10:45				X	(4) X					(4) X		✓	✓	✓	✓	✓	✓
BM25A-01	9/6/02	15:15				X	(1) X					(1) X	✓						

Special Instructions/ Conditions of Receipt

- Composite of 4 jars
- Composite of 4 jars
- Hold samples LAF-01 & BCS-02 until instructed to begin analyses as indicated. Turnaround time will be conveyed then.
- Sample BM25A-01 will have 24 hr turnaround time for VOA.

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☑ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required SEE INSTRUCTIONS

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Bruce A. Fraser	9/6/02	13:00	Douglas M. Kuszczyk	9/6/02	13:00
2.	Douglas M. Kuszczyk	9/6/02	1620	STL	9/06/02	16:20
3.						

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-9353

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan E. Mazur
Laboratory Director

09/24/2002

This report contains 192 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2935305	BM14-01	09/19/2002	15:44	09/19/2002	18:20
A2935304	BM18-01	09/19/2002	15:42	09/19/2002	18:20
A2935303	BM29-01	09/19/2002	15:32	09/19/2002	18:20
A2935301	TREE-01	09/19/2002	15:34	09/19/2002	18:20
A2935302	TREE-02	09/19/2002	15:36	09/19/2002	18:20
A2935306	TSLCA-02	09/19/2002	17:20	09/19/2002	18:20

METHODS SUMMARY

Job#: A02-9353

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
METHOD 8260 - ACETONE ONLY	SW8463 8260
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-9353

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9353
Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
All samples were received in good condition.

GC/MS Volatile Data

No deviations from protocol were encountered during the analytical procedures.

Metals Data

The recovery of Lead fell below the QC limits in sample TREE-01 Matrix Spike and fell above the QC limits in sample TREE-01 Matrix Spike Duplicate. The sample result was greater than four times the spike added, therefore, a qualifier was not required. In addition, the relative percent difference between these samples exceeded the control criteria for Lead. The LCS was acceptable.

SEVERN TRENT SERVICES

000005

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The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

9/25/02
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM14-01	A2935305	-	-	-	-	SW8463	-
BM18-01	A2935304	-	-	-	-	SW8463	-
BM29-01	A2935303	-	-	-	-	SW8463	-
TREE-01	A2935301	-	-	-	-	SW8463	-
TREE-02	A2935302	-	-	-	-	SW8463	-
TSLCA-02	A2935306	SW8463	-	-	-	-	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM14-01	SOIL	T PB	09/19/2002	09/20/2002	09/23/2002
BM18-01	SOIL	T PB	09/19/2002	09/20/2002	09/23/2002
BM29-01	SOIL	T PB	09/19/2002	09/20/2002	09/23/2002
TREE-01	SOIL	T PB	09/19/2002	09/20/2002	09/23/2002
TREE-02	SOIL	T PB	09/19/2002	09/20/2002	09/23/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM14-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM18-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM29-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
TREE-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
TREE-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P"
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit
N	Indicates spike sample recovery is not within the quality control limits
K	Indicates the post digestion spike recovery is not within the quality control limits
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM14-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9353

Matrix (soil/water): SOIL Lab Sample ID: AD227786

Level (low/med): LOW Date Received: 9/19/02

% Solids: 88

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	322		E*	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM18-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9353

Matrix (soil/water): SOIL Lab Sample ID: AD227785

Level (low/med): LOW Date Received: 9/19/02

% Solids: 89

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	472		E*	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM29-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9353

Matrix (soil/water): SOIL Lab Sample ID: AD227784

Level (low/med): LOW Date Received: 9/19/02

% Solids: 84

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	18.6		E*	P

Color Before: MIX Clarity Before: N/A Texture: CLAY

Color After: GRAY Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

TREE-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9353

Matrix (soil/water): SOIL Lab Sample ID: AD227780

Level (low/med): LOW Date Received: 9/19/02

% Solids: 96

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	1100		E*	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: YELLOW Clarity After: CLR/FIL Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

TREE-02

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9353

Matrix (soil/water): SOIL Lab Sample ID: AD227783

Level (low/med): LOW Date Received: 9/19/02

% Solids: 93

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	1440		E*	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

TREE-01 MS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9353

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 96.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		1021.8980		1097.6890		20.83	-363.8		P

Comments: _____

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

TREE-01 SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9353

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 96.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		1308.3210		1097.6890		21.26	990.8		P

Comments: _____

BLASLAND BOUCK & LEE, INC.
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.: TREE-01A

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9353

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		10883.34		10748.57		200.0	67.4		P

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.
-6-
DUPLICATES

SAMPLE NO.

TREE-01 SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9353

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 96.0 % Solids for Duplicate: 96.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead		1021.8980		1308.3210		24.6	*	P

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9353

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-9438

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

09/25/2002

This report contains 224 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2943801	BM5A-08	09/23/2002	15:32	09/23/2002	17:15
A2943802	BM5A-09	09/23/2002	15:32	09/23/2002	17:15

METHODS SUMMARY

Job#: A02-9438

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-9438

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9438
Sample Cooler(s) were received at the following temperature(s); AMBIENT 22 °C
Samples were received at a temperature of >10°C. It was not possible for the samples to cool to 4°C prior to receipt. There is no impact on the data.

Metals Data

The recovery of Lead fell above the QC limits in sample BM5A-09 Matrix Spike and Matrix Spike Duplicate. The LCS was acceptable.

SEVERN TRENT SERVICES

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

9/26/05
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM5A-08	A2943801	-	-	-	-	SW8463	-
BM5A-09	A2943802	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM5A-08	SOIL	T PB	09/23/2002	09/23/2002	09/24/2002
BM5A-09	SOIL	T PB	09/23/2002	09/23/2002	09/24/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM5A-08	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM5A-09	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P"
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

SAMPLE DATA PACKAGE

BLASLAND BOUCK & LEE, INC.

000018

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM5A-08

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9438

Matrix (soil/water): SOIL Lab Sample ID: AD228177

Level (low/med): LOW Date Received: 9/23/02

% Solids: 80

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	189			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: GRAY Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

000019

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM5A-09

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9438

Matrix (soil/water): SOIL Lab Sample ID: AD228178

Level (low/med): LOW Date Received: 9/23/02

% Solids: 66

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	315			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: GREEN Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

000020

SAMPLE NO.

BM5A-09 MS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9438

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 66.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		478.0200		314.9082		30.79	529.7		P

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

000021

SAMPLE NO.

BM5A-09 SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9438

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 66.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		405.6102		314.9082		29.01	312.6		P

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

000022

SAMPLE NO.

BM5A-09A

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9438

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		2306.47		2170.70		200.0	67.9		P

Comments: _____

BLASLAND BOUCK & LEE, INC.

-6-

DUPLICATES

000023

SAMPLE NO.

BM5A-09 SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9438

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 66.3 % Solids for Duplicate: 66.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead		478.0200		405.6102		16.4		P

BLASLAND BOUCK & LEE, INC.

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BLANKS

000024

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9438

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

090025

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9438

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U	50.0	U			P

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

000026

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9438

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U							P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client: Blasland Bouck & Lee	Project Manager: Joe Molina	Date: 9/23/02	Chain of Custody Number: 099091
Address: 1400 Sweet Home Suite 1	Telephone Number (Area Code)/Fax Number: (716) 689-1544 / (716) 689-1568	Lab Number:	Page 1 of 1
City: Amherst; State: NY; Zip Code: 14228	Site Contact: A. Fraser	Lab Contact: Candice Fox	
Project Name and Location (State): Bern Metal, Buffalo (NY)	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4°C	Analysis: Total Lead	Special Instructions/ Conditions of Receipt
BM5A-08	9/23/02	15:32				X							X	X	
BM5A-09	9/23/02	15:32				X							X	X	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal: ☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required: ☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify):

1. Relinquished By: BM A. Fr	Date: 9/23/02	Time: 17:15	1. Received By: SR	Date: 9/23/02	Time: 1715
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments: ambient

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-9399

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

09/25/2002

This report contains 227 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2939904	BD092002	09/20/2002	14:44	09/20/2002	17:40
A2939903	BM14-02	09/20/2002	14:43	09/20/2002	17:40
A2939905	BM14-03	09/20/2002	14:47	09/20/2002	17:40
A2939906	BM28-01	09/20/2002	16:30	09/20/2002	17:40
A2939907	BM28-02	09/20/2002	16:35	09/20/2002	17:40
A2939901	BMD-01	09/20/2002	10:52	09/20/2002	17:40
A2939902	BMD-02	09/20/2002	10:57	09/20/2002	17:40

METHODS SUMMARY

Job#: A02-9399

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-9399

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9399
Sample Cooler(s) were received at the following temperature(s); 7 °C
All samples were received at a temperature of 7°C. However, ice was present in the cooler and as the samples were collected the same day, it was not possible for the samples to cool to 4°C prior to receipt. There is no impact on the data.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

9/26/02
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BD092002	A2939904	-	-	-	-	SW8463	-
BM14-02	A2939903	-	-	-	-	SW8463	-
BM14-03	A2939905	-	-	-	-	SW8463	-
BM28-01	A2939906	-	-	-	-	SW8463	-
BM28-02	A2939907	-	-	-	-	SW8463	-
BMD-01	A2939901	-	-	-	-	SW8463	-
BMD-02	A2939902	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BD092002	SOIL	T PB	09/20/2002	09/23/2002	09/24/2002
BM14-02	SOIL	T PB	09/20/2002	09/23/2002	09/24/2002
BM14-03	SOIL	T PB	09/20/2002	09/23/2002	09/24/2002
BM28-01	SOIL	T PB	09/20/2002	09/23/2002	09/24/2002
BM28-02	SOIL	T PB	09/20/2002	09/23/2002	09/24/2002
BMD-01	SOIL	T PB	09/20/2002	09/23/2002	09/24/2002
BMD-02	SOIL	T PB	09/20/2002	09/23/2002	09/24/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BD092002	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM14-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM14-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM28-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM28-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BMD-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BMD-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P"
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits
S	Indicates value determined by the Method of Standard Addition
M	Indicates duplicate injection results exceeded quality control limits
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate
*	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

BLASLAND BOUCK & LEE, INC.

000010

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BD092002

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9399

Matrix (soil/water): SOIL Lab Sample ID: AD228020

Level (low/med): LOW Date Received: 9/20/02

% Solids: 88

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	396			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

000011

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM14-02

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9399

Matrix (soil/water): SOIL Lab Sample ID: AD228019

Level (low/med): LOW Date Received: 9/20/02

% Solids: 92

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	443			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

mments:

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM14-03

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9399

Matrix (soil/water): SOIL Lab Sample ID: AD228021

Level (low/med): LOW Date Received: 9/20/02

% Solids: 92

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	170			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

000013

SAMPLE NO.

BM28-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9399

Matrix (soil/water): SOIL Lab Sample ID: AD228022

Level (low/med): LOW Date Received: 9/20/02

% Solids: 75

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	112			P

Color Before: MIX Clarity Before: N/A Texture: CLAY

Color After: GRAY Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

000014

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM28-02

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9399

Matrix (soil/water): SOIL Lab Sample ID: AD228023

Level (low/med): LOW Date Received: 9/20/02

% Solids: 72

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	205			P

Color Before: GRAY Clarity Before: N/A Texture: CLAY

Color After: GRAY Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BMD-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9399

Matrix (soil/water): SOIL Lab Sample ID: AD228017

Level (low/med): LOW Date Received: 9/20/02

% Solids: 67

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	43.4			P

Color Before: BLACK Clarity Before: N/A Texture: GRAVEL

Color After: GRAY Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BMD-02

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9399

Matrix (soil/water): SOIL Lab Sample ID: AD228018

Level (low/med): LOW Date Received: 9/20/02

% Solids: 46

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	10.8	U		P

Color Before: BLACK Clarity Before: N/A Texture: TOPSOIL

Color After: YELLOW Clarity After: CLR/FIL Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

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BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9399

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

000018

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9399

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U	50.0	U			P

BLASLAND BOUCK & LEE, INC.

BLANKS

000019

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9399

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U							P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molma	9/20/02	099090
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1400 Sweet Home Rd. Suite 1	(716) 689-1544 / (716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser	Candice Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo (NY)			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4°C	Analysis: Total Pb													Special Instructions/ Conditions of Receipt
BMD-01	9/20/02	10:52				X							X	X													
BMD-02	9/20/02	10:57				X							X	X													
BM14-02	9/20/02	14:43				X							X	X													
BD092002	9/20/02	14:44				X							X	X													
BM14-03	9/20/02	14:47				X							X	X													
BM28-01	9/20/02	16:30				X							X	X													
BM28-02	9/20/02	16:35				X							X	X													

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required
☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Brian G. Fox	9/20/02	17:30	1. Received By: STL BUFFALO	09/20/02	17:40
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-9499

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

09/27/2002

This report contains 294 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2949902	BM15-01	09/25/2002	11:30	09/25/2002	16:50
A2949903	BM15-02	09/25/2002	11:33	09/25/2002	16:50
A2949901	BM16-01	09/25/2002	11:25	09/25/2002	16:50
A2949913	BM21-03	09/25/2002	16:00	09/25/2002	16:50
A2949914	BM21-04	09/25/2002	16:05	09/25/2002	16:50
A2949906	BM8-01	09/25/2002	14:10	09/25/2002	16:50
A2949907	BM8-02	09/25/2002	14:26	09/25/2002	16:50
A2949908	BM8-03	09/25/2002	13:35	09/25/2002	16:50
A2949909	BM8-04	09/25/2002	13:57	09/25/2002	16:50
A2949910	BM8-05	09/25/2002	13:52	09/25/2002	16:50
A2949911	BM8-06	09/25/2002	13:47	09/25/2002	16:50
A2949912	BM8-07	09/25/2002	13:40	09/25/2002	16:50
A2949904	BMD-03	09/25/2002	11:40	09/25/2002	16:50
A2949905	BMD-04	09/25/2002	11:43	09/25/2002	16:50

METHODS SUMMARY

Job#: A02-9499

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-9499

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9499
Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
All samples were received in good condition.

Metals Data

The recovery of samples BM21-04 Matrix Spike and Matrix Spike Duplicate fell below the Quality Control Limits for Lead. The sample result is greater than four times the spike added, therefore, a qualifier was not rewuired. The LCS was acceptable.

SEVERN TRENT SERVICES

STL Buffalo

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

for

Susan L. Mazur
Laboratory Director

9/28/02
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM15-01	A2949902	-	-	-	-	SW8463	-
BM15-02	A2949903	-	-	-	-	SW8463	-
BM16-01	A2949901	-	-	-	-	SW8463	-
BM21-03	A2949913	-	-	-	-	SW8463	-
BM21-04	A2949914	-	-	-	-	SW8463	-
BM8-01	A2949906	-	-	-	-	SW8463	-
BM8-02	A2949907	-	-	-	-	SW8463	-
BM8-03	A2949908	-	-	-	-	SW8463	-
BM8-04	A2949909	-	-	-	-	SW8463	-
BM8-05	A2949910	-	-	-	-	SW8463	-
BM8-06	A2949911	-	-	-	-	SW8463	-
BM8-07	A2949912	-	-	-	-	SW8463	-
BMD-03	A2949904	-	-	-	-	SW8463	-
BMD-04	A2949905	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM15-01	SOIL	T PB	09/25/2002	09/25/2002	09/26/2002
BM15-02	SOIL	T PB	09/25/2002	09/25/2002	09/26/2002
BM16-01	SOIL	T PB	09/25/2002	09/25/2002	09/26/2002
BM21-03	SOIL	T PB	09/25/2002	09/25/2002	09/26/2002
BM21-04	SOIL	T PB	09/25/2002	09/25/2002	09/26/2002
BM8-01	SOIL	T PB	09/25/2002	09/25/2002	09/26/2002
BM8-02	SOIL	T PB	09/25/2002	09/25/2002	09/26/2002
BM8-03	SOIL	T PB	09/25/2002	09/25/2002	09/26/2002
BM8-04	SOIL	T PB	09/25/2002	09/25/2002	09/26/2002
BM8-05	SOIL	T PB	09/25/2002	09/25/2002	09/26/2002
BM8-06	SOIL	T PB	09/25/2002	09/25/2002	09/26/2002
BM8-07	SOIL	T PB	09/25/2002	09/25/2002	09/26/2002
BMD-03	SOIL	T PB	09/25/2002	09/25/2002	09/26/2002
BMD-04	SOIL	T PB	09/25/2002	09/25/2002	09/26/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM15-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM15-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM16-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM21-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM21-04	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM8-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
[illegible]-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM8-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM8-04	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM8-05	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM8-06	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM8-07	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BMD-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BMD-04	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
BM8-01	A2949906	Lead - Total	5.00	008

Dilution Code Definition:

002 - sample matrix effects
003 - excessive foaming
004 - non-target compounds (TICS) exceeded 5X the total response of one of the Internal Standards
005 - sample matrix resulted in method non-compliance for an Internal Standard
006 - sample matrix resulted in method non-compliance for Surrogate
007 - nature of the TCLP matrix
008 - high concentration of target analyte(s)
009 - sample turbidity
010 - sample color
011 - insufficient volume for lower dilution
012 - sample viscosity
013 - other

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P"
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits
S	Indicates value determined by the Method of Standard Addition
M	Indicates duplicate injection results exceeded quality control limits
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance The value obtained should be considered an estimate
*	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0 995

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM15-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9499

Matrix (soil/water): SOIL Lab Sample ID: AD228826

Level (low/med): LOW Date Received: 9/25/02

% Solids: 93

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	287			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM15-02

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9499

Matrix (soil/water): SOIL Lab Sample ID: AD228827

Level (low/med): LOW Date Received: 9/25/02

% Solids: 88

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	195			P

Color Before: BROWN Clarity Before: N/A Texture: CONGLOM

Color After: YELLOW Clarity After: CLDY/FI Artifacts: _____

Comments: _____

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM16-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9499

Matrix (soil/water): SOIL Lab Sample ID: AD228825

Level (low/med): LOW Date Received: 9/25/02

% Solids: 93

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	671			P

Color Before: BROWN Clarity Before: N/A Texture: CONGLOM

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM21-03

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9499

Matrix (soil/water): SOIL Lab Sample ID: AD228837

Level (low/med): LOW Date Received: 9/25/02

% Solids: 83

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	12.9			P

Color Before: GRAY Clarity Before: N/A Texture: CLAY

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM21-04

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9499

Matrix (soil/water): SOIL Lab Sample ID: AD228838

Level (low/med): LOW Date Received: 9/25/02

% Solids: 83

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	121			P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM8-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9499

Matrix (soil/water): SOIL Lab Sample ID: AD228830

Level (low/med): LOW Date Received: 9/25/02

% Solids: 92

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	5870			P

Color Before: BLACK Clarity Before: N/A Texture: COARSE

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM8-02

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9499

Matrix (soil/water): SOIL Lab Sample ID: AD228831

Level (low/med): LOW Date Received: 9/25/02

% Solids: 79

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	1610			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM8-03

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9499

Matrix (soil/water): SOIL Lab Sample ID: AD228832

Level (low/med): LOW Date Received: 9/25/02

% Solids: 74

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	72.5			P

Color Before: BLACK Clarity Before: N/A Texture: CLAY

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM8-04

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9499

Matrix (soil/water): SOIL Lab Sample ID: AD228833

Level (low/med): LOW Date Received: 9/25/02

% Solids: 87

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	173			P

Color Before: BLACK Clarity Before: N/A Texture: CONGLOM

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM8-05

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9499

Matrix (soil/water): SOIL Lab Sample ID: AD228834

Level (low/med): LOW Date Received: 9/25/02

% Solids: 75

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	491			P

Color Before: BLACK Clarity Before: N/A Texture: CONGLOM

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM8-06

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9499

Matrix (soil/water): SOIL Lab Sample ID: AD228835

Level (low/med): LOW Date Received: 9/25/02

% Solids: 82

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	15.8			P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM8-07

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9499

Matrix (soil/water): SOIL Lab Sample ID: AD228836

Level (low/med): LOW Date Received: 9/25/02

% Solids: 80

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	13.7			P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BMD-03

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9499

Matrix (soil/water): SOIL Lab Sample ID: AD228828

Level (low/med): LOW Date Received: 9/25/02

% Solids: 88

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	384			P

Color Before: GRAY Clarity Before: N/A Texture: SILT

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BMD-04

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9499

Matrix (soil/water): SOIL Lab Sample ID: AD228829

Level (low/med): LOW Date Received: 9/25/02

% Solids: 84

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	361			P

Color Before: BLACK Clarity Before: N/A Texture: CLAY

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BM21-04MS

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9499

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 83.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		136.4499		120.8661		24.96	62.4		P

Comments:

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BM21-04SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9499

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 83.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		127.6881		120.8661		23.96	28.5		P

Comments: _____

BLASLAND BOUCK & LEE, INC.
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.: BM21-04A

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9499

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		1177.89		1029.17		200.0	74.4		P

Comments: _____

BLASLAND BOUCK & LEE, INC.
-6-
DUPLICATES

SAMPLE NO.
BM21-04SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9499

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 83.5 % Solids for Duplicate: 83.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead		136.4499		127.6881		6.6		P

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9499

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

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BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9499

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U					P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	9/25/02	099094
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 2**
1400 Sweet Home Suite 1	(716) 689-1544 / (716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser	Candace Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern metals, Buffalo, NY			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4oz	Analysis: Total Lead
BM16-01	9/25/02	11:25				X							X	X
BM15-01	9/25/02	11:30				X							X	X
BM15-02	9/25/02	11:33				X							X	X
BMD-03	9/25/02	11:40				X							X	X
BMD-04	9/25/02	11:43				X							X	X
BM8-01	9/25/02	14:10				X							X	X
BM8-02	9/25/02	14:26				X							X	X
BM8-03	9/25/02	13:35				X							X	X
BM8-04	9/25/02	13:57				X							X	X
BM8-05	9/25/02	13:52				X							X	X
BM8-06	9/25/02	13:47				X							X	X
BM8-07	9/25/02	13:40				X							X	X

Special Instructions/ Conditions of Receipt

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required

☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

1. Relinquished By	Date	Time	1. Received By	Date	Time
B M Fn	9/25/02	16:50	Jason Boyd STL BUFFALO	09/25/02	16:50
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

000039

Comments

14°C Ambient

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

Chain of Custody Record

STL-4124 (0901)

SEVERN TRENT SERVICES **Severn Trent Laboratories, Inc.**

Field	Value
Client	Blasland Bouck & Lee
Project Manager	Joe Molina
Date	9/25/02
Chain of Custody Number	136404
Address	1400 Sweet Home Suite 1
Telephone Number (Area Code)/Fax Number	(716) 684-1544 / (716) 684-1568
Lab Number	
Page	2 of 2
City	Amherst
State	NY
Zip Code	14228
Site Contact	A Fraser
Lab Contact	Candace Fox
Project Name and Location (State)	Bern metals Buffalo (NY)
Carrier/Waybill Number	
Contract/Purchase Order/Quote No.	

Analysis (Attach list if more space is needed)

Special Instructions/ Conditions of Receipt

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil		Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	4°C	Total Lead	Special Instructions/ Conditions of Receipt
BM21-03	9/25/02	16:00				X								X	X	
BM21-04	9/25/02	16:05				X								X	X	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other______

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: [signature]	9/25/02	16:50	1. Received By: [signature] STL Buffalo	09/25/02	16:50
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

14°C Ambient

000098

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-9470

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

09/27/2002

This report contains 218 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2947003	BD092402	09/24/2002	15:53	09/24/2002	17:05
A2947004	BM22-01	09/24/2002	16:00	09/24/2002	17:05
A2947005	BM22-02	09/24/2002	16:05	09/24/2002	17:05
A2947002	BM23-01	09/24/2002	15:52	09/24/2002	17:05
A2947006	BM27-01	09/24/2002	16:10	09/24/2002	17:05
A2947007	BM27-02	09/24/2002	16:15	09/24/2002	17:05
A2947001	BMSP-01	09/24/2002	15:50	09/24/2002	17:05

METHODS SUMMARY

Job#: A02-9470

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-9470

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9470
Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
(4) 4 ozGW bottles for sample BMSP-01 composited into (1) 1 lGW as per chain of custody request.

Metals Data

The recovery of sample BMSP-01 Matrix Spike and Matrix Spike Duplicate fell below the quality control limits for Lead. The sample result is greater than four times the spike added, therefore, a qualifier was not required. The LCS was acceptable.

SEVERN TRENT SERVICES

STL Buffalo

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

for Susan L. Mazur
Laboratory Director

9/27/02
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BD092402	A2947003	-	-	-	-	SW8463	-
BM22-01	A2947004	-	-	-	-	SW8463	-
BM22-02	A2947005	-	-	-	-	SW8463	-
BM23-01	A2947002	-	-	-	-	SW8463	-
BM27-01	A2947006	-	-	-	-	SW8463	-
BM27-02	A2947007	-	-	-	-	SW8463	-
BMSP-01	A2947001	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BD092402	SOIL	T PB	09/24/2002	09/24/2002	09/25/2002
BM22-01	SOIL	T PB	09/24/2002	09/24/2002	09/25/2002
BM22-02	SOIL	T PB	09/24/2002	09/24/2002	09/25/2002
BM23-01	SOIL	T PB	09/24/2002	09/24/2002	09/25/2002
BM27-01	SOIL	T PB	09/24/2002	09/24/2002	09/25/2002
BM27-02	SOIL	T PB	09/24/2002	09/24/2002	09/25/2002
BMSP-01	SOIL	T PB	09/24/2002	09/24/2002	09/25/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BD092402	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM22-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM22-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM23-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM27-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM27-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
[illegible]-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P"
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BD092402

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9470

Matrix (soil/water): SOIL Lab Sample ID: AD228588

Level (low/med): LOW Date Received: 9/24/02

% Solids: 91

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	854		E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts: _____

Comments: _____

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM22-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9470

Matrix (soil/water): SOIL Lab Sample ID: AD228589

Level (low/med): LOW Date Received: 9/24/02

% Solids: 87

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	113		E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM22-02

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9470

Matrix (soil/water): SOIL Lab Sample ID: AD228590

Level (low/med): LOW Date Received: 9/24/02

% Solids: 89

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	131		E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM23-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9470

Matrix (soil/water): SOIL Lab Sample ID: AD228587

Level (low/med): LOW Date Received: 9/24/02

% Solids: 91

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	796		E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM27-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9470

Matrix (soil/water): SOIL Lab Sample ID: AD228591

Level (low/med): LOW Date Received: 9/24/02

% Solids: 83

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	78.1		E	P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM27-02

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9470

Matrix (soil/water): SOIL Lab Sample ID: AD228592

Level (low/med): LOW Date Received: 9/24/02

% Solids: 79

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	199		E	P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts: _____

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BMSP-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9470

Matrix (soil/water): SOIL Lab Sample ID: AD228584

Level (low/med): LOW Date Received: 9/24/02

% Solids: 91

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	150		E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BMSP-01MS

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9470

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 90.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		144.6837		150.0507		22.97	-23.4		P

Comments:

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BMSP-01SD

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9470

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 90.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		162.1617		150.0507		22.50	53.8		P

Comments: _____

BLASLAND BOUCK & LEE, INC.
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.: BMSP-01A

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9470

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		319.37		1360.96		200.0	-520.8		P

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.
-6-
DUPLICATES

SAMPLE NO.

BMSP-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9470

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 90.7 % Solids for Duplicate: 90.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead		144.6837		162.1617		11.4		P

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9470

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9470

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U	50.0	U			P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	9/24/02	099092
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 1 of 1
1400 Sweet Home Suite 1	(716) 689-1544 / (716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser	Candace Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals Buffalo, NY			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNOS	HCl	NaOH	ZnAc/ NaOH	4°C	Total Lead	Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt
BMSP-01 (composite-4)	9/24/02	15:50				X							X	X		composite 4 Jars
BM23-01	9/24/02	15:52				X							X	X		
BD092402	9/24/02	15:53				X							X	X		
BM22-01	9/24/02	16:00				X							X	X		
BM22-02	9/24/02	16:05				X							X	X		
BM27-01	9/24/02	16:10				X							X	X		
BM27-02	9/24/02	16:15				X							X	X		

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required

☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

1. Relinquished By	Date	Time	1. Received By	Date	Time
Ben G. Fuss	9/24/02	17:05	SR	9/24/02	1705
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

Amherst 19°C

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

000024

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9648

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U	50.0	U			P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	9/30/02	099063
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1400 Sweet Home Suite 1	(716) 689-1544/(716) 689-1568		
City / State / Zip Code	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser	Candace Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Ben Metals, Buffalo (NY)			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4°C	Analysis: Total Lead	Special Instructions/ Conditions of Receipt
SW14-01	9/30/02	10:00				X							X	X	
~~SW24-01~~	~~9/30/02~~	X				~~X~~							~~X~~	~~X~~	None Collected
~~SW24-02~~	~~9/30/02~~	X				~~X~~							~~X~~	~~X~~	None Collected
~~SW24-03~~	~~9/30/02~~	X				~~X~~							~~X~~	~~X~~	None collected.
BM20-03	9/30/02	11:25				X							X	X	
BM20-04	9/30/02	11:30				X							X	X	
BM20-05	9/30/02	11:35				X							X	X	
BM17-01	9/30/02	11:05				X							X	X	
BM17-02	9/30/02	11:15				X							X	X	
BM17-03	9/30/02	11:20				X							X	X	
BMSB-02	9/30/02	11:00				X							X	X	(composite (4)

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months
(A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required
☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Bruce A. Fraser	9/30/02	16:10	1. Received By: STL	9/30/02	16:10
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments: 30°C, NO ICE

000082

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-9648

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Lisa Shaffer
for Candace L. Fox
Project Manager

for Susan L. Mazur
Laboratory Director

10/02/2002

This report contains 313 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2964805	BM17-01	09/30/2002	11:05	09/30/2002	16:25
A2964806	BM17-02	09/30/2002	11:15	09/30/2002	16:25
A2964807	BM17-03	09/30/2002	11:20	09/30/2002	16:25
A2964802	BM20-03	09/30/2002	11:25	09/30/2002	16:25
A2964803	BM20-04	09/30/2002	11:30	09/30/2002	16:25
A2964804	BM20-05	09/30/2002	11:35	09/30/2002	16:25
A2964808	BMSP-02	09/30/2002	11:00	09/30/2002	16:25
A2964801	SW14-01	09/30/2002	10:00	09/30/2002	16:25

METHODS SUMMARY

Job#: A02-9648

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-9648

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9648
Sample Cooler(s) were received at the following temperature(s); 30 °C
All samples were received in good condition.

Metals Data

The recovery of Lead fell below the QC limits in sample SW14-01 Matrix Spike and Matrix Spike Duplicate. The sample result was greater than four times the spike added, therefore, a qualifier was not needed. The LCS was acceptable.

ue to CCB failure, the Method Blank, LCS, sample SW14-01, SW14-01 Matrix Spike and Matrix Spike Duplicate were reanalyzed and are bracketed betweeen compliant QC.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

10/3/02
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

000006

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM17-01	A2964805	-	-	-	-	SW8463	-
BM17-02	A2964806	-	-	-	-	SW8463	-
BM17-03	A2964807	-	-	-	-	SW8463	-
BM20-03	A2964802	-	-	-	-	SW8463	-
BM20-04	A2964803	-	-	-	-	SW8463	-
BM20-05	A2964804	-	-	-	-	SW8463	-
BMSP-02	A2964808	-	-	-	-	SW8463	-
SW14-01	A2964801	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

000007

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM17-01	SOIL	T PB	09/30/2002	09/30/2002	10/01/2002
BM17-02	SOIL	T PB	09/30/2002	09/30/2002	10/01/2002
BM17-03	SOIL	T PB	09/30/2002	09/30/2002	10/01/2002
BM20-03	SOIL	T PB	09/30/2002	09/30/2002	10/01/2002
BM20-04	SOIL	T PB	09/30/2002	09/30/2002	10/01/2002
BM20-05	SOIL	T PB	09/30/2002	09/30/2002	10/01/2002
BMSP-02	SOIL	T PB	09/30/2002	09/30/2002	10/01/2002
SW14-01	SOIL	T PB	09/30/2002	09/30/2002	10/01/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

000008

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM17-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM17-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM17-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM20-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM20-04	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM20-05	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
P[illegible]P-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
SW14-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

000010

SAMPLE NO.

BM17-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9648

Matrix (soil/water): SOIL Lab Sample ID: AD229826

Level (low/med): LOW Date Received: 9/30/02

% Solids: 85

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	15.8		*E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM17-02

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9648

Matrix (soil/water): SOIL Lab Sample ID: AD229827

Level (low/med): LOW Date Received: 9/30/02

% Solids: 82

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	71.7		*E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO. 999012

BM17-03

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9648

Matrix (soil/water): SOIL Lab Sample ID: AD229828

Level (low/med): LOW Date Received: 9/30/02

% Solids: 87

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	327		*E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

000013

SAMPLE NO.

BM20-03

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9648

Matrix (soil/water): SOIL Lab Sample ID: AD229823

Level (low/med): LOW Date Received: 9/30/02

% Solids: 87

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	44.4		*E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

000014

SAMPLE NO.

BM20-04

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9648

Matrix (soil/water): SOIL Lab Sample ID: AD229824

Level (low/med): LOW Date Received: 9/30/02

% Solids: 80

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	283		*E	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

000015

SAMPLE NO.

BM20-05

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9648

Matrix (soil/water): SOIL Lab Sample ID: AD229825

Level (low/med): LOW Date Received: 9/30/02

% Solids: 89

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	21.6		*E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

000016

SAMPLE NO.

BMSP-02

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9648

Matrix (soil/water): SOIL Lab Sample ID: AD229829

Level (low/med): LOW Date Received: 9/30/02

% Solids: 85

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	27.0		*E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

000017

SAMPLE NO.

SW14-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9648

Matrix (soil/water): SOIL Lab Sample ID: AD229820

Level (low/med): LOW Date Received: 9/30/02

% Solids: 91

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	310		*E	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

000018

SAMPLE NO.

SW14-01 MS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9648

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 90.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		228.1138		310.2314		21.61	-380.0		P

Comments: _____

BLASLAND BOUCK & LEE, INC.

-5A-

000019

SPIKE SAMPLE RECOVERY

SAMPLE NO.

SW14-01 SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9648

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 90.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		294.5725		310.2314		21.61	-72.5		P

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

000020

SAMPLE NO.

SW14-01A

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9648

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		2850.89		2702.14		200.0	74.4		P

Comments: _____

BLASLAND BOUCK & LEE, INC.

-6-

DUPLICATES

000021

SAMPLE NO.

SW14-01 SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9648

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 90.7 % Solids for Duplicate: 90.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead		228.1138		294.5725		25.4	*	P

BLASLAND BOUCK & LEE, INC.

000022

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9648

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	496.9		50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

000023

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9648

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U	50.0	U			P

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-9722

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

10/04/2002

This report contains 115 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2972201	BM10-01	10/02/2002	09:45	10/02/2002	17:25
A2972202	BM24-01	10/02/2002	14:45	10/02/2002	17:25
A2972203	BM24-02	10/02/2002	14:50	10/02/2002	17:25

METHODS SUMMARY

Job#: A02-9722

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-9722

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9722
Sample Cooler(s) were received at the following temperature(s); 15 °C
All samples were received in good condition.

Metals Data

The recovery of sample BM10-01 Matrix Spike and Matrix Spike Duplicate fell below the Quality Control Limits for Lead. The sample result is greater than four times the spike added, therefore, a qualifier was not required. The LCS was acceptable.

SEVERN TRENT SERVICES

000005

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

10/4/02
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM10-01	A2972201	-	-	-	-	SW8463	-
BM24-01	A2972202	-	-	-	-	SW8463	-
BM24-02	A2972203	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM10-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM24-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM24-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM10-01	SOIL	T PB	10/02/2002	10/02/2002	10/03/2002
BM24-01	SOIL	T PB	10/02/2002	10/02/2002	10/03/2002
BM24-02	SOIL	T PB	10/02/2002	10/02/2002	10/03/2002

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P"
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate
*	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

BLASLAND BOUCK & LEE, INC.
-1-
INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: BM10-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9722

Matrix (soil/water): SOIL Lab Sample ID: AD230242

Level (low/med): LOW Date Received: 10/2/02

% Solids: 82

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	550		E	P

Color Before: BLACK Clarity Before: N/A Texture: MIX

Color After: BROWN Clarity After: CLDY/FI Artifacts: _____

Comments: _____

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM24-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9722

Matrix (soil/water): SOIL Lab Sample ID: AD230245

Level (low/med): LOW Date Received: 10/2/02

% Solids: 86

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	13.1		E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: YELLOW Clarity After: CLDY/FI Artifacts: _____

Comments: _____

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM24-02

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9722

Matrix (soil/water): SOIL Lab Sample ID: AD230246

Level (low/med): LOW Date Received: 10/2/02

% Solids: 77

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	17.4		E	P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BM10-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9722

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 82.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		348.3060		550.3684		25.41	-795.2		P

Comments: _____

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BM10-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9722

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 82.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		347.0794		999.4061		24.89	-2620.7		P

Comments: _____

BLASLAND BOUCK & LEE, INC.
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.: BM10-01A

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9722

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		4601.19		4512.47		200.0	44.4		P

Comments: _____

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9722

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

TC

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	10/02/02	099061
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 2**
1400 Sweet Home Rd. Suite 1	(716) 689-1544 / (716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser	Candace Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo (NY)			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4° C	Analysis: Total Lead	Special Instructions/ Conditions of Receipt
BM10-01	10/02/02	9:45				X							X	X	
BM24-01	10/02/02	14:45				X							X	X	
BM24-02	10/02/02	14:50				X							X	X	

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required

☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Brian A. Fox	10/02/02	17:20	STL BUFFALO	10/02/02	1725
2.						
3.						

Comments

15° C

000024

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-A013

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

for Susan L. Mazur
Laboratory Director

10/11/2002

This report contains 254 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2A01303	BM12-02	10/09/2002	14:30	10/09/2002	16:00
A2A01304	BM6-01	10/09/2002	14:05	10/09/2002	16:00
A2A01305	BM6-02	10/09/2002	14:10	10/09/2002	16:00
A2A01306	BM6-03	10/09/2002	14:15	10/09/2002	16:00
A2A01301	BM8-08	10/09/2002	14:20	10/09/2002	16:00
A2A01302	BM8-09	10/09/2002	14:25	10/09/2002	16:00

METHODS SUMMARY

Job#: A02-A013

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-A013

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-A013
Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
All samples were received in good condition.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

for Susan L. Mazur
Laboratory Director

10/12/02
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM12-02	A2A01303	-	-	-	-	SW8463	-
BM6-01	A2A01304	-	-	-	-	SW8463	-
BM6-02	A2A01305	-	-	-	-	SW8463	-
BM6-03	A2A01306	-	-	-	-	SW8463	-
BM8-08	A2A01301	-	-	-	-	SW8463	-
BM8-09	A2A01302	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM12-02	SOIL	T PB	10/09/2002	10/09/2002	10/10/2002
BM6-01	SOIL	T PB	10/09/2002	10/09/2002	10/10/2002
BM6-02	SOIL	T PB	10/09/2002	10/09/2002	10/10/2002
BM6-03	SOIL	T PB	10/09/2002	10/09/2002	10/10/2002
BM8-08	SOIL	T PB	10/09/2002	10/09/2002	10/10/2002
BM8-09	SOIL	T PB	10/09/2002	10/09/2002	10/10/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM12-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM6-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM6-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM6-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM8-08	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM8-09	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM12-02

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-A013

Matrix (soil/water): SOIL Lab Sample ID: AD231333

Level (low/med): LOW Date Received: 10/9/02

% Solids: 81

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	21.7		E	P

Color Before: GRAY Clarity Before: N/A Texture: CLAY

Color After: Clarity After: Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM6-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A013

Matrix (soil/water): SOIL Lab Sample ID: AD231334

Level (low/med): LOW Date Received: 10/9/02

% Solids: 81

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	16.0		E	P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM6-02

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A013

Matrix (soil/water): SOIL Lab Sample ID: AD231335

Level (low/med): LOW Date Received: 10/9/02

% Solids: 80

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	75.5		E	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM6-03

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-A013

Matrix (soil/water): SOIL Lab Sample ID: AD231336

Level (low/med): LOW Date Received: 10/9/02

% Solids: 83

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	69.3		E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: Clarity After: Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM8-08

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-A013

Matrix (soil/water): SOIL Lab Sample ID: AD231331

Level (low/med): LOW Date Received: 10/9/02

% Solids: 69

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	2090		E	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: Clarity After: Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM8-09

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A013

Matrix (soil/water): SOIL Lab Sample ID: AD231332

Level (low/med): LOW Date Received: 10/9/02

% Solids: 32

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	642		E	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

BLASLAND BOUCK & LEE, INC.
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.: BM8-08A

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A013

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		14562.83		14590.08		200.0	-13.6		P

Comments: _____

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A013

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A013

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U	50.0	U			P

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A013

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U					P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	10/8/02	135702
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1400 Sweet Home Suite 1	(716) 689-1544 / (716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser	Candace Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo, NY			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4°C	Analysis: Total Lead	Special Instructions/ Conditions of Receipt
BM8-08	10/8/02	14:20				X							X	X	
BM8-09	10/8/02	14:25				X							X	X	
BM12-02	10/9/02	14:30				X							X	X	
BM6-01	10/9/02	14:05				X							X	X	
BM6-02	10/9/02	14:10				X							X	X	
BM6-03	10/9/02	14:15				X							X	X	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Ben A. Fraser	10/8/02	16:00	1. Received By: [illegible] STL Buffalo	10/09/02	16:00
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments: 22°C Ambient

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-9757

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

10/07/2002

This report contains 234 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2975701	SW10-01	10/02/2002	09:10	10/02/2002	17:25
A2975701MS	SW10-01 MS	10/02/2002	09:10	10/02/2002	17:25
A2975701SD	SW10-01 MSD	10/02/2002	09:10	10/02/2002	17:25
A2975704	SW24-01	10/02/2002	14:15	10/02/2002	17:25
A2975706	SW24-02	10/02/2002	14:25	10/02/2002	17:25
A2975705	SW24-03	10/02/2002	14:20	10/02/2002	17:25
A2975702	SW8-01	10/02/2002	09:30	10/02/2002	17:25
A2975702MS	SW8-01 MS	10/02/2002	09:30	10/02/2002	17:25
A2975702SD	SW8-01 MSD	10/02/2002	09:30	10/02/2002	17:25
A2975703	SW8-02	10/02/2002	12:00	10/02/2002	17:25

METHODS SUMMARY

Job#: A02-9757

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-9757

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9757
Sample Cooler(s) were received at the following temperature(s); 15 °C
Samples were received at a temperature of >10°C. However, ice was present in the cooler and as the samples were collected the same day, it was not possible for the samples to cool to 4°C prior to receipt. There is no impact on the data.

Metals Data

The recovery of sample SW08-01 Matrix Spike fell above the Quality Control Limits for Lead. The LCS was acceptable.

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

10/8/2002
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
SW10-01	A2975701	-	-	-	-	SW8463	-
SW24-01	A2975704	-	-	-	-	SW8463	-
SW24-02	A2975706	-	-	-	-	SW8463	-
SW24-03	A2975705	-	-	-	-	SW8463	-
SW8-01	A2975702	-	-	-	-	SW8463	-
SW8-02	A2975703	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

000007

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
SW10-01	SOIL	T PB	10/02/2002	10/04/2002	10/06/2002
SW24-01	SOIL	T PB	10/02/2002	10/04/2002	10/06/2002
SW24-02	SOIL	T PB	10/02/2002	10/04/2002	10/06/2002
SW24-03	SOIL	T PB	10/02/2002	10/04/2002	10/06/2002
SW8-01	SOIL	T PB	10/02/2002	10/04/2002	10/06/2002
SW8-02	SOIL	T PB	10/02/2002	10/04/2002	10/06/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
SW10-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
SW24-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
SW24-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
SW24-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
SW8-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
SW8-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

000009

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P"
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance The value obtained should be considered an estimate
*	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0 995

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

000010

SAMPLE NO.

SW10-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9757

Matrix (soil/water): SOIL Lab Sample ID: AD230336

Level (low/med): LOW Date Received: 10/2/02

% Solids: 82

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	15.2		N	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

000011

SAMPLE NO.

SW24-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9757

Matrix (soil/water): SOIL Lab Sample ID: AD230343

Level (low/med): LOW Date Received: 10/2/02

% Solids: 97

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	139		N	P

Color Before: GRAY Clarity Before: N/A Texture: SILT

Color After: GRAY Clarity After: CLDY/FI Artifacts: _____

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

003012

SAMPLE NO.

SW24-02

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9757

Matrix (soil/water): SOIL Lab Sample ID: AD230345

Level (low/med): LOW Date Received: 10/2/02

% Solids: 92

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	15.1		N	P

Color Before: GRAY Clarity Before: N/A Texture: SILT

Color After: GRAY Clarity After: CLDY/FI Artifacts:

mments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

000013

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

SW24-03

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9757

Matrix (soil/water): SOIL Lab Sample ID: AD230344

Level (low/med): LOW Date Received: 10/2/02

% Solids: 91

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	176		N	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: GRAY Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

003014

SAMPLE NO.

SW8-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9757

Matrix (soil/water): SOIL Lab Sample ID: AD230339

Level (low/med): LOW Date Received: 10/2/02

% Solids: 73

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	60.1		N	P

Color Before: MIX Clarity Before: N/A Texture: CLAY

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

009015

SAMPLE NO.

SW8-02

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9757

Matrix (soil/water): SOIL Lab Sample ID: AD230342

Level (low/med): LOW Date Received: 10/2/02

% Solids: 76

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	63.7		N	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9757

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0		50.0		5.000	U	P

BLASLAND BOUCK & LEE, INC.

BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9757

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0		50.0		50.0				P

BLASLAND BOUCK & LEE, INC.
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

009018

SAMPLE NO.

SW10-01A

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9757

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		327.88		129.37		200.0	99.3		P

Comments: _____

BLASLAND BOUCK & LEE, INC.
-5B-

009019

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

SW8-01A

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9757

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		592.30		418.66		200.0	86.8		P

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

000030

SAMPLE NO.

SW10-01 MS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9757

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 82.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	45.2523		15.1626		25.39	118.5		P

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

003021

SAMPLE NO.

SW10-01 MSD

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9757

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 82.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	41.3859		15.1626		24.38	107.6		P

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

000022

SAMPLE NO.

SW8-01 MS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9757

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 72.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	100.1602		60.0777		28.70	139.7	N	P

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

000023

SAMPLE NO.

SW8-01 MSD

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9757

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 72.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	87.1965		60.0777		28.11	96.5		P

Comments: _____

Form V (PART 1) - IN SW846 3RD ED

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	10/02/02	099060
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 2 of 2**
1400 Sweet Home Suite 1	(716) 684-1544/(716) 684-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser	Candace Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo (NY)			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4°C	Analysis: Total Lead	Special Instructions/ Conditions of Receipt
SW 10-01 (MS/MSD)	10/02/02	9:10				X							X	X	
SW 8-01 (MS/MSD)	10/02/02	9:30				X							X	X	
SW 8-02	10/02/02	12:00				X							X	X	
SW24-01	10/02/02	14:15				X							X	X	
SW24-03	10/02/02	14:20				X							X	X	
SW24-02	10/02/02	14:25				X							X	X	
77811 (P.I.P.) 10/2/02	10/02/02	8:45	X										X	X	4 hrs. @ 1.997 LPM

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☒ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

1. Relinquished By	Date	Time	1. Received By	Date	Time
Ben A. Fraser	10/02/02	17:00			
2. Relinquished By	Date	Time	2. Received By	Date	Time
			[signature] SRS Buffalo	10/02/02	1825
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

15 °C

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-9919

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

for Candace L. Fox
Project Manager

for Susan L. Mazur
Laboratory Director

10/10/2002

This report contains 255 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2991902	BM12-01	10/07/2002	11:30	10/07/2002	17:00
A2991901	BM23-02	10/07/2002	10:45	10/07/2002	17:00
A2991906	BM7-01	10/07/2002	15:05	10/07/2002	17:00
A2991907	BM7-02	10/07/2002	15:10	10/07/2002	17:00
A2991908	BM7-03	10/07/2002	15:15	10/07/2002	17:00
A2991903	BM9-01	10/07/2002	14:50	10/07/2002	17:00
A2991904	BM9-02	10/07/2002	14:55	10/07/2002	17:00
A2991905	BM9-03	10/07/2002	15:00	10/07/2002	17:00

METHODS SUMMARY

Job#: A02-9919

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-9919

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9919
Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
Samples were received at a temperature of >10°C. However, ice was present in the cooler and as the samples were collected the same day, it was not possible for the samples to cool to 4°C prior to receipt. There is no impact on the data.

Metals Data

The recovery of the 3rd CCV fell below the quality control limits, however, this CCV is not associated with the samples. No corrective action is necessary.

SEVERN TRENT SERVICES

000005

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

10/10/01
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

000006

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM12-01	A2991902	-	-	-	-	SW8463	-
BM23-02	A2991901	-	-	-	-	SW8463	-
BM7-01	A2991906	-	-	-	-	SW8463	-
BM7-02	A2991907	-	-	-	-	SW8463	-
BM7-03	A2991908	-	-	-	-	SW8463	-
BM9-01	A2991903	-	-	-	-	SW8463	-
BM9-02	A2991904	-	-	-	-	SW8463	-
BM9-03	A2991905	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM12-01	SOIL	T PB	10/07/2002	10/08/2002	10/09/2002
BM23-02	SOIL	T PB	10/07/2002	10/08/2002	10/09/2002
BM7-01	SOIL	T PB	10/07/2002	10/08/2002	10/09/2002
BM7-02	SOIL	T PB	10/07/2002	10/08/2002	10/09/2002
BM7-03	SOIL	T PB	10/07/2002	10/08/2002	10/09/2002
BM9-01	SOIL	T PB	10/07/2002	10/08/2002	10/09/2002
BM9-02	SOIL	T PB	10/07/2002	10/08/2002	10/09/2002
BM9-03	SOIL	T PB	10/07/2002	10/08/2002	10/09/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM12-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM23-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM7-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM7-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM7-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM9-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM9-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM9-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

000010

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM12-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9919

Matrix (soil/water): SOIL Lab Sample ID: AD230770

Level (low/med): LOW Date Received: 10/7/02

% Solids: 85

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	358		E	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

000011

SAMPLE NO.

BM23-02

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9919

Matrix (soil/water): SOIL Lab Sample ID: AD230769

Level (low/med): LOW Date Received: 10/7/02

% Solids: 94

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	2420		E	P

Color Before: GRAY Clarity Before: N/A Texture: SILT

Color After: GRAY Clarity After: CLDY/FI Artifacts:

mments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

000012

SAMPLE NO.

BM7-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9919

Matrix (soil/water): SOIL Lab Sample ID: AD230774

Level (low/med): LOW Date Received: 10/7/02

% Solids: 80

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	935		E	P

Color Before: RED Clarity Before: N/A Texture: SILT

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

000013

SAMPLE NO.

BM7-02

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9919

Matrix (soil/water): SOIL Lab Sample ID: AD230775

Level (low/med): LOW Date Received: 10/7/02

% Solids: 80

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	111		E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: YELLOW Clarity After: CLR/FIL Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

000014

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM7-03

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9919

Matrix (soil/water): SOIL Lab Sample ID: AD230776

Level (low/med): LOW Date Received: 10/7/02

% Solids: 82

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	64.6		E	P

Color Before: GRAY Clarity Before: N/A Texture: SILT

Color After: GRAY Clarity After: CLDY/FI Artifacts: _____

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

000015

SAMPLE NO.

BM9-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9919

Matrix (soil/water): SOIL Lab Sample ID: AD230771

Level (low/med): LOW Date Received: 10/7/02

% Solids: 86

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	263		E	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM9-02

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9919

Matrix (soil/water): SOIL Lab Sample ID: AD230772

Level (low/med): LOW Date Received: 10/7/02

% Solids: 85

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	360		E	P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts: _____

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

000017

SAMPLE NO.

BM9-03

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9919

Matrix (soil/water): SOIL Lab Sample ID: AD230773

Level (low/med): LOW Date Received: 10/7/02

% Solids: 85

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	239		E	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: GRAY Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.
-5B-

000018

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

BM23-02A

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9919

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		22696.78		22818.04		200.0	-60.6		P

Comments: _____

BLASLAND BOUCK & LEE, INC.

000019

BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9919

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

BLANKS

000029

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9919

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U	50.0	U			P

BLASLAND BOUCK & LEE, INC.

000021

BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9919

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U					P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Blasland, Bouck & Lee	Joe Molina	10/7/02	136403
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1400 Sweet Home Suite 1	(716) 689-1544 / (716) 689-1568		
City / State / Zip Code	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser	Candace Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo (NY)			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	4°C	Total Lead
BM23-02	10/7/02	10:45				X							X	X
BM12-01	10/7/02	11:30				X							X	X
BM9-01	10/7/02	14:50				X							X	X
BM9-02	10/7/02	14:55				X							X	X
BM9-03	10/7/02	15:00				X							X	X
BM7-01	10/7/02	15:05				X							X	X
BM7-02	10/7/02	15:10				X							X	X
BM7-03	10/7/02	15:15				X							X	X

Analysis (Attach list if more space is needed)

Special Instructions/ Conditions of Receipt

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Eric G. Fraser	10/7/02	16:55	1. Received By: STL	10-07-02	17:40
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments: AMBIENT

62006

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-A074

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

10/14/2002

This report contains 196 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2A07401	BM7-04	10/10/2002	16:15	10/10/2002	18:00

METHODS SUMMARY

Job#: A02-A074

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-A074

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-A074
Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
All samples were received in good condition.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

SEVERN TRENT SERVICES

STL Buffalo

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

10/15/02
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM7-04	A2A07401	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM7-04	SOIL	T PB	10/10/2002	10/11/2002	10/12/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM7-04	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

BLASLAND BOUCK & LEE, INC. 0000009

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM7-04

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-A074

Matrix (soil/water): SOIL Lab Sample ID: AD231818

Level (low/med): LOW Date Received: 10/10/02

% Solids: 83

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	59.3			P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC. 000010

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BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A074

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A074

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U	50.0	U			P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Blasland, Bouck & Lee	Joe Molina	10/10/02	135704
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1400 Sweet Home Suite 1	(716) 689-1544 / (716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	**Analysis (Attach list if more space is needed)**
Amherst / NY / 14228	A. Fraser	Candace Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo, NY			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4°C	Total Lead
BM7-04	10/10/02	16:15				X							X	X

Special Instructions/ Conditions of Receipt

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Bm A. Fra	10/10/02	18:00	1. Received By: MQ DO TR	10/10/02	1800
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By: AMBIENT.		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-A096

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

for Susan L. Mazur
Laboratory Director

10/14/2002

This report contains 208 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2A09601	BM23-03	10/11/2002	09:00	10/11/2002	10:20
A2A09602	BM8-10	10/11/2002	09:15	10/11/2002	10:20

METHODS SUMMARY

Job#: A02-A096

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-A096

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-A096
Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
All samples were received in good condition.

Metals Data

The recovery of sample BM23-02 Matrix Spike and Matrix Spike Duplicate fell below the quality control limits for Lead. The relative percent difference between this Matrix Spike and Matrix Spike Duplicate exceeded quality control criteria. However, the LCS was compliant.

SEVERN TRENT SERVICES

STL Buffalo

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

10/15/02
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BM23-03	A2A09601	-	-	-	-	SW8463	-
BM8-10	A2A09602	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BM23-03	SOIL	T PB	10/11/2002	10/11/2002	10/12/2002
BM8-10	SOIL	T PB	10/11/2002	10/11/2002	10/12/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BM23-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM8-10	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM23-03

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A096

Matrix (soil/water): SOIL Lab Sample ID: AD231819

Level (low/med): LOW Date Received: 10/11/02

% Solids: 90

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	31.1		N*	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: YELLOW Clarity After: CLDY/FI Artifacts: _____

Comments: _____

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM8-10

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-A096

Matrix (soil/water): SOIL Lab Sample ID: AD231822

Level (low/med): LOW Date Received: 10/11/02

% Solids: 79

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	13.3		N*	P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: YELLOW Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BM23-03MS

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-A096

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 90.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	25.6709		31.0720		23.06	-23.4	N	P

Comments:

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BM23-03MSD

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A096

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 90.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead	75 - 125	45.5608		31.0720		22.59	64.1	N	P

Comments: _____

BLASLAND BOUCK & LEE, INC.
-5B-
POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.: BM23-03A

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A096

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		445.65		275.06		200.0	85.3		P

Comments: _____

BLASLAND BOUCK & LEE, INC.
-6-
DUPLICATES

SAMPLE NO.

BM23-03MSD

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A096

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 90.3 % Solids for Duplicate: 90.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead		25.6709		45.5608		55.8	*	P

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A096

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A096

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U	50.0	U			P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	10/11/02	135705
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1400 Sweet Home Suite 1	(716) 689-1544 / (716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser	Candace Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo (NY)			
Contract/Purchase Order/Quote No.			

Analysis (Attach list if more space is needed)

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4°C	Total Lead
BM23-03	10/11/02	9:00				X							X	X
BM8-01 10 CF	10/11/02	9:15				X							X	X

Special Instructions/ Conditions of Receipt: Sample ID corrected upon receipt at the lab (As per Andy Fraser) 10/14/02

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

1. Relinquished By: Sue A. Fraser	Date: 10/11/02	Time: 10:20	1. Received By: [signature] TR	Date: 10/11/02	Time: 1020
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments: AMBIENT

S20005

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-9866

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

10/15/2002

This report contains 254 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2986601	CSD-01	10/04/2002	13:45	10/04/2002	17:45
A2986602	CSD-02	10/04/2002	14:00	10/04/2002	17:45
A2986603	CSD-03	10/04/2002	14:15	10/04/2002	17:45

METHODS SUMMARY

Job#: A02-9866

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-9866

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9866
Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
Two 4 oz glass sample jars were composited into a 16 oz glass jar in sample control.

Metals Data

The recovery of sample CSD-01 Matrix Spike and Matrix Spike Duplicate fell below the Quality Control Limits for Lead. The sample result is greater than four times the spike added, therefore, a qualifier was not required. The LFB was acceptable.

SEVERN TRENT SERVICES

000005

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The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

10/16/02
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
CSD-01	A2986601	-	-	-	-	SW8463	-
CSD-02	A2986602	-	-	-	-	SW8463	-
CSD-03	A2986603	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
CSD-01	SOIL	T PB	10/04/2002	10/09/2002	10/10/2002
CSD-02	SOIL	T PB	10/04/2002	10/09/2002	10/10/2002
CSD-03	SOIL	T PB	10/04/2002	10/09/2002	10/10/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
CSD-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
CSD-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
CSD-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

CSD-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9866

Matrix (soil/water): SOIL Lab Sample ID: AD231325

Level (low/med): LOW Date Received: 10/4/02

% Solids: 73

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	235			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: Clarity After: Artifacts:

mments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: CSD-02

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9866

Matrix (soil/water): SOIL Lab Sample ID: AD231328

Level (low/med): LOW Date Received: 10/4/02

% Solids: 74

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	313			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.: CSD-03

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9866

Matrix (soil/water): SOIL Lab Sample ID: AD231329

Level (low/med): LOW Date Received: 10/4/02

% Solids: 85

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	274			P

Color Before: GRAY Clarity Before: N/A Texture: SILT

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

CSD-01 MS

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9866

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 73.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		218.2404		234.7567		27.97	-59.1		P

Comments:

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

CSD-01 SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9866

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 73.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		229.9827		234.7567		27.97	-17.1		P

Comments: _____

BLASLAND BOUCK & LEE, INC.
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.: CSD-01A

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9866

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		1882.46		1713.02		200.0	84.7		P

Comments: _____

BLASLAND BOUCK & LEE, INC.
-6-
DUPLICATES

SAMPLE NO.

CSD-01 SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9866

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 73.0 % Solids for Duplicate: 73.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead		218.2404		229.9827		5.2		P

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9866

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9866

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U	50.0	U			P

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9866

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U					P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (1200)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	10/4/02	099062
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1400 Sweet Home Suite 1	(716) 689-1544 / (716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser	Candace Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo (NY)			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H_2SO_4	HNO3	HCl	NaOH	ZnAc/NaOH	4°C	Analysis: Total Lead	Special Instructions/ Conditions of Receipt
CSD-01	10/4/02	13:45				X							X	X	Composite - 2 Jars
CSD-02	10/4/02	14:00				X							X	X	Composite - 2 Jars
CSD-03	10/4/02	14:15				X							X	X	Composite - 2 Jars

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 3 months)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☒ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Brue A. Fraser	10/4/02	17:45	[illegible] STL	10/07/02	1745
2.						
3.						

Comments

Ambient

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

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SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-9966

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

10/15/2002

This report contains 241 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2996601	ROW-08	10/08/2002	16:05	10/08/2002	17:30

METHODS SUMMARY

Job#: A02-9966

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-9966

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9966
Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
All samples were received in good condition.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

SEVERN TRENT SERVICES

STL Buffalo

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The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

10/16/07
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS						
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	TCLP HERB	WATER QUALITY
ROW-08	A2996601	-	-	-	-	SW8463	-	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
ROW-08	SOIL	T PB	10/08/2002	10/09/2002	10/10/2002

NYSDEC-5

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
ROW-08	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences
H	Indicates analytical holding time exceedance The value obtained should be considered an estimate
*	Indicates analysis is not within the quality control limits
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ROW-08

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-9966

Matrix (soil/water): SOIL Lab Sample ID: AD231330

Level (low/med): LOW Date Received: 10/8/02

% Solids: 80

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	176			P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: Clarity After: Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9966

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9966

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U	50.0	U			P

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9966

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U					P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	10/8/02	135703
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1400 Sweet Home Suite 1	(716) 689-1544 / (716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser	Candace Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo, NY			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4°C	Analysis (Attach list if more space is needed): Total Lead	Special Instructions/ Conditions of Receipt
ROW-08	10/8/02	16:05				X							X	X	Composite - 2 Jars

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☒ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Brn A. Fraser	10/8/02	17:30	1. Received By: [signature] SN 12 [illegible]	10/08/02	17:30
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

20°C Ambient

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

000204

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
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ANALYTICAL REPORT

Job#: A02-9920

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

10/18/2002

This report contains 212 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2992003	CSD-04	10/07/2002	09:15	10/07/2002	17:00
A2992005	CSD-05	10/07/2002	09:30	10/07/2002	17:00
A2992006	CSD-06	10/07/2002	11:00	10/07/2002	17:00
A2992009	CSD-07	10/07/2002	11:35	10/07/2002	17:00
A2992010	CSD-08	10/07/2002	11:45	10/07/2002	17:00
A2992001	ROW-01	10/07/2002	08:45	10/07/2002	17:00
A2992002	ROW-02	10/07/2002	09:00	10/07/2002	17:00
A2992004	ROW-03	10/07/2002	09:25	10/07/2002	17:00
A2992008	ROW-04	10/07/2002	11:20	10/07/2002	17:00
A2992011	ROW-05	10/07/2002	13:15	10/07/2002	17:00
A2992012	ROW-06	10/07/2002	14:35	10/07/2002	17:00
A2992013	ROW-07	10/07/2002	15:30	10/07/2002	17:00
A2992007	SW24-04	10/07/2002	10:50	10/07/2002	17:00

METHODS SUMMARY

Job#: A02-9920

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-9920

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-9920
Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
Samples were received at a temperature of >10°C. However, ice was present in the cooler and as the samples were collected the same day, it was not possible for the samples to cool to 4°C prior to receipt. There is no impact on the data.

All samples were composited in SC except SW24-04.

Metals Data

No deviations from protocol were encountered during the analytical procedures.

SEVERN TRENT SERVICES

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

10/21/02
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS						
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	TCLP HERB	WATER QUALITY
CSD-04	A2992003	-	-	-	-	SW8463	-	-
CSD-05	A2992005	-	-	-	-	SW8463	-	-
CSD-06	A2992006	-	-	-	-	SW8463	-	-
(07	A2992009	-	-	-	-	SW8463	-	-
CSD-08	A2992010	-	-	-	-	SW8463	-	-
ROW-01	A2992001	-	-	-	-	SW8463	-	-
ROW-02	A2992002	-	-	-	-	SW8463	-	-
ROW-03	A2992004	-	-	-	-	SW8463	-	-
ROW-04	A2992008	-	-	-	-	SW8463	-	-
ROW-05	A2992011	-	-	-	-	SW8463	-	-
ROW-06	A2992012	-	-	-	-	SW8463	-	-
ROW-07	A2992013	-	-	-	-	SW8463	-	-
SW24-04	A2992007	-	-	-	-	SW8463	-	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
CSD-04	SOIL	T PB	10/07/2002	10/15/2002	10/16/2002
CS-05	SOIL	T PB	10/07/2002	10/15/2002	10/16/2002
CS-06	SOIL	T PB	10/07/2002	10/15/2002	10/16/2002
CS-07	SOIL	T PB	10/07/2002	10/15/2002	10/16/2002
CS-08	SOIL	T PB	10/07/2002	10/15/2002	10/16/2002
ROW-01	SOIL	T PB	10/07/2002	10/15/2002	10/16/2002
ROW-02	SOIL	T PB	10/07/2002	10/15/2002	10/16/2002
ROW-03	SOIL	T PB	10/07/2002	10/15/2002	10/16/2002
ROW-04	SOIL	T PB	10/07/2002	10/15/2002	10/16/2002
ROW-05	SOIL	T PB	10/07/2002	10/15/2002	10/16/2002
ROW-06	SOIL	T PB	10/07/2002	10/15/2002	10/16/2002
ROW-07	SOIL	T PB	10/07/2002	10/15/2002	10/16/2002
SW24-04	SOIL	T PB	10/07/2002	10/15/2002	10/16/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
CSD-04	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
CSD-05	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
CSD-06	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
CSD-07	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
CSD-08	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
ROW-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
[illegible]-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
ROW-03	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
ROW-04	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
ROW-05	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
ROW-06	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
ROW-07	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
SW24-04	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance.
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

CSD-04

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9920

Matrix (soil/water): SOIL Lab Sample ID: AD232402

Level (low/med): LOW Date Received: 10/7/02

% Solids: 83

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	124			P

Color Before: BROWN Clarity Before: N/A Texture: MIX

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

CSD-05

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9920

Matrix (soil/water): SOIL Lab Sample ID: AD232404

Level (low/med): LOW Date Received: 10/7/02

% Solids: 84

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	40.8			P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

CSD-06

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9920

Matrix (soil/water): SOIL Lab Sample ID: AD232405

Level (low/med): LOW Date Received: 10/7/02

% Solids: 83

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	82.4			P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts: _____

Comments: _____

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

CSD-07

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9920

Matrix (soil/water): SOIL Lab Sample ID: AD232408

Level (low/med): LOW Date Received: 10/7/02

% Solids: 80

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	235			P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts: _____

mments: _____

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

CSD-08

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9920

Matrix (soil/water): SOIL Lab Sample ID: AD232409

Level (low/med): LOW Date Received: 10/7/02

% Solids: 95

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	34.3			P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts: _____

Comments: _____

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ROW-01

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9920

Matrix (soil/water): SOIL Lab Sample ID: AD232400

Level (low/med): LOW Date Received: 10/7/02

% Solids: 89

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	42.0			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: GRAY Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ROW-02

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9920

Matrix (soil/water): SOIL Lab Sample ID: AD232401

Level (low/med): LOW Date Received: 10/7/02

% Solids: 86

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	40.6			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: GRAY Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ROW-03

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9920

Matrix (soil/water): SOIL Lab Sample ID: AD232403

Level (low/med): LOW Date Received: 10/7/02

% Solids: 78

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	180			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: BLACK Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ROW-04

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9920

Matrix (soil/water): SOIL Lab Sample ID: AD232407

Level (low/med): LOW Date Received: 10/7/02

% Solids: 83

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	408			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: GREEN Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ROW-05

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9920

Matrix (soil/water): SOIL Lab Sample ID: AD232410

Level (low/med): LOW Date Received: 10/7/02

% Solids: 82

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	291			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: GRAY Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ROW-06

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9920

Matrix (soil/water): SOIL Lab Sample ID: AD232411

Level (low/med): LOW Date Received: 10/7/02

% Solids: 55

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	508			P

Color Before: BLACK Clarity Before: N/A Texture: SILT

Color After: GRAY Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

ROW-07

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9920

Matrix (soil/water): SOIL Lab Sample ID: AD232412

Level (low/med): LOW Date Received: 10/7/02

% Solids: 84

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	26.9			P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: GRAY Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

SW24-04

Contract: NY02-222

Lab Code: STL BFLO Case No.: SAS No.: SDG NO.: A02-9920

Matrix (soil/water): SOIL Lab Sample ID: AD232406

Level (low/med): LOW Date Received: 10/7/02

% Solids: 97

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	545			P

Color Before: GRAY Clarity Before: N/A Texture: MIX

Color After: GRAY Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

ROW-03A

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9920

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		1542.76		1373.23		200.0	84.8		P

Comments: _____

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9920

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

BLASLAND BOUCK & LEE, INC.

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BLANKS

Contract: NY02-222

Lab Code: STL BFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-9920

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U					P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Blasland Bouck & Lee	Joe Molina	10/7/02	136402
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** 1 of 2
1400 Sweet Home Suite 1	(716) 689-1544 / (716) 689-1568		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser	Candace Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo (NY)			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4°C	Analysis: Total Lead	Special Instructions/ Conditions of Receipt
ROW-01	10/7/02	8:45				X							X	X	Composite - 2 Jars
ROW-02	10/7/02	9:00				X							X	X	Composite - 2 Jars
CSD-04	10/7/02	9:15				X							X	X	Composite - 2 Jars
ROW-03	10/7/02	9:25				X							X	X	Composite - 2 Jars
CSD-05	10/7/02	9:30				X							X	X	Composite - 2 Jars
CSD-06	10/7/02	11:00				X							X	X	Composite - 2 Jars
~~Rinse Blank~~	~~10/7/02~~	~~10:45~~			~~X~~							~~X~~		~~X~~	~~24 hour Turn Around~~
SW24-04	10/7/02	10:50				X							X	X	21 ~~7~~ Day Turn Around
ROW-04	10/7/02	11:20				X							X	X	Composite - 2 Jars
CSD-07	10/7/02	11:35				X							X	X	Composite - 2 Jars
CSD-08	10/7/02	11:45				X							X	X	Composite - 2 Jars
ROW-05	10/7/02	13:15				X							X	X	Composite - 2 Jars

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ~~☒ 14 Days~~ ☒ 21 Days ☒ Other ~~See Instructions~~ 21 Day Turn

QC Requirements (Specify)

1. Relinquished By	Date	Time	1. Received By	Date	Time
Brue A. Fraser	10/7/02	16:55	STL	10-07-02	17:00
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

AMBIENT

00033

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Blasland, Bouck & Lee	Joe Mylna	10/7/02	135701
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 2 of 2**
1400 Sweet Home Suite 1	(716) 689-1544/(716)689-1568		
City / State / Zip Code	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraise	Candace Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo, (NY)			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	4°C	Analysis (Attach list if more space is needed): Total Lead	Special Instructions/ Conditions of Receipt
ROW-06	10/7/02	14:35				X								X	Composite 2-Jars
ROW-07	10/7/02	15:30				X								X	Composite 2-Jars

Possible Hazard Identification

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☒ 21 Days ☐ Other _____

QC Requirements (Specify)

	Relinquished By	Date	Time	Received By	Date	Time
1.	Brian Fox	10/7/02	16:55	STL	10-07-02	17:00
2.						
3.						

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

AMBIENT

000034

SEVERN TRENT SERVICES

STL Buffalo
10 Hazelwood Drive
Suite 106
Amherst, NY 14228

Tel: 716 691 2600
Fax: 716 691 7991
www.stl-inc.com

ANALYTICAL REPORT

Job#: A02-A464

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.
Task: Bern Metal/Universal Metal Site

Douglas Ruszczyk
1400 Sweet Home Road
Suite 1
Amherst, NY 14228

STL Buffalo

Candace L. Fox
Project Manager

Susan L. Mazur
Laboratory Director

10/24/2002

This report contains 162 pages which are individually numbered.

SAMPLE DATA SUMMARY PACKAGE

SAMPLE SUMMARY

LAB SAMPLE ID	CLIENT SAMPLE ID	SAMPLED DATE	SAMPLED TIME	RECEIVED DATE	RECEIVED TIME
A2A46402	BD102202-01	10/22/2002	15:00	10/22/2002	17:00
A2A46404	BD102202-02	10/22/2002	15:05	10/22/2002	17:00
A2A46401	BM19-01	10/22/2002	15:00	10/22/2002	17:00
A2A46403	BM19-02	10/22/2002	15:05	10/22/2002	17:00

METHODS SUMMARY

Job#: A02-A464

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

PARAMETER	ANALYTICAL METHOD
Lead - Total	SW8463 6010

References:

SW8463 "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

NON-CONFORMANCE SUMMARY

Job#: A02-A464

STL Project#: NY2A8960
Site Name: Blasland Bouck & Lee, Inc.

General Comments

The enclosed data have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

Sample Receipt Comments

A02-A464
Sample Cooler(s) were received at the following temperature(s); AMBIENT °C
All samples were received in good condition.

Metals Data

The recovery of samples BD102202-02 Matrix Spike and Matrix Spike Duplicate exhibited results above quality control limits for Lead. For BD102202-02 Matrix Spike, the sample result was more than four times greater than the spike added, therefore, no qualifier was needed. However, the LCS CLP Soils (A2B1057101) was compliant.

SEVERN TRENT SERVICES

000005

****

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

"I certify that this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package and electronic deliverable has been authorized by the Laboratory Director or her designee, as verified by the following signature."

Susan L. Mazur
Laboratory Director

10/25/01
Date

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION
AND
ANALYTICAL REQUEST SUMMARY

LAB NAME: SEVERN TRENT LABORATORIES, INC.

CUSTOMER SAMPLE ID	LABORATORY SAMPLE ID	ANALYTICAL REQUIREMENTS					
		VOA GC/MS	BNA GC/MS	VOA GC	PEST PCB	METALS	WATER QUALITY
BD102202-01	A2A46402	-	-	-	-	SW8463	-
BD102202-02	A2A46404	-	-	-	-	SW8463	-
BM19-01	A2A46401	-	-	-	-	SW8463	-
BM19-02	A2A46403	-	-	-	-	SW8463	-

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYTICAL SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

SAMPLE IDENTIFICATION	MATRIX	METALS REQUESTED	DATE RECEIVED AT LAB	DATE DIGESTED	DATE ANALYZED
BD102202-01	SOIL	T PB	10/22/2002	10/23/2002	10/24/2002
BD102202-02	SOIL	T PB	10/22/2002	10/23/2002	10/24/2002
BM19-01	SOIL	T PB	10/22/2002	10/23/2002	10/24/2002
BM19-02	SOIL	T PB	10/22/2002	10/23/2002	10/24/2002

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

LAB NAME: SEVERN TRENT LABORATORIES, INC.

LABORATORY SAMPLE CODE	MATRIX	ANALYTICAL PROTOCOL	DIGESTION PROCEDURE	MATRIX MODIFIER	DIL/CONC FACTOR
BD102202-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BD102202-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM19-01	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED
BM19-02	SOIL	SW8463	SW8463	AS REQUIRED	AS REQUIRED

DATA COMMENT PAGE

ORGANIC DATA QUALIFIERS

ND or U	Indicates compound was analyzed for, but not detected.
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
C	This flag applies to pesticide results where the identification has been confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank, as well as in the sample.
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
D	This flag identifies all compounds identified in an analysis at the secondary dilution factor.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on the data page and flagged with a "P".
A	This flag indicates that a TIC is a suspected aldol-condensation product.
1	Indicates coelution.
*	Indicates analysis is not within the quality control limits.

INORGANIC DATA QUALIFIERS

ND or U	Indicates element was analyzed for, but not detected. Report with the detection limit value.
J or B	Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
N	Indicates spike sample recovery is not within the quality control limits.
K	Indicates the post digestion spike recovery is not within the quality control limits.
S	Indicates value determined by the Method of Standard Addition.
M	Indicates duplicate injection results exceeded quality control limits.
W	Post digestion spike for Furnace AA analysis is out of quality control limits (85-115%) while sample absorbance is less than 50% of spike absorbance
E	Indicates a value estimated or not reported due to the presence of interferences.
H	Indicates analytical holding time exceedance The value obtained should be considered an estimate.
*	Indicates analysis is not within the quality control limits.
+	Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BD102202-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-A464

Matrix (soil/water): SOIL Lab Sample ID: AD234389

Level (low/med): LOW Date Received: 10/22/02

% Solids: 84

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	82.7		N	P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts:

.mments:

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BD102202-02

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-A464

Matrix (soil/water): SOIL Lab Sample ID: AD234391

Level (low/med): LOW Date Received: 10/22/02

% Solids: 86

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	91.2		N	P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

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INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM19-01

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-A464

Matrix (soil/water): SOIL Lab Sample ID: AD234388

Level (low/med): LOW Date Received: 10/22/02

% Solids: 83

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	153		N	P

Color Before: BROWN Clarity Before: N/A Texture: SILT

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

BLASLAND BOUCK & LEE, INC.

-1-

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BM19-02

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-A464

Matrix (soil/water): SOIL Lab Sample ID: AD234390

Level (low/med): LOW Date Received: 10/22/02

% Solids: 86

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-92-1	Lead	70.9		N	P

Color Before: BROWN Clarity Before: N/A Texture: CLAY

Color After: BROWN Clarity After: CLDY/FI Artifacts:

Comments:

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BD102202-02 MS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A464

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 86.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		151.5859		91.2003		22.30	270.8		P

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-5A-

SPIKE SAMPLE RECOVERY

SAMPLE NO.

BD102202-02 SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A464

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 86.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Lead		175.7130		91.2003		23.67	357.1	N	P

Comments: _____

BLASLAND BOUCK & LEE, INC.
-5B-

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.: BD102202-02A

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A464

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Lead		986.25		786.42		200.0	99.9		P

Comments: _____

STL BUFFALO

BLASLAND BOUCK & LEE, INC.
-6-
DUPLICATES

SAMPLE NO.

BD102202-02 SD

Contract: NY02-222

Lab Code: STLBFLO Case No.: SAS No.: SDG NO.: A02-A464

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 86.2 % Solids for Duplicate: 86.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Lead		151.5859		175.7130		14.7		P

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A464

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead	50.0	U	50.0	U	50.0	U	50.0	U	5.000	U	P

STL BUFFALO

BLASLAND BOUCK & LEE, INC.

-3-

BLANKS

Contract: NY02-222

Lab Code: STLBFLO Case No.: _____ SAS No.: _____ SDG NO.: A02-A464

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Lead			50.0	U	50.0	U					P

Chain of Custody Record

SEVERN TRENT SERVICES — Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client	Project Manager	Date	Chain of Custody Number
Blasland, Bouck & Lee	Joe Molina	10/22/02	135708
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page 1 of 1**
1400 Sweet Home Suite 1	(716) 689-1544/(716)689-		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Amherst / NY / 14228	A. Fraser	Candace Fox	
Project Name and Location (State)	**Carrier/Waybill Number**		
Bern Metals, Buffalo (NY)			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	4°C	Total Lead
BM19-01	10/22/02	3:00				X							X	X
BD102202-01	10/22/02	3:00				X							X	X
BM19-02	10/22/02	3:05				X							X	X
BD102202-02	10/22/02	3:05				X							X	X

Analysis (Attach list if more space is needed)

Special Instructions/ Conditions of Receipt

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

Sample Disposal
☐ Return To Client ☒ Disposal By Lab ☒ Archive For 1 Months (A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required
☒ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Brue G. Fraser	10/22/02	1700	1. Received By: STL	10/22/02	1700
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments: AMBIENT

135708

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

Appendix K

Appendix K

Geosynthetics Manufacturer Quality Control Test Reports

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Appendix K1

Non-Woven Geotextile (SI)

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

SI Geosolutions

10/4/2002

GSE Lining Technology Inc Tracy
Tracy Chaponis

19103 Gundle Road
Houston TX 77073
BOL 80202495 PO 3624-000-OD
Ref: Bern Metal/Universal Metal

This is to certify that Product GEOTEX 1071 , a nonwoven polypropylene geotextile produced by S I Corporation, will meet the following certifiable minimum average values when tested in accordance with the proper ASTM test methods. A minimum average roll value is calculated as the mean minus two standard deviations, yielding a 97.5 percent confidence level. This geotextile has been continuously inspected for the presence of needles and none were detected.

Physical Property	Test Method	US Units		SI Unit	
Mass Per Unit Area	ASTM D-5261	10.0	oz/yd2	(339)	g/m2
Thickness	ASTM D-5199	105	mils	(2.667)	mm
Tensile Strength	ASTM D-4632	270	lbs	(1201.5)	N
Elongation	ASTM D-4632	50	%	50	%
Trapezoidal Tear	ASTM D-4533	105	lbs	(467.25)	N
Mullen Burst	ASTM D-3786	520	psi	(3584.88)	kPa
Puncture Strength	ASTM D-4833	180	lbs	(801)	N
A.O.S.	ASTM D-4751	100	Sieve	0.15	mm
Permittivity	ASTM D-4491	1.2	sec-1	1.2	sec-1
Permeability	ASTM D-4491	0.3	cm/sec	0.3	cm/sec
Water Flow Rate	ASTM D-4491	85	gpm/ft-2	(3463.2995)	lpm/m2
UV Resistance	ASTM D-4355	70	%	70	%

Sincerely

Jack Rooke

Jack Rooke
Director of Technology and R&D
SI Geosolutions

4/25/2002

cc: BB/SSC

5025 Lee Highway, Suite 435 • Chattanooga, TN 37421
Ph: 423-899-0444 • Fax: 423-899-7613

SI Corporation
Individual Roll Data
Bill of Lading 80202496

Roll #	Style	Batch	Weight	Thick	Tensile		Elongation		T.Tear		Burst	Punct
					MD	XMD	MD	XMD		XMD		
			Osy	mils	lbs	lbs	%	%	lbs	lbs	psi	lbs
			D5261	D5199	D4632	D4632	D4632	D4632	D4533	D4533	D3786	D4833
A532440A	1071	51599	11.4	122	314	476	89	83	115	171	584	187
A616805A	1071	60764	10.9	125	354	327	76	71	141	154	653	219
A616835A	1071	60764	10.8	124	379	371	78	69	137	200	584	217
A642580A	1071	60947	11.2	145	343	387	70	71	148	185	653	191
A642770A	1071	60948	11.3	149	340	356	68	75	135	182	600	212

TOTAL P.02

Synthetic Industries' current standard manufacturing quality control (MQC) testing frequency for GEOTEX nonwoven geotextiles is one (1) test per 90,000 sf (8,360 sm) for index properties (mass per unit area, thickness, grab tensile and elongation, trapezoidal tear, mullen burst and puncture resistance) for styles heavier than 601 and one (1) test per 162,000 sf (15,000 sm) for index properties for style 601 and lighter. Although we strive to test our nonwoven geotextiles for apparent opening size (AOS) and Permittivity/permeability/water flow rate approximately once every 540,000 sf (50,160 sm), the actual frequency of testing for performance properties will vary depending upon production schedules, product availability, customer requirements, job specifications or other agreements arranged with Synthetic Industries prior to the time of purchase. If additional testing is needed to meet higher frequencies required by the project specifications, it is the purchaser's responsibility to notify Synthetic Industries and ask for assistance in calculating the costs for the additional tests.

Once rolls of nonwoven geotextiles are produced, inspected and the test results from the frequency stated above indicates that materials produced during the production run meets our published minimum average roll values, approved rolls are shipped for storage until an order requires the material to be shipped. Since rolls are loaded at the warehouse independent of production sequence test results listed above may include data from rolls which were not shipped and rolls listed may or may not be the actual rolls tested. However, the data provided is from the same production run as the rolls actually shipped on this bill of lading.

SI Corporation

STRAIGHT BILL OF LADING
ORIGINAL-NOT NEGOTIABLE

BILL OF LADING # 80202495

CARRIER Covenant

PERMANENT ADDRESS Dalton, GA

Dalton, GA | **DATE** 10/01/2002 | **SHIPPER** SI® Geosolutions

SHIPPER'S NUMBERS

SOLD TO 5255
GSE Lining Technology, Inc.
Attn: A/P Supervisor
19103 Gundle Road
Houston, TX 77073

SHIP TO 21013
Bern Metal/Universal Metal
410 Main Street
Buffalo, NY 14202

TRAILER NO.	SEAL NO.
35019	

Subject to Section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor, shall sign the following statement.
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges

(SIGNATURE OF CONSIGNOR)
If charges are to be prepaid, write or stamp here, "To Be Prepaid"

Pre-Paid

SHIPPING INSTRUCTIONS

COD

COLLECT ON DELIVERY $

Phone #: 716-852-2708 Contact Name: Larry Leach
CALL 24 HRS PRIOR TO DELIVERY FOR UNLOADING ASSISTANCE

PO# 3624-000-OD
REFERENCING JOB# 511104 AND ORDER# 25820

CUST PO 3624-000-OD

ORDER#	LINE	STYLE	PRODUCT DESCRIPTION
154717	000010	1071	1071/100 | GEO TEX/OFFBLACK/.

CONSTR.	--- COLOR ---	---------- SIZE ----------		--ITEM--	--WEIGHT LB--	Q
	OFFBLACK	180.0	100.0	RA616776A	371.000	
	OFFBLACK	180.0	100.0	RA642493A	377.000	
	OFFBLACK	180.0	100.0	RA642511A	375.000	
	OFFBLACK	180.0	100.0	RA532471A	390.000	
	OFFBLACK	180.0	100.0	RA616802A	372.000	
	OFFBLACK	180.0	100.0	RA616851A	372.000	
	OFFBLACK	180.0	100.0	RA532454A	391.000	
	OFFBLACK	180.0	100.0	RA642761A	374.000	
	OFFBLACK	180.0	100.0	RA532483A	389.000	
	OFFBLACK	180.0	100.0	RA642533A	388.000	
	OFFBLACK	180.0	100.0	RA642484A	366.000	
	OFFBLACK	180.0	100.0	RA642488A	383.000	
	OFFBLACK	180.0	100.0	RA642498A	374.000	
	OFFBLACK	180.0	100.0	RA642509A	376.000	
	OFFBLACK	180.0	100.0	RA532468A	399.000	
	OFFBLACK	180.0	100.0	RA642588A	377.000	
	OFFBLACK	180.0	100.0	RA532459A	396.000	

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of Lading, the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all of any of said property over all of any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed over all or any portion shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back of, set forth in the classification or tariff whic governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for itself and his assigns.

If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight." NOTE-Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

SHIPPER, PER	TOTAL YDS.	CASES	BALES	ROLLS	TOTAL PCS	TOTAL WT.
AGENT, PER						

Corporation

STRAIGHT BILL OF LADING
ORIGINAL-NOT NEGOTIABLE

BILL OF LADING # 80202495

RRIER Covenant

PERMANENT ADDRESS Dalton, GA

Dalton, GA | **DATE** 10/01/2002 | **SHIPPER** SI® Geosolutions

SHIPPER'S NUMBERS

SOLD TO 5255
GSE Lining Technology, Inc.
Attn: A/P Supervisor
19103 Gundle Road
Houston, TX 77073

SHIP TO 21013
Bern Metal/Universal Metal
410 Main Street
Buffalo, NY 14202

TRAILER NO.	SEAL NO.
35019	21148

Subject to Section 7 of conditions of applicable bill of lading, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor, shall sign the following statement.
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges

(SIGNATURE OF CONSIGNOR)
If charges are to be prepaid, write or stamp here, "To Be Prepaid"

Pre-Paid

SHIPPING INSTRUCTIONS

COD | COLLECT ON DELIVERY $

CUST PO 3624-000-OD

ORDER#	LINE	STYLE	PRODUCT DESCRIPTION
154717	000010	1071	1071/100 | GEO TEX/OFFBLACK/.

CONSTR.	--- COLOR ---	---------- SIZE ----------		--ITEM--	--WEIGHT LB--	Q
	OFFBLACK	180.0	100.0	RA532457A	399.000	
	OFFBLACK	180.0	100.0	RA642490A	380.000	
	OFFBLACK	180.0	100.0	RA532482A	392.000	
	OFFBLACK	180.0	100.0	RA532460A	399.000	
	OFFBLACK	180.0	100.0	RA532449A	392.000	
	OFFBLACK	180.0	100.0	RA642500A	373.000	
	OFFBLACK	180.0	100.0	RA532474A	385.000	
	OFFBLACK	180.0	100.0	RA532480A	388.000	
	OFFBLACK	180.0	100.0	RA642508A	375.000	
	OFFBLACK	180.0	100.0	RA642505A	376.000	
	OFFBLACK	180.0	100.0	RA532470A	393.000	
	OFFBLACK	180.0	100.0	RA642587A	377.000	
	OFFBLACK	180.0	100.0	RA532455A	392.000	
	OFFBLACK	180.0	100.0	RA642510A	378.000	
	OFFBLACK	180.0	100.0	RA642507A	376.000	
32 ITEM TOTALS			3,200.0			

WEIGHT 12,245.000

FREIGHT CLASS: NMFC 49160 CL77.5

No.of items 32 — 12,245.000

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of Lading, the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below, which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed, as to each carrier of all of any of said property over all of any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed over all or any portion shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classification in effect on the date hereof, if this is a rail or rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff whic governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight." NOTE-Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property. The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding _____ per _____

SHIPPER, PER DANNY SKIFFEN	TOTAL YDS.	CASES	BALES	ROLLS	TOTAL PCS	TOTAL WT.
AGENT, PER	3,200.0	0	0	32	32	12,245.00

PLANTS
BENSALE , PA
WORCES TR, MA

EDDINGTON THREAD MANUFACTURING

MANUFACTURERS OF INDUSTRIAL THREADS AND BOBBINS

SPECIFICATION SHEET

207 POLYESTER

Denier	-	1980
Approx. Yards Per Lb.	-	2000
Ply	-	3
Finish	-	Lubricated
Construction	-	220/3/3
Elongation	-	26% Maximum
Break	-	Approx. 33.5 lb.
Twist	-	10 S X 7 Z

Effects of Heat: Sticks at 440 to 445 F. MELTS AT 482 F.

Effects of Bleaches and Solvents: Excellent resistance to bleaches and other oxidizing agents. Generally insoluble except in some phenolic compounds.

Effects of Acids & Alkalis: Good resistance to most mineral acids. Dissolve with partial decomposition in concentrated solutions of sulphuric acids. Good resistance to weak alkalis. Moderate resistance to strong alkalis at room temperature. Disintegrates in strong alkalis at boil.

Effect of Mildew, Aging, Sunlight & Abrasion: Not weakened by mildew, excellent resistance to aging and abrasion. Prolonged exposure to sunlight causes some strength loss.

Dyes used: Disperse developed and cationic (for some types), with carrier or at high temperatures.

Synthetic Industries

SMART SOLUTIONS® Technical Note

Manufacturing Quality Control (MQC) Program For Geosynthetic Products Manufactured by Synthetic Industries

February 1997 SM-400

Geosynthetic Products Division
4019 Industry Drive • Chattanooga, TN 37416 • USA
Telephone • 423-899-0444 • Toll Free • 800-621-0444 • Fax • 423-899-7619
www.fixsoil.com

CONTROLLED COPY # 04

Manufacturing Quality Control (MQC) Program for Geosynthetic Products Manufactured by Synthetic Industries

Prepared by:

D.Austin, R.Johnson, C.Cochran, et al.

Reviewed by:

Technical Superintendent - Performance Fabrics Division

Technical Superintendent - Performance Nonwovens Division

Technical Superintendent - Woven Fabrics Division

Engineering Services Supervisor - Geosynthetic Products Division

Technical Manager - Geosynthetics

Approved by:

Director - Technical Services

Director - Geosynthetic Products Division

CHANGES IN REVISION 2:

General — Changed trademarked names throughout.
Section 6.8 - Added section for GEOTEX High Strength Woven Geotextiles.

1. GENERAL INFORMATION

Synthetic Industries is second largest manufacturer of polypropylene textile fibers and fabrics in the World. Extrusion capabilities include staple fiber, slit film, monofilament, and fibrillated slit film. Along with staple fiber production, Synthetic Industries produces woven and nonwoven fabrics. Weaving capabilities include geotextiles, carpet backing, erosion control matrices, and other industrial fabrics. ISO 9002 certification of manufacturing plants is an important part of our strategy to improve the quality of our products and better serve our customers' needs. All Synthetic Industries Geosynthetic Labs have been GAI-LAP accredited, and these were the first manufacturing labs in the world to receive this distinction. A program of continuous quality improvement is also underway, utilizing state-of-the-art statistical tools and techniques.

2. MISSION STATEMENT

THE SYNTHETIC INDUSTRIES
MISSION STATEMENT

Recognizing that our existence is dependent on our many customers, we are dicated to the following goals:

* To be the preferred supplier to our customers.
* To be committed to building long term partnerships with our customers and suppliers for the mutual benefit of all parties.
* To recognize that improvement is a never ending process, and to strive to achieve continuous improvement in all areas of our operation.
* To be committed to profitable growth by providing products that have increasing value to our customers.

In order to achieve the above goals, we recognize people are our most important resource.

3. RESPONSIBILITY & AUTHORITY

The Geosynthetics Manufacturing Quality Control (MQC) Program is led by the Technical Director of Synthetic Industries. The Technical Director, reporting directly to Vice President of Technical Services, is represented by Technical Superintendents, Technical Managers, Laboratory Supervisors, and a staff of trained Laboratory Technicians at each of our plants.

he Technical Department and the Manufacturing Department at Synthetic Industries share the responsibility for the quality of geosynthetics produced in all facilities.

4. RESIN

Each lot of resin is shipped by rail car to our manufacturing facilities. Each lot is certified by the manufacturer to meet the stringent acceptance requirements set forth by Synthetic Industries. An in-house laboratory randomly tests resin for melt flow, pellet sizing, and other applicable criteria. At periodic intervals, resin samples are sent to independent laboratories to ensure the certified values are correct.

Letters of certification are required of all vendors for each shipment of resin received into the facility.

5. MANUFACTURING PROCESS

The Manufacturing department and staff work closely with the Technical staff to insure only first quality geosynthetic products are produced at Synthetic Industries. Defect prevention and continuous improvement are emphasized during all stages of the manufacturing process. Statistical process control programs are in place and utilized for most products. Process conditions sheets are provided by the Technical Department for each production run. All process changes are carefully recorded and monitored by both Technical and Manufacturing personnel. A data base of all process conditions is maintained for reference.

Manufacturing personnel continually monitor production lines for visual defects in geosynthetic products. All process conditions are monitored to insure lot to lot consistency. All manufacturing jobs and processes are carried out in accordance with written procedures.

Product property conformance is constantly monitored by Manufacturing personnel. Should a nonconforming product be noted, Technical is notified immediately. Both departments work together in solving the problem. The control of nonconforming products is done in accordance with written procedures to insure that proper labeling, segregation, and dispositioning takes place.

6. QUALITY CONTROL TESTING

All Synthetic Industries Labs testing geosynthetic products are GAI-LAP Accredited. Synthetic Industries will often exceed the sampling frequency requirements for index properties outlined in ASTM D-4354. All samples are taken and tested in accordance with written procedures. Products are regularly sent to Independent laboratories for quality assurance testing. Nonconformities located during quality control tests are controlled in accordance with written procedures to insure that proper labeling, segregation, and dispositioning takes place.

. GEOTEX™ Nonwoven Geotextiles - Performance Nonwovens Division

A. The Technical Manager and Laboratory Supervisor are responsible for

the QC/QA program at the Ringgold, Georgia, Plant. Under their direction, the staff of Technicians monitors the process and Lab Personnel test the following index physical properties of the finished geotextiles produced in the Ringgold facility:

	Property	Units metric (US)	Test Method	
	Weight	g/m² (oz/yd²)	ASTM D-5261	
	Thickness	mm (mils)	ASTM D-5199	
#	Tensile	kN (lbs.)	ASTM D-4632	*
	Elongation	%	ASTM D-4632	*
#	Trapezoidal Tear	kN (lbs.)	ASTM D-4533	*
	Mullen Burst	kPa (PSI)	ASTM D-3786	
#	Puncture	kN (lbs.)	ASTM D-4833	

# Indicates a control property
* Shows both machine & cross machine directions will be tested

***For index properties, Synthetic Industries will test a minimum of every 30th roll (162,000 ft² or 15,000 m²) on nonwoven geotextiles 200 g/m² (6 oz/yd²) or less. Products greater than 200 g/m² (6 oz/yd²) will be tested a minimum of every 20th roll (90,000 ft² or 8,360 m²). Roll size requested by the customer will influence the exact amount of material produced between tests.

B. The following performance related tests will be conducted either at the Chickamauga facility or the Ringgold facility:

Property	Units metric (US)	Test Method
AOS	mm (US sieve size)	ASTM D-4751
Permittivity	sec^{-1}	ASTM D-4491
Water Permeability Flow Rate	l/min/m² (gal/min/ft²)	ASTM D-4491
Wide Width Tensile Strength	kN/m (lb/in.)	ASTM D-4595

Performance properties will be tested on a regular frequency that will vary depending upon production schedules, product availability, customer requirements, job specifications, or other agreements arranged prior to purchase.

*** NOTE: Roll size will influence the exact amount of material produced between testing. Smaller rolls will increase test frequency (per unit area), while larger rolls decrease test frequency.

C. Synthetic Industries takes systematic action to prevent needles or any other metallic items from being shipped in our nonwoven products to customers. This is carried out through the use of in-line detection and removal devices.

6.2. GEOTEX™ Woven Slit Tape & Monofilament Geotextiles - Woven Fabrics Division and Performance Fabrics Division

A. The Technical Manager and Quality Manager / Laboratory Supervisor are responsible for the QC/QA program at the Chickamauga and

Gainesville, Georgia, manufacturing plants. Under their direction, the staff of Lab Technicians test the following index physical properties of geotextiles produced as follows:

Property	Units metric (US)	Test Method	Frequency ** m^2 (ft^2)
Mass per unit Area	g/m^2 (oz/yd^2)	ASTM D-5261	8,360 (90,000)
Grab Tensile	kN (lbs.)	ASTM D-4632*	8,360 (90,000)
Elongation	%	ASTM D-4632*	8,360 (90,000)
Trapezoidal Tear	kN (lbs.)	ASTM D-4533*	8,360 (90,000)
Mullen Burst	kPa (PSI)	ASTM D-3786	8,360 (90,000)
Puncture	kN (lbs.)	ASTM D-4833	8,360 (90,000)
Specified Width	(Inches)	ASTM D-3774	8,360 (90,000)
Count	(ends/in.; picks/in.)	ASTM D-3775	8,360 (90,000)
Thickness	Mils	ASTM D-5199	8,360 (90,000)

* Both machine and cross-machine directions are tested.
** Test frequencies listed are **minimums.**

B. The following performance physical property tests will be conducted as follows:

Property	Units metric (US)	Test Method	Frequency ** m^2 (ft^2)
AOS	mm (US Sieve)	ASTM D-4751	125,415 (1,350,000)
Water Permittivity	sec^{-1}	ASTM D-4491	125,415 (1,350,000)
Flow Rate	$l/min/m^2$ ($gal/min/ft^2$)	ASTM D-4491	125,415 (1,350,000)
Wide Width Tensile & Elongation	kN/m (lbs/in)	ASTM D-4595*	125,415 (1,350,000)
CBR Puncture	kN & mm displ. (lbs.)	GRI-GSI	As Required
Xenon arc ***	%	ASTM D-4355	As Required
Abrasion ***	%	ASTM D-4886	As Required

* Both machine and cross-machine directions are tested.
** Test frequencies listed are **minimums**
*** Strength retained

Performance properties testing will vary depending upon product availability, customer, requirements, job specifications, or other agreements arranged before purchase. The performance tests will also depend on fabric application or end use. For example, wide width tensile would only be relevant in reinforcement applications.

6.4. LANDLOK Fiber Roving System - Chattanooga, TN, Plant

A. The Technical Manager and Laboratory Supervisor are responsible for the QC/QA program at the Chattanooga Plant for Geosynthetic Products Division products. The Laboratory Technicians monitor the process and test the following index physical properties of the finished product at the given frequency:

Property	Units metric (US)	Test Method	Frequency Kg (lbs.)
Weight	denier	ASTM D-1907	2,270 (5,000)
Tensile Strength	N (lbs.)	ASTM D-2256	2,270 (5,000)
Elongation	%	ASTM D-2256	2,270 (5,000)

Shrink	%	ASTM D-4974	2,270 (5,000)
Strands of Rove	end count	Measured	2,270 (5,000)
Yards per Pound	m (yds)	Calculated	2,270 (5,000)

B. Additional performance oriented evaluations of Landstrand Fiber Roving Systems are tested on a less frequent basis. Evaluations of this type are done at the Chickamauga location or outside facilities.

Property	Test Method	Frequency
UV Resistance	ASTM D-4355	1 per year
Moisture Absorption	ASTM D-570	as required
Rainfall Simulation	GRI ECS1	as required
Shear Stress	GRI ECS2	as required

C. Specific testing frequencies are in accordance with ASTM D-4354. Any special testing is performed by request only.

6.5. LANDLOK Open Weave Geotextile - Chickamauga, GA, Plant

A. The Technical Manager and Laboratory Supervisor are responsible for the QC/QA program at the Chickamauga Plant for Construction Products Division products. The Laboratory Technicians monitor the process and test the following index physical properties of the finished product at the given frequency:

Property	Units metric (US)	Test Method	Frequency m^2 (ft^2)
Mass per Unit Area	g/m^2 (oz/yd^2)	ASTM D-5261	16,730 (180,000)
Tensile strength	N (lbs.)	ASTM D-4632	16,730 (180,000)
Elongation	%	ASTM D-4632	16,730 (180,000)
Mullen Burst	kPa (PSI)	ASTM D-3786	16,730 (180,000)

B. Additional performance oriented evaluations of POLYJUTE are tested on a less frequent basis. Evaluations of this type are done at the Chickamauga location or outside facilities.

Property	Test Method	Frequency
UV Resistance	ASTM D-4355	1 per year
Moisture Absorption	ASTM D-570	as required
Rainfall Simulation	GRI ECS1	as required
Shear Stress	GRI ECS2	as required
Smolder Resistance	FTMS CCC-5-191B	as required

C. Specific testing frequencies are in accordance with ASTM D-4354. Any special testing is performed by request only.

6.6. LANDLOK Turf Reinforcement Mats - Dalton, GA, Plant

A. The Technical Manager is responsible for the QC/QA program at the Dalton Plant for Construction Products Division products. The Technical Manager monitors the process and forwards samples to the Chickamauga Plant where a Laboratory Technician test the following index physical properties of the finished product at the given frequency:

Property	Units metric (US)	Test Method	Frequency m^2 (ft^2)
Mass per Unit Area	g/m^2 (oz/yd^2)	ASTM D-5261	4,190 (45,000)
Thickness	mm (in.)	ASTM D-1777	4,190 (45,000)
Tensile Strength	N/m (lbs./ft)	ASTM D-5035	4,190 (45,000)
Elongation	%	ASTM D-5035	4,190 (45,000)
Ground Cover	% Light	Projection Analysis	4,190 (45,000)
Resiliency	%	ASTM D-1777	16,730 (180,000)
Flexibility	kg.cm (lb.in)	ASTM D-1388	16,730 (180,000)

B. Additional performance oriented evaluations of LANDLOK are tested on a less frequent basis. Evaluations of this type are done at the Chickamauga location or at outside facilities.

Property	Test Method	Frequency
UV Resistance	ASTM D-4355	1 per year
Moisture Absorption	ASTM D-570	as required
Wide Width Tensile	ASTM D-4595	2 per year
Flume Study	GRI ECS2	as required
Rainfall Simulation	GRI ECS1	as required
Shear Stress	GRI ECS2	as required

C. Specific testing frequencies are in accordance with ASTM D-4354. Any special testing is performed by request only.

6.7. PYRAMAT 3-D Woven Geotextile - Gainesville, GA, Plant

A. The Technical Manager and Quality Manager, P.F.D., are responsible for the QC/QA program at the Gainesville Plant for Geosynthetic Products Division products. The Laboratory Technician monitors the process and tests the following index physical properties of the finished product at the given frequency:

Property	Units metric (US)	Test Method	Frequency m^2 (ft^2)
Mass per Unit Area	g/m^2 (oz/yd^2)	ASTM D-5261	4,190 (45,000)
Thickness	cm (in.)	ASTM D-1777	4,190 (45,000)
Tensile strength	N/m (lbs./ft)	ASTM D-4632	4,190 (45,000)
Elongation	%	ASTM D-4632	4,190 (45,000)
Wide Width tensile	N/m (lbs./ft)	ASTM D-4595	25,100 (270,000)
Wide Width elong.	%	ASTM D-4595	25,100 (270,000)
Ground Cover	% Light	Projection Analysis	8,370 (90,000)
Resiliency	%	ASTM D-1777	8,370 (90,000)

B. Additional performance oriented evaluations of PYRAMAT are tested on a less frequent basis. Evaluations of this type are done at the Chickamauga location or at outside facilities.

Property	Test Method	Frequency
UV Resistance	ASTM D-4355	1 per year
Moisture Absorption	ASTM D-570	as required
Flume Study	GRI ECS2	as required
Shear Stress	GRI ECS2	as required

C. Specific testing frequencies are in accordance with ASTM D-4354. Any special testing is performed by request only.

6.8. GEOTEX™ High Strength Woven Geotextiles - Gainesville, GA, Plant

A. The Technical Manager and Quality Manager / Laboratory Supervisor are responsible for the QC/QA program at the Gainesville, Georgia, manufacturing plants. Under their direction, the staff of Lab Technicians test the following index physical properties of geotextiles produced as follows:

Property	Units metric (US)	Test Method	Frequency ** m^2 (ft^2)
Mass per unit Area	g/m^2 (oz/yd^2)	ASTM D-5261	16,720 (180,000)
Wide-width Tensile	kN/M (lbs./in.)	ASTM D-4595*	16,720 (180,000)
Elongation	%	ASTM D-4595*	16,720 (180,000)
Puncture	kN (lbs.)	ASTM D-4833	16,720 (180,000)
Specified Width	(Inches)	ASTM D-3774	16,720 (180,000)
Count	(ends/in.; picks/in.)	ASTM D-3775	16,720 (180,000)
Thickness	Mils	ASTM D-5199	16,720 (180,000)

* Both machine and cross-machine directions are tested.
** Test frequencies listed are **minimums.**

B. The following other physical property tests will be conducted as follows:

Property	Units metric (US)	Test Method	Frequency ** m^2 (ft^2)
AOS	mm (US Sieve)	ASTM D-4751	83,655 (900,000)
Trapezoidal Tear	kN (lbs.)	ASTM D-4533*	83,655 (900,000)
Water Permittivity	sec^{-1}	ASTM D-4491	83,655 (900,000)
Flow Rate / Permeability	$l/min/m^2$ ($gal/min/ft^2$)	ASTM D-4491	83,655 (900,000)
Seam Strength	kN/m (lbs/in)	ASTM D-4884	As Required
Xenon arc ***	%	ASTM D-4355	As Required
Mullen Burst	kPa (PSI)	ASTM D-3786	As Required

* Both machine and cross-machine directions are tested.
** Test frequencies listed are **minimums**
*** Strength retained

Performance properties testing will vary depending upon product availability, customer, requirements, job specifications, or other agreements arranged before purchase. The performance tests will also depend on fabric application or end use. For example, wide width tensile would only be relevant in reinforcement applications.

7. RECORDKEEPING AND DOCUMENT CONTROL

All quality assurance data is maintained in computer data bases, making historical information easily accessible. State of the art data acquisition programs insure minimal data entry error. Procedures are maintained for the

identification, collection, indexing, filing, storage, maintenance, and disposition of all records. Records are maintained for an appropriate period of time, as defined in documented procedures.

Procedures have been established and are maintained to control all documentation relating to the requirements of our quality system. Documents are reviewed and approved only by authorized personnel.

8. PACKAGING

All rolls are wrapped with a U.V. resistant stretch wrap or bag. This allows for protection from the elements should a roll have to be temporarily stored on site. Each roll has a label applied to it with appropriate information in order to facilitate product identification.

For Geotextiles, a core label on the inside of each end of the core will show the roll number of the roll, providing traceability to the time the roll was produced. After the time of production is obtained, we are able to trace the geosynthetic back to raw materials used during production (nonwovens only).

All packaging processes are done in accordance with written procedures and/or ckaging specifications. All packaging meets the requirements set forth in STM D-4873.

9. HANDLING, STORAGE, AND DELIVERY

Handling, storage, and delivery procedures are maintained to designate methods and means of handling our products in order to prevent damage or deterioration.

Storage facilities are utilized for the holding of products, and procedures are maintained for the receipt and dispatch of products to and from the storage location. The condition of products is assessed at regular intervals in accordance with documented procedures.

To ensure conformance to quality requirements and protect our products, procedures are maintained to control packing, preservation, and marking processes. Products are identified, preserved, and segregated from the time of receipt until our responsibility ceases.

10. CERTIFICATION

Synthetic Industries can provide certification letters of finished geosynthetics as required by the customer. The standard certification includes a letter of certification covering the product shipped on a particular bill of ading. Actual QC test data for specific rolls can be provided at the time of ipment, if necessary.

SI® Geosolutions

Product Data Sheet

GEOTEX® 1071

GEOTEX 1071 is a polypropylene, staple fiber, needlepunched nonwoven geotextile manufactured at one of SI Geosolutions'facilities that has achieved ISO-9002 certification for its systematic approach to quality. The fibers are needled to form a stable network that retains dimensional stability relative to each other. The geotextile is resistant to ultraviolet degradation and to biological and chemical environments normally found in soils. **GEOTEX 1071** conforms to the property values listed below[1] which have been derived from quality control testing performed by one of SI Geosolutions'GAI-LAP accredited laboratories:

		MARV[2]	
PROPERTY	**TEST METHOD**	**ENGLISH**	**METRIC**
Mechanical			
Grab Tensile Strength	ASTM D4632	270 lbs	1200 N
Grab Elongation	ASTM D4632	50%	50%
Puncture Strength	ASTM D4833	180 lbs	800 N
Mullen Burst	ASTM D3786	520 psi	3580 kPa
Trapezoidal Tear	ASTM D4533	105 lbs	465 N
Wide Width Tensile	ASTM D4595	105 lb-in	18.3 Kn/m
Endurance			
UV Resistance	ASTM D4355	70%	70%
Hydraulic			
Apparent Opening Size (AOS)	ASTM D4751	100 US Std. Sieve	0.150 mm
Permittivity	ASTM D4491	1.20 sec^{-1}	1.20 sec^{-1}
Permeability	ASTM D4491	0.30 cm/sec	0.30 cm/sec
Water Flow Rate	ASTM D4491	85 gpm/ft^2	3460 $l/min/m^2$
Roll Sizes		180 in x 100 yds	4.57 m x 91.5 m

NOTES:

[1] **The property values listed below are effective 9/6/00 are subject to change without notice.**

[2] Values shown are in weaker principal direction. Minimum average roll values are calculated as the typical minus two standard deviations. Statistically, it yields a 97.7% degree of confidence that any samples taken from quality assurance testing will exceed the value reported.

6025 Lee Highway, Suite 435 •Chattanooga, Tennessee USA •(423) 899-0444 or (800) 621-0444 •FAX (423) 485-9068 •www.fixsoil.com

Appendix K2

Textured 60-mil HDPE (GSE)

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Shipping Order - Packing List - Original - Not Negotiable

GSE Lining Technology, Inc. at HOUSTON,TEXAS

Shippers No. 28725

Received at Houston, Texas from GSE Lining Technology, Inc. the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of route to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in g by GSE Lining Technology and Carrier. GSE Lining Technology's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the carrier transporting the freight and (2) the carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Lining technology, Inc. for payment.

Ship To: Bern Metal/Universal Metal
410 Main Street
Buffalo NY 14202

Date: 10/11/02

Roll Certifications Included

Branch Plant: 1500

Shipping Instructions: Call Pete Maltise@412-292-7523 24hrs befor delivery.

Sales Order 25820 SO

No. Line	Roll #	QTY Shipped	UM	Kind of Package, Description of Articles, Special Marks, and Exceptions		Weight
1	102101493	11270	SF	HDT060AS03	60 mil Avg GSE HD Textured Blk, HDT Sm Edge Text, 23'	3,975.0
2	102101494	11270	SF	HDT060AS03	60 mil Avg GSE HD Textured Blk, HDT Sm Edge Text, 23'	3,995.0
3	102101495	11270	SF	HDT060AS03	60 mil Avg GSE HD Textured Blk, HDT Sm Edge Text, 23'	3,990.0
4	102101496	11270	SF	HDT060AS03	60 mil Avg GSE HD Textured Blk, HDT Sm Edge Text, 23'	4,020.0
5	102101497	11270	SF	HDT060AS03	60 mil Avg GSE HD Textured Blk, HDT Sm Edge Text, 23'	4,025.0
6	102101498	11270	SF	HDT060AS03	60 mil Avg GSE HD Textured Blk, HDT Sm Edge Text, 23'	4,015.0
7	102101499	11270	SF	HDT060AS03	60 mil Avg GSE HD Textured Blk, HDT Sm Edge Text, 23'	4,005.0
8	102101500	11270	SF	HDT060AS03	60 mil Avg GSE HD Textured Blk, HDT Sm Edge Text, 23'	4,020.0
9	102101501	11270	SF	HDT060AS03	60 mil Avg GSE HD Textured Blk, HDT Sm Edge Text, 23'	4,020.0
10	102101502	11270	SF	HDT060AS03	60 mil Avg GSE HD Textured Blk, HDT Sm Edge Text, 23'	4,015.0
11	102101503	11270	SF	HDT060AS03	60 mil Avg GSE HD Textured Blk, HDT Sm Edge Text, 23'	4,000.0
12	2002091601	5	BX	HDROD5MM	5 mm HD Welding Rod HD Welding Rod	75.0

Project# 511104

Freight charges are prepaid unless marked collect.
Check box if collect. ☐

Customer P.O. #: 5463

If this shipment is to be delivered to consignor, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges.

_____
Signature of Consignor

Local Verification Signed:

X _____

Pick Up #

Seal #

Truckers P.O. #

Quantity: 123,975 Total Weight: 44,155.00

Driver Requirements:

1) Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery.
2) Driver must call (281) 230-6781 when unloaded.
3) Driver must call and advise any delay in transit.
4) A copy of this B/L must accompany Freight Invoice.

CARRIER NAME: _____

CARRIER SIGNATURE: _____

DATE: _____

Shipping Order - Packing List - Original - Not Negotiable

GSE Lining Technology, Inc. at HOUSTON,TEXAS

Shippers No. 28732

Received at Houston, Texas from GSE Lining Technology, Inc. the property described below, in apparent good order, except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated below, which said Carrier agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any said property, over all or any portion of said [illegible] to destination, and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to the rates and contract agreed to in writing between GSE Lining Technology and Carrier. GSE Lining Technology's obligation to pay freight charges for the shipment is conditioned on (1) the existence of a separate written contract with the carrier [illegible] porting the freight and (2) the carrier's name appearing on this Bill of Lading, and other carriers must look solely to a party other than GSE Lining technology, Inc. for payment.

Ship To: Bern Metal/Universal Metal
410 Main Street
Buffalo NY 14202

Date: 10/14/02

Roll Certifications Included

Branch Plant: 1500

Shipping Instructions: Call Pete Maltise@412-292-7523 24hrs befor delivery.

Sales Order 25820 SO

No. Line	Roll #	QTY Shipped	UM	Kind of Package, Description of Articles, Special Marks, and Exceptions	Weight
1	102101492	11270	SF	HDT060AS03 60 mil Avg GSE HD Textured Blk, HDT Sm Edge Text, 23'	3,980.0
2	102101504	11270	SF	HDT060AS03 60 mil Avg GSE HD Textured Blk, HDT Sm Edge Text, 23'	3,970.0

Project# 511104

Freight charges are prepaid unless marked collect.
Check box if collect. ☐

Customer P.O. #: 5463

If this shipment is to be delivered to consignor, consignor shall sign the following statement. Carrier may decline to deliver this shipment without payment of freight and all other lawful charges.

Signature of Consignor

Local Verification Signed: X

Pick Up # 4087

Seal #

Truckers P.O. #

Total Quantity: 22,540 Total Weight: 7,950.00

Driver Requirements:

1 Driver must pre call 24 hrs prior to delivery and on Friday for Monday delivery.
2) Driver must call (281) 230-6781 when unloaded.
3) Driver must call and advise any delay in transit.
4) A copy of this B/L must accompany Freight Invoice.

CARRIER NAME: [illegible]
CARRIER SIGNATURE: [illegible]
DATE: 10-14-02

CONSIGNEE

GSE Roll Allocation

Order 25820
Customer Bern Metal/Universe Metal
Site Atlantic Lining Company, Inc.

Roll#	*Resin*	*Product*	*Description*	*Mfg. Date*	*Lengt*
102101492	8221148	HDT060AS03	HDT060AS03	10/10/02	490
102101493	8221148	HDT060AS03	HDT060AS03	10/10/02	490
102101494	8221148	HDT060AS03	HDT060AS03	10/10/02	490
102101495	8221148	HDT060AS03	HDT060AS03	10/10/02	490
102101496	8221148	HDT060AS03	HDT060AS03	10/10/02	490
102101497	8221148	HDT060AS03	HDT060AS03	10/11/02	490
102101498	8221148	HDT060AS03	HDT060AS03	10/11/02	490
102101499	8221148	HDT060AS03	HDT060AS03	10/11/02	490

GSE Roll Allocation

Order 25820
Customer Bern Metal/Universe Metal
Site Atlantic Lining Company, Inc.

Roll#	*Resin*	*Product*	*Description*	*Mfg. Date*	*Lengt*
102101500	8221148	HDT060AS03	HDT060AS03	10/11/02	490
102101501	8221148	HDT060AS03	HDT060AS03	10/11/02	490
102101502	8221148	HDT060AS03	HDT060AS03	10/11/02	490
102101503	8221148	HDT060AS03	HDT060AS03	10/11/02	490
102101504	8221148	HDT060AS03	HDT060AS03	10/11/02	490

Chevron Phillips

CoA Date: 09/06/2002

Certificate of Analysis

Shipped To: GSE LINING TECHNO
WESTFIELD
WESTFIELD TX 77090
USA

Recipient: DON BOHAC
Fax: 281-230-8630

CPC Delivery #: 86206520
PO #:
Weight: 183000 LB
Ship Date: 09/06/2002
Package: BULK
Mode: Hopper Car
Car #: PSPX006142

Product:
MARLEX POLYETHYLENE K306 BULK

Meets GSE Minimum Properties. Accepted in lieu of Project Spec. properties.

Lot Number: 8221148

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.090	g/10mi
HLMI Flow Rate	ASTM D1238	11.90	g/10mi
Density	ASTM D1505	0.9370	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP. However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

Paul S. Newbold
Sr. Certification Systems Specialist

For CoA questions contact Peter Scheirman at 713-289-4799

Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 102101492

ROLL IDENTIFICATION

ll Number	102101492	
Product Name	HDT060AS03	
Production Date	10/10/02	
Length ≈(+/- 1%)	490 149	feet meters
Width (Nominal)	23.0 7.0	feet meters
Sheet Area	11,270 1,047	sq. feet sq. meters
Weight	3,980 1,805	pounds kilograms

RESIN INFORMATION

Lot Number	8221148
Type	K306
Supplier	Phillips

GSE RESIN TEST DATA

Property	*Test Method*	*Results*
Density, g/cc	*ASTM D 1505*	0.937
Melt index, g/10 min.	*ASTM D 1238 (190/2.16)*	0.09

Physical Property	*Test Method*	*Test Frequency*	*Customer Minimum* English	Metric	*Test Results* English	Metric
Thickness, mil (mm)	ASTM D 5994					
Average		every roll	60	(1.5)	62	(1.6)
Minimum		every roll	54	(1.4)	55	(1.4)
Tensile Properties:	ASTM D638,Type IV / D6693					
Yield Strength, ppi (N/cm) - TD		every roll	126	(221)	179	(312)
- MD		every roll	126	(221)	176	(309)
Break Strength, ppi (N/cm) - TD		every roll	90	(158)	164	(287)
- MD		every roll	90	(158)	220	(385)
Yield Elongation, % - TD	gauge length = 1.3"	every roll	12		15	
- MD	(33 mm)	every roll	12		17	
Break Elongation, % - TD	gauge length = 2.0"	every roll	150		565	
- MD	(51 mm)	every roll	100		566	
Tear Resistance, lb. (N)	ASTM D 1004					
- TD		every roll	42	(187)	62	(276)
- MD		every roll	42	(187)	57	(254)
Puncture Resistance, lb. (N)	ASTM D 4833	every roll	108	(478)	158	(703)
Puncture Resistance, lb. (N)	FTMS 101C/2065	every 5th	80	(356)	112	(498)
Density, g/cc	ASTM D 1505	every 5th	0.940		0.943	
Carbon Black Content, %	ASTM D 1603*	every 5th	2.0		2.4	
Carbon Black Dispersion	ASTM D 3015	every 5th	A2		A1	
Carbon Black Dispersion Views in Cat1 - Cat2	ASTM D 5596	every 5th	9		10	
Asperity Height Average (mils) - Side A	GRI GM 12	every 2nd	10		25	

rder No. 25820
Customer Name Bern Metal/Universe Metal
Location Buffalo, NY
*Modified

GSE-4.10-007 Rev - - 07/00

APPROVED L.H. 10/10/02 QA

GSE Lining Technology, Inc.

Roll Test Data Report

Roll No. 102101493

ROLL IDENTIFICATION

Roll Number	102101493	
Product Name	HDT060AS03	
Production Date	10/10/02	
Length ≈(+/- 1%)	490 149	feet meters
Width (Nominal)	23.0 7.0	feet meters
Sheet Area	11,270 1,047	sq. feet sq. meters
Weight	3,975 1,803	pounds kilograms

RESIN INFORMATION

Lot Number	8221148
Type	K306
Supplier	Phillips

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.937
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.09

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5994					
Average		every roll	60	(1.5)	61	(1.6)
Minimum		every roll	54	(1.4)	59	(1.5)
Tensile Properties:	ASTM D638,Type IV / D6693					
Yield Strength, ppi (N/cm) - TD		every roll	126	(221)	181	(317)
- MD		every roll	126	(221)	171	(300)
Break Strength, ppi (N/cm) - TD		every roll	90	(158)	214	(375)
- MD		every roll	90	(158)	222	(389)
Yield Elongation, % - TD	gauge length = 1.3"	every roll	12		15	
- MD	(33 mm)	every roll	12		17	
Break Elongation, % - TD	gauge length = 2.0"	every roll	150		553	
- MD	(51 mm)	every roll	100		577	
Tear Resistance, lb. (N)	ASTM D 1004					
- TD		every roll	42	(187)	61	(271)
- MD		every roll	42	(187)	59	(263)
Puncture Resistance, lb. (N)	ASTM D 4833	every roll	108	(478)	158	(703)
Puncture Resistance, lb. (N)	FTMS 101C/2065	every 5th	80	(356)	112	(498)
Density, g/cc	ASTM D 1505	every 5th	0.940		0.943	
Carbon Black Content, %	ASTM D 1603*	every 5th	2.0		2.4	
Carbon Black Dispersion	ASTM D 3015	every 5th	A2		A1	
Carbon Black Dispersion Views in Cat1 - Cat2	ASTM D 5596	every 5th	9		10	
Asperity Height Average (mils) - Side A	GRI GM 12	every 2nd	10		25	

Order No. 25820
Customer Name Bem Metal/Universe Metal
Location Buffalo, NY
*Modified

GSE-4.10-007 Rev - - 07/00

APPROVED
L.H.
10/10/02
QA

GSE Lining Technology, Inc.

Roll Test Data Report

Roll No. 102101494

ROLL IDENTIFICATION

Roll Number	102101494
Product Name	HDT060AS03
Production Date	10/10/02

Length ≈(+/- 1%)	490 149	feet meters
Width (Nominal)	23.0 7.0	feet meters
Sheet Area	11,270 1,047	sq. feet sq. meters
Weight	3,995 1,812	pounds kilograms

RESIN INFORMATION

Lot Number	8221148
Type	K306
Supplier	Phillips

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.937
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.09

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5994					
Average		every roll	60	(1.5)	62	(1.6)
Minimum		every roll	54	(1.4)	57	(1.4)
Tensile Properties:	ASTM D638,Type IV / D6693					
Yield Strength, ppi (N/cm) - TD		every roll	126	(221)	174	(305)
- MD		every roll	126	(221)	171	(299)
Break Strength, ppi (N/cm) - TD		every roll	90	(158)	215	(375)
- MD		every roll	90	(158)	231	(405)
Yield Elongation, % - TD	gauge length = 1.3"	every roll	12		16	
- MD	(33 mm)	every roll	12		17	
Break Elongation, % - TD	gauge length = 2.0"	every roll	150		563	
- MD	(51 mm)	every roll	100		605	
Tear Resistance, lb. (N)	ASTM D 1004					
- TD		every roll	42	(187)	61	(271)
- MD		every roll	42	(187)	59	(263)
Puncture Resistance, lb. (N)	ASTM D 4833	every roll	108	(478)	163	(725)
Puncture Resistance, lb. (N)	FTMS 101C/2065	every 5th	80	(356)	112	(498)
Density, g/cc	ASTM D 1505	every 5th	0.940		0.943	
Carbon Black Content, %	ASTM D 1603*	every 5th	2.0		2.4	
Carbon Black Dispersion	ASTM D 3015	every 5th	A2		A1	
Carbon Black Dispersion Views In Cat1 - Cat2	ASTM D 5596	every 5th	9		10	
Asperity Height Average (mils) - Side A	GRI GM 12	every 2nd	10		24	

Order No. 25820
Customer Name Bern Metal/Universe Metal
Location Buffalo, NY
*Modified

APPROVED L.H. 10/11/02 QA

Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 102101495

ROLL IDENTIFICATION

Roll Number	102101495
Product Name	HDT060AS03
Production Date	10/10/02

Length ≈(+/- 1%)	490 149	feet meters
Width (Nominal)	23.0 7.0	feet meters
Sheet Area	11,270 1,047	sq. feet sq. meters
Weight	3,990 1,810	pounds kilograms

RESIN INFORMATION

Lot Number	8221148
Type	K306
Supplier	Phillips

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.937
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.09

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5994					
Average		every roll	60	(1.5)	61	(1.6)
Minimum		every roll	54	(1.4)	57	(1.4)
Tensile Properties:	ASTM D638,Type IV / D6693					
Yield Strength, ppi (N/cm) - TD		every roll	126	(221)	180	(315)
- MD		every roll	126	(221)	174	(304)
Break Strength, ppi (N/cm) - TD		every roll	90	(158)	195	(341)
- MD		every roll	90	(158)	241	(423)
Yield Elongation, % - TD	gauge length = 1.3"	every roll	12		16	
- MD	(33 mm)	every roll	12		17	
Break Elongation, % - TD	gauge length = 2.0"	every roll	150		607	
- MD	(51 mm)	every roll	100		604	
Tear Resistance, lb. (N)	ASTM D 1004					
- TD		every roll	42	(187)	58	(258)
- MD		every roll	42	(187)	56	(249)
Puncture Resistance, lb. (N)	ASTM D 4833	every roll	108	(478)	166	(739)
Puncture Resistance, lb. (N)	FTMS 101C/2065	every 5th	80	(356)	112	(498)
Density, g/cc	ASTM D 1505	every 5th	0.940		0.942	
Carbon Black Content, %	ASTM D 1603*	every 5th	2.0		2.2	
Carbon Black Dispersion	ASTM D 3015	every 5th	A2		A1	
Carbon Black Dispersion Views in Cat1 - Cat2	ASTM D 5596	every 5th	9		10	
Asperity Height Average (mils) - Side A	GRI GM 12	every 2nd	10		24	

Order No. 25820
Customer Name Bern Metal/Universe Metal
Location Buffalo, NY
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 102101496

ROLL IDENTIFICATION

oll Number	102101496	
Product Name	HDT060AS03	
Production Date	10/10/02	
Length ≈(+/- 1%)	490 149	feet meters
Width (Nominal)	23.0 7.0	feet meters
Sheet Area	11,270 1,047	sq. feet sq. meters
Weight	4,020 1,823	pounds kilograms

RESIN INFORMATION

Lot Number	8221148
Type	K306
Supplier	Phillips

GSE RESIN TEST DATA

Property	*Test Method*	*Results*
Density, g/cc	*ASTM D 1505*	0.937
Melt index, g/10 min.	*ASTM D 1238 (190/2.16)*	0.09

Physical Property	*Test Method*	*Test Frequency*	*Customer Minimum* English	Metric	*Test Results* English	Metric
Thickness, mil (mm)	ASTM D 5994					
Average		every roll	60	(1.5)	63	(1.6)
Minimum		every roll	54	(1.4)	59	(1.5)
Tensile Properties:	ASTM D638,Type IV / D6693					
Yield Strength, ppi (N/cm) - TD		every roll	126	(221)	181	(317)
- MD		every roll	126	(221)	172	(301)
Break Strength, ppi (N/cm) - TD		every roll	90	(158)	197	(345)
- MD		every roll	90	(158)	226	(396)
Yield Elongation, % - TD	gauge length = 1.3"	every roll	12		15	
- MD	(33 mm)	every roll	12		18	
Break Elongation, % - TD	gauge length = 2.0"	every roll	150		578	
- MD	(51 mm)	every roll	100		536	
Tear Resistance, lb. (N)	ASTM D 1004					
- TD		every roll	42	(187)	65	(289)
- MD		every roll	42	(187)	58	(258)
Puncture Resistance, lb. (N)	ASTM D 4833	every roll	108	(478)	162	(721)
Puncture Resistance, lb. (N)	FTMS 101C/2065	every 5th	80	(356)	112	(498)
Density, g/cc	ASTM D 1505	every 5th	0.940		0.942	
Carbon Black Content, %	ASTM D 1603*	every 5th	2.0		2.2	
Carbon Black Dispersion	ASTM D 3015	every 5th	A2		A1	
Carbon Black Dispersion Views in Cat1 - Cat2	ASTM D 5596	every 5th	9		10	
Asperity Height Average (mils) - Side A	GRI GM 12	every 2nd	10		24	

der No. 25820
Customer Name Bern Metal/Universe Metal
Location Buffalo, NY
*Modified

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GSE Lining Technology, Inc.

Roll Test Data Report

Roll No. 102101497

ROLL IDENTIFICATION

Roll Number	102101497	
Product Name	HDT060AS03	
Production Date	10/11/02	
Length ≈(+/- 1%)	490 149	feet meters
Width (Nominal)	23.0 7.0	feet meters
Sheet Area	11,270 1,047	sq. feet sq. meters
Weight	4,025 1,826	pounds kilograms

RESIN INFORMATION

Lot Number	8221148
Type	K306
Supplier	Phillips

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.937
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.09

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5994					
Average		every roll	60	(1.5)	62	(1.6)
Minimum		every roll	54	(1.4)	58	(1.5)
Tensile Properties:	ASTM D638,Type IV / D6693					
Yield Strength, ppi (N/cm) - TD		every roll	126	(221)	177	(310)
- MD		every roll	126	(221)	173	(303)
Break Strength, ppi (N/cm) - TD		every roll	90	(158)	200	(351)
- MD		every roll	90	(158)	206	(360)
Yield Elongation, % - TD	gauge length = 1.3"	every roll	12		15	
- MD	(33 mm)	every roll	12		17	
Break Elongation, % - TD	gauge length = 2.0"	every roll	150		558	
- MD	(51 mm)	every roll	100		577	
Tear Resistance, lb. (N)	ASTM D 1004					
- TD		every roll	42	(187)	63	(280)
- MD		every roll	42	(187)	57	(254)
Puncture Resistance, lb. (N)	ASTM D 4833					
		every roll	108	(478)	157	(699)
Puncture Resistance, lb. (N)	FTMS 101C/2065					
		every 5th	80	(356)	112	(498)
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.942	
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.2	
Carbon Black Dispersion	ASTM D 3015					
		every 5th	A2		A1	
Carbon Black Dispersion	ASTM D 5596					
Views in Cat1 - Cat2		every 5th	9		10	
Asperity Height	GRI GM 12					
Average (mils) - Side A		every 2nd	10		24	

Order No. 25820
Customer Name Bern Metal/Universe Metal
Location Buffalo, NY
*Modified

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GSE Lining Technology, Inc.

Roll Test Data Report

Roll No. 102101498

ROLL IDENTIFICATION

oll Number	102101498
Product Name	HDT060AS03
Production Date	10/11/02

Length ≈(+/- 1%)	490 149	feet meters
Width (Nominal)	23.0 7.0	feet meters
Sheet Area	11,270 1,047	sq. feet sq. meters
Weight	4,015 1,821	pounds kilograms

RESIN INFORMATION

Lot Number	8221148
Type	K306
Supplier	Phillips

GSE RESIN TEST DATA

Property	*Test Method*	*Results*
Density, g/cc	*ASTM D 1505*	0.937
Melt index, g/10 min.	*ASTM D 1238 (190/2.16)*	0.09

Physical Property	*Test Method*	*Test Frequency*	*Customer Minimum* English	Metric	*Test Results* English	Metric
Thickness, mil (mm)	ASTM D 5994					
Average		every roll	60	(1.5)	62	(1.6)
Minimum		every roll	54	(1.4)	57	(1.4)
Tensile Properties:	ASTM D638,Type IV / D6693					
Yield Strength, ppi (N/cm) - TD		every roll	126	(221)	175	(307)
- MD		every roll	126	(221)	172	(302)
Break Strength, ppi (N/cm) - TD		every roll	90	(158)	188	(328)
- MD		every roll	90	(158)	229	(401)
Yield Elongation, % - TD	gauge length = 1.3"	every roll	12		15	
- MD	(33 mm)	every roll	12		17	
Break Elongation, % - TD	gauge length = 2.0"	every roll	150		561	
- MD	(51 mm)	every roll	100		597	
Tear Resistance, lb. (N)	ASTM D 1004					
- TD		every roll	42	(187)	63	(280)
- MD		every roll	42	(187)	57	(254)
Puncture Resistance, lb. (N)	ASTM D 4833					
		every roll	108	(478)	166	(739)
Puncture Resistance, lb. (N)	FTMS 101C/2065					
		every 5th	80	(356)	112	(498)
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.942	
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.2	
Carbon Black Dispersion	ASTM D 3015					
		every 5th	A2		A1	
Carbon Black Dispersion	ASTM D 5596					
Views In Cat1 - Cat2		every 5th	9		10	
Asperity Height	GRI GM 12					
Average (mils) - Side A		every 2nd	10		25	

rder No. 25820
Customer Name Bern Metal/Universe Metal
Location Buffalo, NY
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 102101499

ROLL IDENTIFICATION

Roll Number	102101499
Product Name	HDT060AS03
Production Date	10/11/02

Length ≈(+/- 1%)	490 149	feet meters
Width (Nominal)	23.0 7.0	feet meters
Sheet Area	11,270 1,047	sq. feet sq. meters
Weight	4,005 1,817	pounds kilograms

RESIN INFORMATION

Lot Number	8221148
Type	K306
Supplier	Phillips

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.937
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.09

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5994					
Average		every roll	60	(1.5)	62	(1.6)
Minimum		every roll	54	(1.4)	57	(1.5)
Tensile Properties:	ASTM D638,Type IV / D6693					
Yield Strength, ppi (N/cm) - TD		every roll	126	(221)	178	(312)
- MD		every roll	126	(221)	170	(298)
Break Strength, ppi (N/cm) - TD		every roll	90	(158)	221	(387)
- MD		every roll	90	(158)	240	(420)
Yield Elongation, % - TD	gauge length = 1.3"	every roll	12		16	
- MD	(33 mm)	every roll	12		18	
Break Elongation, % - TD	gauge length = 2.0"	every roll	150		603	
- MD	(51 mm)	every roll	100		578	
Tear Resistance, lb. (N)	ASTM D 1004					
- TD		every roll	42	(187)	61	(271)
- MD		every roll	42	(187)	56	(249)
Puncture Resistance, lb. (N)	ASTM D 4833	every roll	108	(478)	160	(712)
Puncture Resistance, lb. (N)	FTMS 101C/2065	every 5th	80	(356)	112	(498)
Density, g/cc	ASTM D 1505	every 5th	0.940		0.942	
Carbon Black Content, %	ASTM D 1603*	every 5th	2.0		2.2	
Carbon Black Dispersion	ASTM D 3015	every 5th	A2		A1	
Carbon Black Dispersion Views in Cat1 - Cat2	ASTM D 5596	every 5th	9		10	
Asperity Height Average (mils) - Side A	GRI GM 12	every 2nd	10		25	

Order No. 25820
Customer Name Bern Metal/Universe Metal
Location Buffalo, NY
*Modified

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GSE Lining Technology, Inc.

Roll Test Data Report

Roll No. 102101500

ROLL IDENTIFICATION

ll Number	102101500	
Product Name	HDT060AS03	
Production Date	10/11/02	
Length ≈(+/- 1%)	490 149	feet meters
Width (Nominal)	23.0 7.0	feet meters
Sheet Area	11,270 1,047	sq. feet sq. meters
Weight	4,020 1,823	pounds kilograms

RESIN INFORMATION

Lot Number	8221148
Type	K306
Supplier	Phillips

GSE RESIN TEST DATA

Property	*Test Method*	*Results*
Density, g/cc	*ASTM D 1505*	0.937
Melt index, g/10 min.	*ASTM D 1238 (190/2.16)*	0.09

Physical Property	*Test Method*	*Test Frequency*	*Customer Minimum* English	Metric	*Test Results* English	Metric
Thickness, mil (mm)	ASTM D 5994					
Average		every roll	60	(1.5)	61	(1.6)
Minimum		every roll	54	(1.4)	58	(1.5)
Tensile Properties:	ASTM D638,Type IV / D6693					
Yield Strength, ppi (N/cm) - TD		every roll	126	(221)	181	(316)
- MD		every roll	126	(221)	174	(305)
Break Strength, ppi (N/cm) - TD		every roll	90	(158)	230	(402)
- MD		every roll	90	(158)	251	(439)
Yield Elongation, % - TD	gauge length = 1.3"	every roll	12		16	
- MD	(33 mm)	every roll	12		18	
Break Elongation, % - TD	gauge length = 2.0"	every roll	150		572	
- MD	(51 mm)	every roll	100		586	
Tear Resistance, lb. (N)	ASTM D 1004					
- TD		every roll	42	(187)	60	(267)
- MD		every roll	42	(187)	55	(245)
Puncture Resistance, lb. (N)	ASTM D 4833	every roll	108	(478)	164	(730)
Puncture Resistance, lb. (N)	FTMS 101C/2065	every 5th	80	(356)	108	(481)
Density, g/cc	ASTM D 1505	every 5th	0.940		0.945	
Carbon Black Content, %	ASTM D 1603*	every 5th	2.0		2.2	
Carbon Black Dispersion	ASTM D 3015	every 5th	A2		A1	
Carbon Black Dispersion	ASTM D 5596					
Views in Cat1 - Cat2		every 5th	9		10	
Asperity Height	GRI GM 12					
Average (mils) - Side A		every 2nd	10		21	

der No. 25820
Customer Name Bern Metal/Universe Metal
Location Buffalo, NY
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 102101501

ROLL IDENTIFICATION

Roll Number	102101501	
Product Name	HDT060AS03	
Production Date	10/11/02	
Length ≈(+/- 1%)	490 149	feet meters
Width (Nominal)	23.0 7.0	feet meters
Sheet Area	11,270 1,047	sq. feet sq. meters
Weight	4,020 1,823	pounds kilograms

RESIN INFORMATION

Lot Number	8221148
Type	K306
Supplier	Phillips

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.937
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.09

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5994					
Average		every roll	60	(1.5)	61	(1.6)
Minimum		every roll	54	(1.4)	55	(1.4)
Tensile Properties:	ASTM D638,Type IV / D6693					
Yield Strength, ppi (N/cm) - TD		every roll	126	(221)	182	(319)
- MD		every roll	126	(221)	183	(320)
Break Strength, ppi (N/cm) - TD		every roll	90	(158)	215	(376)
- MD		every roll	90	(158)	209	(366)
Yield Elongation, % - TD	gauge length = 1.3"	every roll	12		15	
- MD	(33 mm)	every roll	12		18	
Break Elongation, % - TD	gauge length = 2.0"	every roll	150		567	
- MD	(51 mm)	every roll	100		569	
Tear Resistance, lb. (N)	ASTM D 1004					
- TD		every roll	42	(187)	63	(280)
- MD		every roll	42	(187)	64	(285)
Puncture Resistance, lb. (N)	ASTM D 4833	every roll	108	(478)	151	(672)
Puncture Resistance, lb. (N)	FTMS 101C/2065	every 5th	80	(356)	108	(481)
Density, g/cc	ASTM D 1505	every 5th	0.940		0.945	
Carbon Black Content, %	ASTM D 1603*	every 5th	2.0		2.2	
Carbon Black Dispersion	ASTM D 3015	every 5th	A2		A1	
Carbon Black Dispersion Views in Cat1 - Cat2	ASTM D 5596	every 5th	9		10	
Asperity Height Average (mils) - Side A	GRI GM 12	every 2nd	10		21	

Order No. 25820
Customer Name Bern Metal/Universe Metal
Location Buffalo, NY
*Modified

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GSE Lining Technology, Inc.

Roll Test Data Report

Roll No. 102101502

ROLL IDENTIFICATION

ll Number	102101502
Product Name	HDT060AS03
Production Date	10/11/02

Length ≈(+/- 1%)	490 149	feet meters
Width (Nominal)	23.0 7.0	feet meters
Sheet Area	11,270 1,047	sq. feet sq. meters
Weight	4,015 1,821	pounds kilograms

RESIN INFORMATION

Lot Number	8221148
Type	K306
Supplier	Phillips

GSE RESIN TEST DATA

Property	*Test Method*	*Results*
Density, g/cc	*ASTM D 1505*	0.937
Melt index, g/10 min.	*ASTM D 1238 (190/2.16)*	0.09

Physical Property	*Test Method*	*Test Frequency*	*Customer Minimum* English	Metric	*Test Results* English	Metric
Thickness, mil (mm)	ASTM D 5994					
Average		every roll	60	(1.5)	63	(1.6)
Minimum		every roll	54	(1.4)	56	(1.4)
Tensile Properties:	ASTM D638,Type IV / D6693					
Yield Strength, ppi (N/cm) - TD		every roll	126	(221)	183	(320)
- MD		every roll	126	(221)	179	(313)
Break Strength, ppi (N/cm) - TD		every roll	90	(158)	180	(314)
- MD		every roll	90	(158)	221	(388)
Yield Elongation, % - TD	gauge length = 1.3"	every roll	12		15	
- MD	(33 mm)	every roll	12		18	
Break Elongation, % - TD	gauge length = 2.0"	every roll	150		598	
- MD	(51 mm)	every roll	100		584	
Tear Resistance, lb. (N)	ASTM D 1004					
- TD		every roll	42	(187)	60	(267)
- MD		every roll	42	(187)	52	(231)
Puncture Resistance, lb. (N)	ASTM D 4833	every roll	108	(478)	161	(716)
Puncture Resistance, lb. (N)	FTMS 101C/2065	every 5th	80	(356)	108	(481)
Density, g/cc	ASTM D 1505	every 5th	0.940		0.945	
Carbon Black Content, %	ASTM D 1603*	every 5th	2.0		2.2	
Carbon Black Dispersion	ASTM D 3015	every 5th	A2		A1	
Carbon Black Dispersion Views In Cat1 - Cat2	ASTM D 5596	every 5th	9		10	
Asperity Height Average (mils) - Side A	GRI GM 12	every 2nd	10		23	

ler No. 25820
Customer Name Bern Metal/Universe Metal
Location Buffalo, NY
*Modified

APPROVED J.Y. 10/11/02 QA

Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 102101503

ROLL IDENTIFICATION

Roll Number	102101503	
Product Name	HDT060AS03	
Production Date	10/11/02	
Length ≈(+/- 1%)	490 149	feet meters
Width (Nominal)	23.0 7.0	feet meters
Sheet Area	11,270 1,047	sq. feet sq. meters
Weight	4,000 1,814	pounds kilograms

RESIN INFORMATION

Lot Number	8221148
Type	K306
Supplier	Phillips

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.937
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.09

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5994					
Average		every roll	60	(1.5)	63	(1.6)
Minimum		every roll	54	(1.4)	56	(1.4)
Tensile Properties:	ASTM D638,Type IV / D6693					
Yield Strength, ppi (N/cm) - TD		every roll	126	(221)	185	(324)
- MD		every roll	126	(221)	181	(316)
Break Strength, ppi (N/cm) - TD		every roll	90	(158)	207	(362)
- MD		every roll	90	(158)	219	(383)
Yield Elongation, % - TD	gauge length = 1.3"	every roll	12		16	
- MD	(33 mm)	every roll	12		15	
Break Elongation, % - TD	gauge length = 2.0"	every roll	150		609	
- MD	(51 mm)	every roll	100		588	
Tear Resistance, lb. (N)	ASTM D 1004					
- TD		every roll	42	(187)	63	(280)
- MD		every roll	42	(187)	62	(276)
Puncture Resistance, lb. (N)	ASTM D 4833	every roll	108	(478)	171	(761)
Puncture Resistance, lb. (N)	FTMS 101C/2065	every 5th	80	(356)	108	(481)
Density, g/cc	ASTM D 1505	every 5th	0.940		0.945	
Carbon Black Content, %	ASTM D 1603*	every 5th	2.0		2.2	
Carbon Black Dispersion	ASTM D 3015	every 5th	A2		A1	
Carbon Black Dispersion Views In Cat1 - Cat2	ASTM D 5596	every 5th	9		10	
Asperity Height Average (mils) - Side A	GRI GM 12	every 2nd	10		23	

Order No. 25820
Customer Name Bern Metal/Universe Metal
Location Buffalo, NY
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 102101504

ROLL IDENTIFICATION

Roll Number	102101504	
Product Name	HDT060AS03	
Production Date	10/11/02	
Length ≈(+/- 1%)	490 149	feet meters
Width (Nominal)	23.0 7.0	feet meters
Sheet Area	11,270 1,047	sq. feet sq. meters
Weight	3,970 1,801	pounds kilograms

RESIN INFORMATION

Lot Number	8221148
Type	K306
Supplier	Phillips

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.937
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.09

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5994					
Average		every roll	60	(1.5)	62	(1.6)
Minimum		every roll	54	(1.4)	55	(1.4)
Tensile Properties:	ASTM D638,Type IV / D6693					
Yield Strength, ppi (N/cm) - TD		every roll	126	(221)	181	(316)
- MD		every roll	126	(221)	179	(314)
Break Strength, ppi (N/cm) - TD		every roll	90	(158)	210	(367)
- MD		every roll	90	(158)	212	(370)
Yield Elongation, % - TD	gauge length = 1.3"	every roll	12		16	
- MD	(33 mm)	every roll	12		17	
Break Elongation, % - TD	gauge length = 2.0"	every roll	150		585	
- MD	(51 mm)	every roll	100		574	
Tear Resistance, lb. (N)	ASTM D 1004					
- TD		every roll	42	(187)	64	(285)
- MD		every roll	42	(187)	53	(236)
Puncture Resistance, lb. (N)	ASTM D 4833	every roll	108	(478)	178	(792)
Puncture Resistance, lb. (N)	FTMS 101C/2065	every 5th	80	(356)	108	(481)
Density, g/cc	ASTM D 1505	every 5th	0.940		0.945	
Carbon Black Content, %	ASTM D 1603*	every 5th	2.0		2.2	
Carbon Black Dispersion	ASTM D 3015	every 5th	A2		A1	
Carbon Black Dispersion Views in Cat1 - Cat2	ASTM D 5596	every 5th	9		10	
Asperity Height Average (mils) - Side A	GRI GM 12	every 2nd	10		24	

Order No. 25820
Customer Name Bern Metal/Universe Metal
Location Buffalo, NY
*Modified

APPROVED L.H. 10/11/02 QA

GSE®

GSE Lining Technology, Inc.

19103 Gundle Road
Houston, Texas 77073
800-435-2008
713-443-8564
Fax: 281 - 230 - 8669

22 October 2002

Wayne Farrow
Atlantic Lining Company, Inc.
100 Youngs Road, Suite 8
Mercerville, New Jersey 08619

RE: Bern Metal / Universe Metal Site
GSE Project No. 511104

CERTIFICATION

The undersigned, being qualified and authorized to do so, hereby certifies that standard GSE 60 mil average HD Textured™ HDPE geomembrane will meet or exceed the following specified property values and/or conditions:

- GSE geomembranes are composed of 97 to 98% polyethylene, 2 to 3% carbon black, and ≤ 0.5% of additives such as heat stabilizers and antioxidants. Further information is considered to be proprietary and confidential.
- No reclaimed polymer will be used in the production of materials for the referenced project. Material reworked from GSE's manufacturing process may be added, but will not exceed ten percent (10%) by weight of the material.

Sincerely,

John David Griffin
GSE Technical Supervisor

cc: Sheri Sim-Connell, GSE Lining Technology, Inc.

Report Date
10/23/2002

Quality Assurance Laboratory Test Results

Job Name: Bern Metal / Universe Metal
SO Number: 25820

Test: ASTM D 5397 - Standard Test Method for Evaluation of Stress Crack Resistance of Polyolefin Geomembranes Using Notched Constant Tensile Load

Customer Frequency: 1 / resin lot

Customer Criteria: >200 Hours

Lot Number	Test Result
8221148	Pass
8221178	Pass

Approved By: Jane Allen
Date Approved: 10/23/2002

Report Date
12/3/02

Quality Assurance Laboratory Test Results

Job Name: Bem Metal / Universal Metal
SO Number: 25820

Test: ASTM D 1693 - Test Method for Environmental Stress-Cracking of Polyethylene Plastics (Cond. B)

Customer Frequency: 1/Resin Lot
Customer Criteria: > 1500 hours

Roll Number	Product Code	Lot Number	Test Result
102101492	HDT060AS03	8221148	Pass
102101669	HDT060AS03	8221178	Pass

Approved By: Jimmy Youngblood
Date Approved: 12/3/02

GSE

Report Date
9/17/02

Welding Rod Test Results

Test Date: 9/16/02
Rod Type: Blk HDPE Rod 5mm X 337M
Resin Type: Phillips K-306 HDPE Resin
Rail Car No.: PSPX-6613
Lot No.: 8221008

Property	Test Method	Results
Average Thickness, in.	measurement by caliper	0.188
Carbon Black Content, %	ASTM D 1603	2.6

APPROVED
#21
9/17/02
QA

Chevron Phillips

CoA Date: 07/31/2002

Certificate of Analysis

Shipped To: GSE LINING TECHNO
WESTFIELD
WESTFIELD TX 77090
USA

Recipient: DON BOHAC
Fax: 281-230-8630

CPC Delivery #: 86180269
PO #:
Weight: 182800 LB
Ship Date: 07/31/2002
Package:
Mode: Hopper Car
Car #: GOCX058324

Product:
MARLEX POLYETHYLENE K306 BULK

Lot Number: 8221008

Property	Test Method	Value	Unit
Melt Index	ASTM D1238	0.100	g/10mi
HLMI Flow Rate	ASTM D1238	11.00	g/10mi
Density	ASTM D1505	0.9370	g/cm3

The data set forth herein have been carefully compiled by Chevron Phillips Chemical Company LP. However, there is no warranty of any kind, either expressed or implied, applicable to its use, and the user assumes all risk and liability in connection therewith.

Paul S. Newbold
Sr. Certification Systems Specialist

For CoA questions contact Peter Scheirman at 713-289-4799

Appendix K3

Geosynthetic Drainage Composite (GSE)

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

GSE

Geocomposite Traceability

Customer Bern Metal / Universe

Location Buffalo, New York

Job Name Atlantic Lining Company, I

Order 25820

Roll No	*Product*	*Resin Lot*	*Top Geo*	*Bottom Geo*
131100921	F420600605	D20521099	130130103	130130067
131100928	F420600605	D20621099	130130071	130130036
131100931	F420600605	D20621099	130130057	130130104
131102803	F420600605	D20821560	130131230	130132074
131103573	F420600605	D20821563	130132485	130132472
131103574	F420600605	D20821563	130132505	130132472
131103575	F420600605	D20821563	130132505	130132472
131103576	F420600605	D20821563	130132505	130132471
131103577	F420600605	D20821563	130132505	130132471
131103578	F420600605	D20821563	130132505	130132471
131103579	F420600605	D20821563	130132522	130132471
131103580	F420600605	D20521563	130132522	130132056
131103581	F420600605	D20821563	130132522	130132056
131103582	F420600605	D20821563	130132522	130132056
131103583	F420600605	D20821563	130132523	130132056
131103584	F420600605	D20821563	130132523	130132056
131103585	F420600605	D20821563	130132523	130132504
131103586	F420600605	D20821563	130132523	130132504
131103587	F420600605	D20821563	130132520	130132504
131103588	F420600605	D20821563	130132520	130132494
131103589	F420600605	D20521563	130132520	130132494
131103590	F420600605	D20821563	130132520	130132494
131103591	F420600605	D20821563	130132520	130132494
131103592	F420600605	D20821563	130132520	130132494
131103593	F420600605	D20821563	130132521	130132512
131103594	F420600605	D20821563	130132521	130132512
131103595	F420600605	D20821563	130132521	130132512
131103596	F420600605	D20821563	130132521	130132512
131103597	F420600605	D20821563	130132507	130132490
131103598	F420600605	D20821563	130132507	130132490
131103599	F420600605	D20821563	130132507	130132490
131103600	F420600605	D20821563	130132492	130132490
131103601	F420600605	D20821563	130132492	130132490
131103602	F420600605	D20821563	130132492	130132469
131103603	F420600605	D20821563	130132492	130132469

Roll_No	Product	Resin Lot	Top Geo	Bottom Geo
131103604	F42060060S	D20821563	130132035	130132469
131103605	F42060060S	D20821563	130132035	130132469
131103606	F42060060S	D20821563	130132035	130132493
131103607	F42060060S	D20821563	130132515	130132493
131103608	F42060060S	D20821563	130132515	130132493
131103609	F42060060S	D20821563	130132515	130132493
131103610	F42060060S	D20821563	130132515	130132493

GSE

GSE Nonwoven Technology

Roll Test Data Summary - English Units

Product : NW6 **Item Code:** FBR0608200 **Roll Width:** 15.0 feet **Test Date:** 8/18/2002

Roll No.	Mass per Unit Area	Thickness	Grab Strength		Grab Elongation		Trap Tear Strength		Puncture Strength	Mullen Burst Strength	Apparent Opening Size	Permittivity	Permeability
	ASTM D 5261	ASTM D 5199	ASTM D 4632		ASTM D 4632		ASTM D 4533		ASTM D 4833	ASTM D 3786	ASTM D 4751	ASTM D 4491	
	(oz/yd2)	(mils)	MD (lbs)	CD (lbs)	MD (%)	CD (%)	MD (lbs)	CD (lbs)	(lbs)	(psi)	(mm)	(sec-1)	(cm/sec)
130130036	7.1	89	215	227	91	114	96	99	119	363	0.212	1.8	0.4
130130057	6.7	84	249	250	92	119	89	87	127	374	0.212	1.8	0.4
130130067	6.6	81	213	243	91	113	97	101	116	342	0.212	1.8	0.4
130130071	6.9	86	248	240	95	118	91	107	119	352	0.212	1.8	0.4
130130103	7.3	87	248	210	91	130	100	107	133	360	0.212	1.9	0.4
130130104	7.3	87	248	210	91	130	100	107	133	360	0.212	1.9	0.4
130132035	6.8	80	215	232	98	103	101	118	120	330	0.212	1.8	0.4
130132065	7.6	85	241	205	92	110	103	101	130	362	0.212	1.7	0.4
130132074	7.5	84	252	235	98	108	85	110	135	348	0.212	1.7	0.4
130132465	6.4	80	269	187	101	112	107	101	111	330	0.212	1.7	0.3
130132471	7.0	88	263	225	82	142	111	114	129	354	0.212	1.7	0.3
130132472	7.0	88	263	225	82	142	111	114	129	354	0.212	1.7	0.3
130132490	6.2	83	246	210	88	121	97	105	122	339	0.212	1.7	0.3
130132492	6.2	83	246	210	88	121	97	105	122	339	0.212	1.7	0.3
130132494	7.1	91	281	242	87	125	120	105	130	351	0.212	1.9	0.4
130132504	6.6	85	208	201	90	127	99	117	118	356	0.212	1.9	0.4
130132505	6.6	85	208	201	90	127	99	117	118	356	0.212	1.9	0.4
130132507	6.6	85	208	201	90	127	99	117	118	356	0.212	1.9	0.4
130132512	6.3	81	241	190	86	123	90	88	119	342	0.212	1.9	0.4
130132515	6.2	83	248	204	83	121	95	96	116	360	0.212	1.9	0.4
130132520	6.2	82	247	237	91	118	95	102	121	364	0.212	1.9	0.4
130132521	6.2	82	247	237	91	118	95	102	121	364	0.212	1.9	0.4
130132522	6.2	82	247	237	91	118	95	102	121	364	0.212	1.9	0.4
130132523	6.2	82	247	237	91	118	95	102	121	364	0.212	1.9	0.4

GSE

GSE Nonwoven Technology

Roll Test Data Summary - English Units

Product : NW6 **Item Code:** FBR0608200 **Roll Width:** 15.0 feet **Test Date:** 9/26/2002

Roll No.	Mass per Unit Area	Thickness	Grab Strength		Grab Elongation		Trap Tear Strength		Puncture Strength	Mullen Burst Strength	Apparent Opening Size	Permittivity	Permeability
	ASTM D 5261	ASTM D 5199	ASTM D 4632		ASTM D 4632		ASTM D 4533		ASTM D 4833	ASTM D 3786	ASTM D 4751	ASTM D 4491	
	(oz/yd2)	(mils)	MD (lbs)	CD (lbs)	MD (%)	CD (%)	MD (lbs)	CD (lbs)	(lbs)	(psi)	(mm)	(sec-1)	(cm/sec)
130132493	6.2	83	246	210	88	121	97	105	122	339	0.212	1.7	0.3

GSE

GSE Nonwoven Technology

Roll Test Data Summary - English Units

Product : NW6 **Item Code:** FBR0608200 **Roll Width:** 15.0 feet **Test Date:** 9/4/2002

Roll No.	Mass per Unit Area	Thickness	Grab Strength		Grab Elongation		Trap Tear Strength		Puncture Strength	Mullen Burst Strength	Apparent Opening Size	Permittivity	Permeability
	ASTM D 5261	ASTM D 5199	ASTM D 4632		ASTM D 4632		ASTM D 4533		ASTM D 4833	ASTM D 3786	ASTM D 4751	ASTM D 4491	
	(oz/yd2)	(mils)	MD (lbs)	CD (lbs)	MD (%)	CD (%)	MD (lbs)	CD (lbs)	(lbs)	(psi)	(mm)	(sec-1)	(cm/sec)
130131230	6.3	87	252	226	96	116	83	105	120	345	0.212	1.6	0.3

GSE

GSE Nonwoven Technology

Roll Test Data Summary - English Units

Product : NW6 **Item Code:** PBR0608200 **Roll Width:** 15.0 feet **Test Date:** 9/26/2002

Roll No.	Mass per Unit Area	Thickness	Grab Strength		Grab Elongation		Trap Tear Strength		Puncture Strength	Mullen Burst Strength	Apparent Opening Size	Permittivity	Permeability
	ASTM D 5261	ASTM D 5199	ASTM D 4632		ASTM D 4632		ASTM D 4533		ASTM D 4833	ASTM D 3786	ASTM D 4751	ASTM D 4491	
	(oz/yd2)	(mils)	MD (lbs)	CD (lbs)	MD (%)	CD (%)	MD (lbs)	CD (lbs)	(lbs)	(psi)	(mm)	(sec-1)	(cm/sec)
130132469	7.0	88	263	225	82	142	111	114	129	354	0.212	1.7	0.3

GSE Lining Technology

Kingstree, SC. Transmissivity Results

9/12/2002

Roll Number: 131100903
Product: Net
Pressure: 10000
Gradient: 0.1
Seating Time: 15min.

Weight	Time	Gradient	Trans. Avg.
7.52	14.41	0.1	7.764
7.32	14.12	0.1	7.712
7.50	14.69	0.1	7.595

Transmissivity Average: **7.691** x 10 $^{-3}$

GSE Lining Technology

Kingstree, SC. Transmissivity Results

8/20/2002

Roll Number: 131101067
Product: Net
Pressure: 10,000 psf
Gradient: 0.1
Seating Time: 15min.

Weight	Time	Gradient	Trans. Avg.
5.18	15.10	0.1	5.103
5.20	15.06	0.1	5.137
5.24	15.22	0.1	5.122

Transmissivity Average: 5.121 $\times 10^{-3}$

GSE Lining Technology

Kingstree, SC. Transmissivity Results

9/19/2002

Roll Number: 131102698
Product: Net
Pressure: 10000
Gradient: 0.1
Seating Time: 15min.

Weight	Time	Gradient	Trans. Avg.
6.22	15.38	0.1	6.017
6.22	15.31	0.1	6.044
5.99	15.31	0.1	5.821

Transmissivity Average: **5.960** x 10^{-3}

GSE Lining Technology

Kingstree, SC. Transmissivity Results

9/20/2002

Roll Number: 131102867
Product: Net
Pressure: 10000
Gradient: 0.1
Seating Time: 15min

Weight	Time	Gradient	Trans. Avg.
6.67	15.41	0.1	6.439
6.75	15.47	0.1	6.491
6.72	15.28	0.1	6.543

Transmissivity Average: 6.491 $\times 10^{-3}$

GSE Lining Technology

Kingstree, SC. Transmissivity Results

10/10/2002

Roll Number: 131103410
Product: Net
Pressure: 10000
Gradient: 0.1
Seating Time: 15min.

Weight	Time	Gradient	Trans. Avg.
5.00	16.81	0.1	4.421
4.96	16.83	0.1	4.380
5.02	17.05	0.1	4.380

Transmissivity Average: 4.394 $\times 10^{-3}$

GSE Lining Technology

Kingstree, SC. Transmissivity Results

9/28/2002

Roll Number: 131103634
Product: Net
Pressure: 10000
Gradient: 0.1
Seating Time: 15min.

Weight	Time	Gradient	Trans. Avg.
4.57	15.43	0.1	4.401
4.64	15.74	0.1	4.386
4.65	15.73	0.1	4.398

Transmissivity Average: 4.395 x 10^{-3}

GSE Lining Technology

Kingstree, SC. Transmissivity Results

8/17/2002

Roll Number: 131100800
Product: Tex-Net
Pressure: 10000
Gradient: 0.1
Seating Time: 15min.

Weight	Time	Gradient	Trans. Avg.
0.71	45.87	0.1	0.229
0.71	45.84	0.1	0.230
0.70	45.69	0.1	0.228

Transmissivity Average: **0.229** x 10^{-3}

GSE Lining Technology

Kingstree, SC. Transmissivity Results

8/19/2002

Roll Number: 131100990
Product: Tex-Net
Pressure: 10000
Gradient: 0.1
Seating Time: 15min.

Weight	Time	Gradient	Trans. Avg.
0.75	45.44	0.1	0.246
0.76	45.31	0.1	0.248
0.76	45.85	0.1	0.245

Transmissivity Average: **0.246** x 10^{-3}

GSE Lining Technology

Kingstree, SC. Transmissivity Results

9/20/2002

Roll Number: 131102780
Product: Tex-Net
Pressure: 10000
Gradient: 0.1
Seating Time: 15min.

Weight	Time	Gradient	Trans. Avg.
0.44	45.26	0.1	0.145
0.44	45.28	0.1	0.145
0.43	45.15	0.1	0.142

Transmissivity Average: **0.144** x 10^{-3}

GSE Lining Technology

Kingstree, SC. Transmissivity Results

9/20/2002

Roll Number: 131102804
Product: Tex-Net
Pressure: 10000
Gradient: 0.1
Seating Time: 15min.

Weight	Time	Gradient	Trans. Avg.
0.58	45.36	0.1	0.190
0.57	44.96	0.1	0.189
0.57	45.29	0.1	0.187

Transmissivity Average: **0.189** x 10^{-3}

GSE Lining Technology

Kingstree, SC. Transmissivity Results

9/27/2002

Roll Number: 131103573
Product: Tex-Net
Pressure: 10000
Gradient: 0.1
Seating Time: 15min.

Weight	Time	Gradient	Trans. Avg.
0.29	32.21	0.1	0.132
0.28	46.14	0.1	0.090
0.31	48.77	0.1	0.095

Transmissivity Average: **0.105** x 10^{-3}

GSE Lining Technology

Kingstree, SC. Transmissivity Results

9/29/2002

Roll Number: 131103692
Product: Tex-Net
Pressure: 10000
Gradient: 0.1
Seating Time: 15min.

Weight	Time	Gradient	Trans. Avg.
0.65	45.41	0.1	0.213
0.68	46.56	0.1	0.216
0.63	45.28	0.1	0.205

Transmissivity Average: 0.211 x 10^{-3}

Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131100921

ROLL IDENTIFICATION

Roll Number	131100921
Product Name	F42060060S
Production Date	8/19/2002

Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	988 448	pounds kilograms

RESIN INFORMATION

Lot Number	D20621099
Type	5102
Supplier	Chevron

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.30

Geotextile1 # 130130103 Geotextile2 # 130130067 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	212	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	65	(287)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.5	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.951	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.66	(754)
Side B - Minimum		every 5th	0.50	(227)	1.28	(581)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.98	(899)
Side B - Average		every 5th	1.00	(454)	1.62	(735)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

GSE-4.10-007 Rev - - 07/00

APPROVED V.S. 9/30/2002 QA

Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131100926

ROLL IDENTIFICATION

Roll Number	131100926	
Product Name	F42060060S	
Production Date	8/19/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	987 448	pounds kilograms

RESIN INFORMATION

Lot Number	D20621099
Type	5102
Supplier	Chevron

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.30

Geotextile1 # 130130071 Geotextile2 # 130130036 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	213	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	61	(273)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.5	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.951	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.14	(518)
Side B - Minimum		every 5th	0.50	(227)	1.95	(886)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.52	(690)
Side B - Average		every 5th	1.00	(454)	2.42	(1099)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

GSE-4.10-007 Rev - - 07/00

APPROVED V.S. 9/30/2002 QA

Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131100931

ROLL IDENTIFICATION

Roll Number	131100931	
Product Name	F42060060S	
Production Date	8/19/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	986 447	pounds kilograms

RESIN INFORMATION

Lot Number	D20621099
Type	5102
Supplier	Chevron

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.30

Geotextile1 # 130130057 Geotextile2 # 130130104

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	213	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	62	(277)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.6	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.954	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.60	(726)
Side B - Minimum		every 5th	0.50	(227)	1.56	(708)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.04	(926)
Side B - Average		every 5th	1.00	(454)	2.02	(917)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131102803

ROLL IDENTIFICATION

Roll Number	131102803	
Product Name	F42060060S	
Production Date	9/20/2002 11:15:00 AM	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	1,065 483	pounds kilograms

RESIN INFORMATION

Lot Number	D20821560
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.28

Geotextile1 # 130121230 Geotextile2 # 130132074

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	222	(6)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	60	(267)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.5	
ensity, g/cc	ASTM D 1505					
		every 5th	0.940		0.960	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	2.42	(1100)
Side B - Minimum		every 5th	0.50	(227)	1.37	(620)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	3.03	(1375)
Side B - Average		every 5th	1.00	(454)	1.77	(805)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103573

ROLL IDENTIFICATION

Roll Number	131103573	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	1,017 461	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	*Test Method*	*Results*
Density, g/cc	*ASTM D 1505*	0.952
Melt index, g/10 min.	*ASTM D 1238 (190/2.16)*	0.37

Geotextile1 # 130132465 *Geotextile2 #* 130132472

Physical Property	*Test Method*	*Test Frequency*	*Customer Minimum* English	Metric	*Test Results* English	Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	213	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	62	(274)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.3	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.959	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	2.16	(982)
Side B - Minimum		every 5th	0.50	(227)	1.47	(666)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.76	(1254)
Side B - Average		every 5th	1.00	(454)	1.94	(883)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103574

ROLL IDENTIFICATION

Roll Number	131103574	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	1,026 465	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132505 Geotextile2 # 130132472 √

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(260)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.4	
ensity, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.65	(748)
Side B - Minimum		every 5th	0.50	(227)	1.34	(610)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.08	(945)
Side B - Average		every 5th	1.00	(454)	1.66	(753)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103575

ROLL IDENTIFICATION

Roll Number	131103575	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	1,017 461	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132505 Geotextile2 # 130132472

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(260)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.4	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.65	(748)
Side B - Minimum		every 5th	0.50	(227)	1.34	(610)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.08	(945)
Side B - Average		every 5th	1.00	(454)	1.66	(753)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103576

ROLL IDENTIFICATION

Roll Number	131103576
Product Name	F42060060S
Production Date	9/28/2002 4:49:00 PM

Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	962 436	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132505 Geotextile2 # 130132471

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(260)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.4	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.65	(748)
Side B - Minimum		every 5th	0.50	(227)	1.34	(610)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.08	(945)
Side B - Average		every 5th	1.00	(454)	1.66	(753)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103577

ROLL IDENTIFICATION

Roll Number	131103577	
Product Name	F42060060S	
Production Date	9/28/2002 4:50:00 PM	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	972 441	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132505 Geotextile2 # 130132471 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(260)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.4	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.65	(748)
Side B - Minimum		every 5th	0.50	(227)	1.34	(610)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.08	(945)
Side B - Average		every 5th	1.00	(454)	1.66	(753)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103578

ROLL IDENTIFICATION

Roll Number	131103578	
Product Name	F42060060S	
Production Date	9/27/2002 9:13:00 PM	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	969 440	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132505 Geotextile2 # 130132471 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(260)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.4	
)ensity, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.65	(748)
Side B - Minimum		every 5th	0.50	(227)	1.34	(610)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.08	(945)
Side B - Average		every 5th	1.00	(454)	1.66	(753)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103579

ROLL IDENTIFICATION

Roll Number	131103579	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	980 445	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132522 Geotextile2 # 130132471

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	208	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(261)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.2	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.959	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.32	(600)
Side B - Minimum		every 5th	0.50	(227)	0.78	(355)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.90	(864)
Side B - Average		every 5th	1.00	(454)	1.15	(521)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103580

ROLL IDENTIFICATION

Roll Number	131103580	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230	feet
	70	meters
Width (Nominal)	14.5	feet
	4.4	meters
Sheet Area	3,335	sq. feet
	309	sq. meters
Weight	984	pounds
	446	kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132522 Geotextile2 # 130132066

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	208	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(261)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.2	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.959	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.32	(600)
Side B - Minimum		every 5th	0.50	(227)	0.78	(355)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.90	(864)
Side B - Average		every 5th	1.00	(454)	1.15	(521)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103581

ROLL IDENTIFICATION

Roll Number	131103581
Product Name	F42060060S
Production Date	9/28/2002 4:51:00 PM

Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	989 449	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132522 Geotextile2 # 130132066

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	208	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(261)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.2	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.959	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.32	(600)
Side B - Minimum		every 5th	0.50	(227)	0.78	(355)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.90	(864)
Side B - Average		every 5th	1.00	(454)	1.15	(521)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103582

ROLL IDENTIFICATION

Roll Number	131103582	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	990 449	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132522 Geotextile2 # 130132066

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	208	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(261)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.2	
ensity, g/cc	ASTM D 1505					
		every 5th	0.940		0.959	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.32	(600)
Side B - Minimum		every 5th	0.50	(227)	0.78	(355)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.90	(864)
Side B - Average		every 5th	1.00	(454)	1.15	(521)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103583

ROLL IDENTIFICATION

Roll Number	131103583	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	982 445	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132523 Geotextile2 # 130132066

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	208	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(261)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.2	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.959	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.32	(600)
Side B - Minimum		every 5th	0.50	(227)	0.78	(355)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.90	(864)
Side B - Average		every 5th	1.00	(454)	1.15	(521)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York

*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103584

ROLL IDENTIFICATION

Roll Number	131103584	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	995 451	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132523 Geotextile2 # 130132066 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	210	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(260)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.5	
ensity, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.53	(693)
Side B - Minimum		every 5th	0.50	(227)	1.76	(801)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.05	(929)
Side B - Average		every 5th	1.00	(454)	2.37	(1077)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103585

ROLL IDENTIFICATION

Roll Number	131103585	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	980 445	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132523 Geotextile2 # 130132504 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	210	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(260)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.5	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.53	(693)
Side B - Minimum		every 5th	0.50	(227)	1.76	(801)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.05	(929)
Side B - Average		every 5th	1.00	(454)	2.37	(1077)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103586

ROLL IDENTIFICATION

Roll Number	131103586	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	2,302 702	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	33,379 3,101	sq. feet sq. meters
Weight	978 444	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132523 Geotextile2 # 130132504 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	210	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(260)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.5	
)ensity, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.53	(693)
Side B - Minimum		every 5th	0.50	(227)	1.76	(801)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.05	(929)
Side B - Average		every 5th	1.00	(454)	2.37	(1077)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103587

ROLL IDENTIFICATION

Roll Number	131103587	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	976 443	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132520 Geotextile2 # 130132504

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	210	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(260)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.5	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.53	(693)
Side B - Minimum		every 5th	0.50	(227)	1.76	(801)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.05	(929)
Side B - Average		every 5th	1.00	(454)	2.37	(1077)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
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Roll Test Data Report

Lining Technology, Inc.

Roll No. 131103588

ROLL IDENTIFICATION

Roll Number	131103588	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	966 438	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132520 Geotextile2 # 130132494 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	210	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	59	(260)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.5	
)ensity, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.53	(693)
Side B - Minimum		every 5th	0.50	(227)	1.76	(801)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.05	(929)
Side B - Average		every 5th	1.00	(454)	2.37	(1077)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103589

ROLL IDENTIFICATION

Roll Number	131103589	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	974 442	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132520 Geotextile2 # 130132494 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	58	(259)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.4	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.99	(905)
Side B - Minimum		every 5th	0.50	(227)	1.52	(689)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.47	(1121)
Side B - Average		every 5th	1.00	(454)	2.06	(933)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103590

ROLL IDENTIFICATION

Roll Number	131103590	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	983 446	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132520 Geotextile2 # 130132494 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	58	(259)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.4	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.99	(905)
Side B - Minimum		every 5th	0.50	(227)	1.52	(689)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.47	(1121)
Side B - Average		every 5th	1.00	(454)	2.06	(933)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103591

ROLL IDENTIFICATION

Roll Number	131103591	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	981 445	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132520 Geotextile2 # 130132494 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	58	(259)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.4	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.99	(905)
Side B - Minimum		every 5th	0.50	(227)	1.52	(689)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.47	(1121)
Side B - Average		every 5th	1.00	(454)	2.06	(933)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103592

ROLL IDENTIFICATION

Roll Number	131103592	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	989 449	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132520 Geotextile2 # 130132494 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	58	(259)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.4	
ensity, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.99	(905)
Side B - Minimum		every 5th	0.50	(227)	1.52	(689)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.47	(1121)
Side B - Average		every 5th	1.00	(454)	2.06	(933)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103593

ROLL IDENTIFICATION

Roll Number	131103593	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	975 442	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132521 Geotextile2 # 130132512 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	58	(259)
Carbon Black Content, %	ASTM D 1603*					
---		every 5th	2.0		2.4	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.99	(905)
Side B - Minimum		every 5th	0.50	(227)	1.52	(689)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.47	(1121)
Side B - Average		every 5th	1.00	(454)	2.06	(933)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103594

ROLL IDENTIFICATION

Roll Number	131103594	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	976 443	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132521 Geotextile2 # 130132512 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	204	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	60	(265)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.3	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.960	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	2.35	(1067)
Side B - Minimum		every 5th	0.50	(227)	2.23	(1012)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.89	(1310)
Side B - Average		every 5th	1.00	(454)	2.75	(1248)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103595

ROLL IDENTIFICATION

Roll Number	131103595	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	972 441	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132521 Geotextile2 # 130132512

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	204	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	60	(265)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.3	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.960	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	2.35	(1067)
Side B - Minimum		every 5th	0.50	(227)	2.23	(1012)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.89	(1310)
Side B - Average		every 5th	1.00	(454)	2.75	(1248)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103596

ROLL IDENTIFICATION

Roll Number	131103596	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	966 438	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	*Test Method*	*Results*
Density, g/cc	*ASTM D 1505*	0.952
Melt index, g/10 min.	*ASTM D 1238 (190/2.16)*	0.37

Geotextile1 # 130132521 *Geotextile2 #* 130132512 ✓

Physical Property	*Test Method*	*Test Frequency*	*Customer Minimum* English	Metric	*Test Results* English	Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	204	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	60	(265)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.3	
ensity, g/cc	ASTM D 1505					
		every 5th	0.940		0.960	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	2.35	(1067)
Side B - Minimum		every 5th	0.50	(227)	2.23	(1012)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.89	(1310)
Side B - Average		every 5th	1.00	(454)	2.75	(1248)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103597

ROLL IDENTIFICATION

Roll Number	131103597	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	952 432	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132507 Geotextile2 # 130132490 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	204	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	60	(265)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.3	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.960	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	2.35	(1067)
Side B - Minimum		every 5th	0.50	(227)	2.23	(1012)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.89	(1310)
Side B - Average		every 5th	1.00	(454)	2.75	(1248)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103598

ROLL IDENTIFICATION

Roll Number	131103598	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230	feet
	70	meters
Width (Nominal)	14.5	feet
	4.4	meters
Sheet Area	3,335	sq. feet
	309	sq. meters
Weight	962	pounds
	436	kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132507 Geotextile2 # 130132490

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	204	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	60	(265)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.3	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.960	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	2.35	(1067)
Side B - Minimum		every 5th	0.50	(227)	2.23	(1012)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.89	(1310)
Side B - Average		every 5th	1.00	(454)	2.75	(1248)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103599

ROLL IDENTIFICATION

Roll Number	131103599
Product Name	F42060060S
Production Date	9/27/2002

Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	964 437	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132507 Geotextile2 # 130132490

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	57	(254)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.4	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.950	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.48	(670)
Side B - Minimum		every 5th	0.50	(227)	2.25	(1022)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.98	(897)
Side B - Average		every 5th	1.00	(454)	2.42	(1097)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103600

ROLL IDENTIFICATION		
Roll Number	131103600	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	965 438	pounds kilograms

RESIN INFORMATION	
Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132492 Geotextile2 # 130132490 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	57	(254)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.4	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.950	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.48	(670)
Side B - Minimum		every 5th	0.50	(227)	2.25	(1022)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.98	(897)
Side B - Average		every 5th	1.00	(454)	2.42	(1097)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103601

ROLL IDENTIFICATION

Roll Number	131103601
Product Name	F42060060S
Production Date	9/27/2002

Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	911 413	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132492 Geotextile2 # 130132490

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	57	(254)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.4	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.950	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.48	(670)
Side B - Minimum		every 5th	0.50	(227)	2.25	(1022)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.98	(897)
Side B - Average		every 5th	1.00	(454)	2.42	(1097)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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QA

Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103602

ROLL IDENTIFICATION

Roll Number	131103602	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230	feet
	70	meters
Width (Nominal)	14.5	feet
	4.4	meters
Sheet Area	3,335	sq. feet
	309	sq. meters
Weight	979	pounds
	444	kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132492 Geotextile2 # 130132469

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	57	(254)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.4	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.950	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.48	(670)
Side B - Minimum		every 5th	0.50	(227)	2.25	(1022)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.98	(897)
Side B - Average		every 5th	1.00	(454)	2.42	(1097)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103603

ROLL IDENTIFICATION

Roll Number	131103603
Product Name	F42060060S
Production Date	9/27/2002

Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	982 445	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132492 Geotextile2 # 130132469

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	205	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	57	(254)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.4	
ensity, g/cc	ASTM D 1505					
		every 5th	0.940		0.950	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.48	(670)
Side B - Minimum		every 5th	0.50	(227)	2.25	(1022)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.98	(897)
Side B - Average		every 5th	1.00	(454)	2.42	(1097)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103604

ROLL IDENTIFICATION

Roll Number	131103604	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	989 449	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132035 Geotextile2 # 130132469

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	204	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	58	(257)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.5	
ensity, g/cc	ASTM D 1505					
		every 5th	0.940		0.960	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.48	(673)
Side B - Minimum		every 5th	0.50	(227)	1.55	(704)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.94	(879)
Side B - Average		every 5th	1.00	(454)	2.05	(931)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103605

ROLL IDENTIFICATION

Roll Number	131103605	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	995 451	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132035 Geotextile2 # 130132469

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm) Average	ASTM D 5199	every 5th	200	(5)	204	(5)
Tensile Properties (MD) peak load, ppi (N/in)	ASTM D 5035	every 5th	45	(200)	58	(257)
Carbon Black Content, %	ASTM D 1603*	every 5th	2.0		2.5	
Density, g/cc	ASTM D 1505	every 5th	0.940		0.960	
Peel Strength, ppi (g/inch) Side A - Minimum	GRI GC7*	every 5th	0.50	(227)	1.48	(673)
Side B - Minimum		every 5th	0.50	(227)	1.55	(704)
Peel Strength, ppi (g/inch) Side A - Average	GRI GC7*	every 5th	1.00	(454)	1.94	(879)
Side B - Average		every 5th	1.00	(454)	2.05	(931)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103606

ROLL IDENTIFICATION

Roll Number	131103606	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	997 452	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132035 Geotextile2 # 130132493 ✓

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	204	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	58	(257)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.5	
ensity, g/cc	ASTM D 1505					
		every 5th	0.940		0.960	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.48	(673)
Side B - Minimum		every 5th	0.50	(227)	1.55	(704)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.94	(879)
Side B - Average		every 5th	1.00	(454)	2.05	(931)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103607

ROLL IDENTIFICATION

Roll Number	131103607	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230	feet
	70	meters
Width (Nominal)	14.5	feet
	4.4	meters
Sheet Area	3,335	sq. feet
	309	sq. meters
Weight	988	pounds
	448	kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132515 Geotextile2 # 130132493

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	204	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	58	(257)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.5	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.960	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.48	(673)
Side B - Minimum		every 5th	0.50	(227)	1.55	(704)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.94	(879)
Side B - Average		every 5th	1.00	(454)	2.05	(931)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103608

ROLL IDENTIFICATION

Roll Number	131103608	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	970 440	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132515 Geotextile2 # 130132493

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	204	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	58	(257)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.5	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.960	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.48	(673)
Side B - Minimum		every 5th	0.50	(227)	1.55	(704)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	1.94	(879)
Side B - Average		every 5th	1.00	(454)	2.05	(931)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

APPROVED V.S. 9/30/2002 QA

Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103609

ROLL IDENTIFICATION

Roll Number	131103609	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	981 445	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132515 Geotextile2 # 130132493

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	206	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	55	(245)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.5	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.59	(722)
Side B - Minimum		every 5th	0.50	(227)	2.46	(1117)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.02	(919)
Side B - Average		every 5th	1.00	(454)	3.05	(1383)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

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APPROVED V.S. 9/30/2002 QA

Roll Test Data Report

GSE Lining Technology, Inc.

Roll No. 131103610

ROLL IDENTIFICATION

Roll Number	131103610	
Product Name	F42060060S	
Production Date	9/27/2002	
Length ≈(+/- 1%)	230 70	feet meters
Width (Nominal)	14.5 4.4	feet meters
Sheet Area	3,335 309	sq. feet sq. meters
Weight	976 443	pounds kilograms

RESIN INFORMATION

Lot Number	D20821563
Type	5102
Supplier	Atofina

GSE RESIN TEST DATA

Property	Test Method	Results
Density, g/cc	ASTM D 1505	0.952
Melt index, g/10 min.	ASTM D 1238 (190/2.16)	0.37

Geotextile1 # 130132515 Geotextile2 # 130132493

Physical Property	Test Method	Test Frequency	Customer Minimum English	Customer Minimum Metric	Test Results English	Test Results Metric
Thickness, mil (mm)	ASTM D 5199					
Average		every 5th	200	(5)	206	(5)
Tensile Properties (MD)	ASTM D 5035					
peak load, ppi (N/in)		every 5th	45	(200)	55	(245)
Carbon Black Content, %	ASTM D 1603*					
		every 5th	2.0		2.5	
Density, g/cc	ASTM D 1505					
		every 5th	0.940		0.961	
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Minimum		every 5th	0.50	(227)	1.59	(722)
Side B - Minimum		every 5th	0.50	(227)	2.46	(1117)
Peel Strength, ppi (g/inch)	GRI GC7*					
Side A - Average		every 5th	1.00	(454)	2.02	(919)
Side B - Average		every 5th	1.00	(454)	3.05	(1383)

Order No. 25820
Customer Name Bern Metal / Universe Metal
Location Buffalo, New York
*Modified

APPROVED V.S. 9/30/2002 QA

Appendix L

Appendix L

Geosynthetics Installer Quality Control Field Reports (ALCO)

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers & scientists

ALCO ATLANTIC LINING CO., INC.

100 Youngs Road, Suite 8
Mercerville, NJ 08619
Tel. (609) 588-8767
Fax (609) 588-8788

GEOTEXTILE PLACEMENT REPORT

PROJECT NAME: Berry Metal DATE: 10-22

MANUFACTURER: _____ ROLL DIMENSIONS: _____

WEATHER CONDITIONS: Cloudy PAGE 1 OF 3

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
642761	1	46	14	
	2			
	3	52		
	4	53		
	5	38		
	6	23		
	7	25	10	
	8	19	14	
532482	9	41		
	10	60		
	11	58		
	12	61		
	13	70		
532457	14	60	10	
	15	70	14	
	16	78		
	17	19	13	
	18	35	7	
	19	79	14	
532459	20	83		
	21	86		
	22	89		
	23	51		
532470	24	47		
	LENGTH SUBTOTAL	3708		

QUANTITY INSTALLED THIS DATE (SF): 50914 RUNNING TOTAL INSTALLED: _____

ADDITIONIAL COMMENTS _____

ALCO ATLANTIC LINING CO., INC.

100 Youngs Road, Suite 8
Mercerville, NJ 08619
Tel. (609) 588-8787
Fax (609) 588-8788

GEOTEXTILE PLACEMENT REPORT

PROJECT NAME: _____ **DATE:** _____

MANUFACTURER: _____ **ROLL DIMENSIONS:** _____

WEATHER CONDITIONS: _____ **PAGE** 2 **OF** 3

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
532470	25	98	14	
	26	102		
	27	59		
642507	28	51		
	29	111		
	30	112		
	31	31		
642587	32	65		
	33	118		
	34	105		
532460	35	87		
	36	31		
642587	37	18		
532482	38	13	5	
	39	22	6	
532460	40	128	14	
	41	30	10	
642505	42	140	14	
	43	143		
	44	25		
642498	45	112		
	46	132		
	47	56		
532468	48	51		
	LENGTH SUBTOTAL			

QUANTITY INSTALLED THIS DATE (SF): _____ **RUNNING TOTAL INSTALLED:** _____

ADDITIONIAL COMMENTS _____

ALCO ATLANTIC LINING CO., INC.

100 Youngs Road, Suite 8
Mercerville, NJ 08619
Tel. (609) 588-8767
Fax (609) 588-8788

GEOTEXTILE PLACEMENT REPORT

PROJECT NAME: _____ **DATE:** _____

MANUFACTURER: _____ **ROLL DIMENSIONS:** _____

WEATHER CONDITIONS: _____ **PAGE** 3 **OF** 3

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
532468	P49	133	14	
"	50	93	"	
6H2510	51	39	"	
"	52	126	"	
"	53	123	"	
532455	54	69	"	
"	55	48	"	
"	56	24	"	
"	57	9	5	
LENGTH SUBTOTAL				

QUANTITY INSTALLED THIS DATE (SF): _____ **RUNNING TOTAL INSTALLED:** _____

ADDITIONIAL COMMENTS _____

ALCO ATLANTIC LINING CO., INC.

100 Youngs Road, Suite 8
Mercerville, NJ 08619
Tel. (609) 588-8767
Fax (609) 588-8788

GEOTEXTILE PLACEMENT REPORT

PROJECT NAME: Berm Metal DATE: 10-24

MANUFACTURER: _____ ROLL DIMENSIONS: _____

WEATHER CONDITIONS: Cloudy PAGE 1 OF _____

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
	58	113	14	
642509	59	55		
	60	56		
	61	34		
	62	15		
	63	50		
	64	1		
	65	35		
642490	66	10		
	67	40		
	68	39		
	69	22		
	70	21		
	71	20	9	
	72	109	14	
	73	28		
616802	74	74		
	75	80		
	76	67		
	77	22	10	
	78	24	14	
	79	17	8	
642493	80	71	14	
	81	27	10	
	LENGTH SUBTOTAL	1582		

QUANTITY INSTALLED THIS DATE (SF): 21666 RUNNING TOTAL INSTALLED: _____

ADDITIONIAL COMMENTS _____

ALCO ATLANTIC LINING CO., INC.

100 Youngs Road, Suite 8
Mercerville, NJ 08619
Tel. (609) 588-8767
Fax (609) 588-8788

GEOTEXTILE PLACEMENT REPORT

PROJECT NAME: Born Metal **DATE:**

MANUFACTURER: **ROLL DIMENSIONS:**

WEATHER CONDITIONS: **PAGE** 2 **OF**

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
642493	82	33	14	
	83	14		
	84	14	8	
	85	90	14	
	86	68		
642488	87	32		
	88	105		
	89	111		
	90	40.		
LENGTH SUBTOTAL				

QUANTITY INSTALLED THIS DATE (SF): **RUNNING TOTAL INSTALLED:**

ADDITIONIAL COMMENTS

ALCO ATLANTIC LINING CO., INC.

100 Youngs Road, Suite 8
Mercerville, NJ 08619
Tel. (609) 588-8787
Fax (609) 588-8788

GEOTEXTILE PLACEMENT REPORT

PROJECT NAME: Bern Metal **DATE:** 10-25

MANUFACTURER: _____ **ROLL DIMENSIONS:** _____

WEATHER CONDITIONS: _____ **PAGE** _____ **OF** _____

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
532454	91	77	14	
	92	115		
	93	98		
642488	94	25		
	95	126		
	96	129		
	97	5		
642511	98	129		
	99	136		
	100	31		
532471	101	104		
532454	102	4		
	103	8		
532471	104	123		
	105	65		
642484	106	71		
LENGTH SUBTOTAL		1246		

QUANTITY INSTALLED THIS DATE (SF): 17444 **RUNNING TOTAL INSTALLED:** _____

ADDITIONIAL COMMENTS _____

\ALCO Field Forms\TEX PLACEMENT REPORT.doc10/22/02

ALCO ATLANTIC LINING CO., INC.

100 Youngs Road, Suite 8
Mercerville, NJ 08619
Tel. (609) 588-8787
Fax (609) 588-8788

GEOTEXTILE PLACEMENT REPORT

PROJECT NAME: Bern Metal DATE: 10-28

MANUFACTURER: _____ ROLL DIMENSIONS: _____

WEATHER CONDITIONS: Sunny & Cold PAGE 1 OF 2

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
642484	107	140	14	
	108	72		
616851	109	70		
	110	145		
	111	75		
642533	112	70		
	113	147		
	114	73		
616776	115	69		
	P116	56		
	P117	40		
	P118	18		
	P119	84		
532449	120	67		
	121	50		
	122	35		
616776	123	21		
532449	124	87		
	125	53		
642500	126	35		
	127	87		
	128	88		
	129	72		
532483	130	17		
	LENGTH SUBTOTAL			

QUANTITY INSTALLED THIS DATE (SF): _____ RUNNING TOTAL INSTALLED: _____

ADDITIONIAL COMMENTS _____

ALCO ATLANTIC LINING CO., INC.

100 Youngs Road, Suite 8
Mercerville, NJ 08619
Tel. (609) 588-8787
Fax (609) 588-8788

GEOTEXTILE PLACEMENT REPORT

PROJECT NAME: _____ DATE: _____

MANUFACTURER: _____ ROLL DIMENSIONS: _____

WEATHER CONDITIONS: _____ PAGE 2 OF 2

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
532483	131	71	14	
"	132	75	"	
"	133	78	"	
"	134	48	"	
642508	135	35	"	
"	136	77	"	
"	137	67	"	
"	138	57	"	
"	139	45	"	
LENGTH SUBTOTAL		2179		

QUANTITY INSTALLED THIS DATE (SF): _____ RUNNING TOTAL INSTALLED: 30506

ADDITIONIAL COMMENTS _____

BERN METALS/UNIVERSAL METALS SITE PLAN

DATE: _____

TITLE: GEOTEXTILE AS-BUILT

ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

SUBGRADE PREPARATION ACCEPTANCE

Fabric (Installed 10/22/02)

TO: BBL
PROJECT: Bern Metal

SUBJECT: APPROVAL OF SUBGRADE PREPARATION

PANEL AREA INSTALLED: P- 1 - P- 57

Gentlemen:

The undersigned Atlantic Lining Co., Inc. representative has inspected the subgrade preparation on the above referenced project. The subgrade surface appeared to be firm, smooth and free of all sharp rocks or other sharp objects, vegetation or stubble that could puncture the liner. The subgrade surface preparation was found to be acceptable for placement of Atlantic Lining Co., Inc.'s membrane liner. This acceptance is based on visual observation only; it does not address subbase compaction or subsurface conditions.

Signed:
William Lichtenfels
Authorized ALCO Representative

QC/QA
Title

10-22-02
Date

Acknowledged:
Ben A. Fan
Authorized Project Representative

Jr. Engineer
Title

10/24/02
Date

ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

SUBGRADE PREPARATION ACCEPTANCE

Fabric (Installed 10/24/02)

TO: BBL

PROJECT: Bern Metal

SUBJECT: APPROVAL OF SUBGRADE PREPARATION

PANEL AREA INSTALLED: P-58 - P-90

Gentlemen:

The undersigned Atlantic Lining Co., Inc. representative has inspected the subgrade preparation on the above referenced project. The subgrade surface appeared to be firm, smooth and free of all sharp rocks or other sharp objects, vegetation or stubble that could puncture the liner. The subgrade surface preparation was found to be acceptable for placement of Atlantic Lining Co., Inc.'s membrane liner. This acceptance is based on visual observation only; it does not address subbase compaction or subsurface conditions.

Signed: William Leuckenfeld
Authorized ALCO Representative

QC/QA
Title

10-24-02
Date

Acknowledged: Brian Fran
Authorized Project Representative

Jr. Engineer
Title

10/25/02
Date

ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

SUBGRADE PREPARATION ACCEPTANCE

Fabric (Installed 10/25/02)

TO: BBL
PROJECT: Bern Metal

SUBJECT: APPROVAL OF SUBGRADE PREPARATION

PANEL AREA INSTALLED: P-91 - P-106

Gentlemen:

The undersigned Atlantic Lining Co., Inc. representative has inspected the subgrade preparation on the above referenced project. The subgrade surface appeared to be firm, smooth and free of all sharp rocks or other sharp objects, vegetation or stubble that could puncture the liner. The subgrade surface preparation was found to be acceptable for placement of Atlantic Lining Co., Inc.'s membrane liner. This acceptance is based on visual observation only; it does not address subbase compaction or subsurface conditions.

Signed:
William J. Lichtenfels
Authorized ALCO Representative

QC/QA
Title

10-25
Date

Acknowledged:
Bruce A. Fern
Authorized Project Representative

Jr. Engineer
Title

10/28/02
Date

Fabric

ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

SUBGRADE PREPARATION ACCEPTANCE

TO: BBL
PROJECT: Berg Metal

SUBJECT: APPROVAL OF SUBGRADE PREPARATION

PANEL AREA INSTALLED: P-107 - P-139

Gentlemen:

The undersigned Atlantic Lining Co., Inc. representative has inspected the subgrade preparation on the above referenced project. The subgrade surface appeared to be firm, smooth and free of all sharp rocks or other sharp objects, vegetation or stubble that could puncture the liner. The subgrade surface preparation was found to be acceptable for placement of Atlantic Lining Co., Inc.'s membrane liner. This acceptance is based on visual observation only; it does not address subbase compaction or subsurface conditions.

Signed:
William L Luttenfels
Authorized ALCO Representative

QC/QA
Title

10-28-02
Date

Acknowledged:
Brian S. Hall
Authorized Project Representative

Senior Engineer - BBL
Title

10/29/02
Date

Fabric

ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
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Fax (609) 448-7575

PANEL PLACEMENT LOG

PROJECT NAME:	Bern Metal	PROJECT #:	
SUPERINTENDENT:	Barry	DATE:	
QC TECHNICIAN:		# OF TECHNICIANS:	6
START TIME:	0700 FINISH TIME:	# OF LABORERS:	4
TEMPERATURE:	42° WIND/PRECIPITATION: Breezy	PAGE	OF

PANEL #	ROLL #	WIDTH	LENGTH	SMOOTH (T) EXTURED CIRCLE ABOVE IF ALL MATERIAL IS SAME	60 MIL THICKNESS LIST ABOVE ONLY IF ALL MATERIAL IS SAME	COMMENTS
P1	1502	23	50'			
2			46'			
3			41'			
4			32'			
5			13'			
6			55			
7			56			
8			64			
9			69			
10			33			
11	1497		75			
12			81			
13			81			
14			98			
15			36			
16			88			
17	1496		22			
18			110			
19			114			
20			115			
21			126'			
22	1498		132			
23			135			
24			141			
25			74			
	TOTAL LENGTH:		2171			
	DAILY TOTAL SF INSTALLED:		48848	TOTAL SF INSTALLED TO DATE:		

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PANEL PLACEMENT LOG

PROJECT NAME:	PROJECT #:
SUPERINTENDENT:	DATE:
QC TECHNICIAN:	# OF LABORERS:
START TIME: FINISH TIME:	TOTAL LENGTH:
WIND: PRECIPITATION:	TOTAL AREA:

PANEL #	ROLL #	WIDTH	LENGTH	SMOOTH/TEXTURED CIRCLE ABOVE IF ALL MATERIAL IS SAME	__MIL THICKNESS LIST ABOVE ONLY IF ALL MATERIAL IS SAME	COMMENTS
P-26	1495	23	64			
P-27	"	"	132			
P-28	"	"	126			

ATLANTIC LINING CO., INC.

12 Saddlebrook Road
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PANEL PLACEMENT LOG

PROJECT NAME: Bern Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	DATE: 10-24
QC TECHNICIAN: Bill Lichtentels	# OF LABORERS: 4
START TIME: 0700 FINISH TIME:	TOTAL LENGTH: 1021
WIND: PRECIPITATION:	TOTAL AREA: 21947

PANEL #	ROLL #	WIDTH	LENGTH	SMOOTH (TEXTURED) CIRCLE ABOVE IF ALL MATERIAL IS SAME	60 MIL THICKNESS LIST ABOVE ONLY IF ALL MATERIAL IS SAME	COMMENTS
P29	1495	23	67			
30		1	34			
31		9	16			
32	1494	23	77			
33			27			
34			75			
35			40			
36			73			
37			67			
38			58			
39			38			
40	1492		23			
41		12	37			
42		15	10			
43		23	100			
44		23	71			
45		12	33			
46		23	15			
47			82			
48			6			
49			48			
50		11	24			

ATLANTIC LINING CO., INC.
12 Saddlebrook Road
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PANEL PLACEMENT LOG

PROJECT NAME: Penn Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	DATE: 10-25
QC TECHNICIAN: Bill Lichtenfels	# OF LABORERS: 4
START TIME: 0700 FINISH TIME:	TOTAL LENGTH: 1014
WIND: Breezy PRECIPITATION: N/A	TOTAL AREA: 22815

PANEL #	ROLL #	WIDTH	LENGTH	SMOOTH (T)EXTURED CIRCLE ABOVE IF ALL MATERIAL IS SAME	60 MIL THICKNESS LIST ABOVE ONLY IF ALL MATERIAL IS SAME	COMMENTS
P51	1492	29	63			
52	1504		46			
53			116			
54			117			
55			124			
56	1503		134			
57			134			
58			138			
59			63			
60	1495		63			
61	1499		16			

ATLANTIC LINING CO., INC.

12 Saddlebrook Road
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PANEL PLACEMENT LOG

PROJECT NAME: Bern Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	DATE: 10-28
QC TECHNICIAN: Bill Lichtenfels	# OF LABORERS: 3
START TIME: 0700 FINISH TIME:	TOTAL LENGTH: 1139
WIND: None PRECIPITATION: None	TOTAL AREA: 25265

PANEL #	ROLL #	WIDTH	LENGTH	SMOOTH (TEXTURED) CIRCLE ABOVE IF ALL MATERIAL IS SAME	60 MIL THICKNESS LIST ABOVE ONLY IF ALL MATERIAL IS SAME	COMMENTS
62	1499	23	144			
63	|	|	145			
64	|	|	148			
65	1500	|	77			
66	|	|	58			
67	|	|	32			
68	|	8	21			
69	|	23	88			
70	|	|	75			
71	|	|	51			
72	|	|	28			
73	|	18	13			
74	1493	23	88			
75	|	|	89			
76	|	|	82			

ATLANTIC LINING CO., INC.
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PANEL PLACEMENT LOG

PROJECT NAME: Bern Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	DATE: 10-29
QC TECHNICIAN: Bill Lichtenfels	# OF LABORERS: 4
START TIME: 0700 FINISH TIME:	TOTAL LENGTH: 306
WIND: Breezy PRECIPITATION: N/A	TOTAL AREA: 6468

PANEL #	ROLL #	WIDTH	LENGTH	SMOOTH (TEXTURED) CIRCLE ABOVE IF ALL MATERIAL IS SAME	60 MIL THICKNESS LIST ABOVE ONLY IF ALL MATERIAL IS SAME	COMMENTS
P77	1493	23	108			
78	1	1	71			
79	1501	1	54			
80	1	1	36			
81	1	1	23			
82	1	7	14			

ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
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Fax (609) 448-7575

GEOMEMBRANE SEAMING & TESTING REPORT

PROJECT NAME: BERN Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Richtenfels

DATE	SEAM #	TOTAL SEAM LENGTH	TIME	MACH #	TECH	LENGTH IF PARTIAL START	LENGTH IF PARTIAL END	AIR PRESSURE TEST TIME START	AIR PRESSURE TEST TIME END	AIR PRESSURE TEST PRESSURE (psi) START	AIR PRESSURE TEST PRESSURE (psi) END	AIR PRESSURE TEST P/F	V-BOX TECH	V-BOX P/F
10-23	P4-P5	8	1105	164	NP			1116	1121	28	28	P		
	P3-P4	29	1052	065	VL			1101	1106	28	26			
	P2-P3	39	1059	"	"			1115	1120	28	28			
	P1-P2	43	1110	"	"			1124	1129	27	27			
	P6-P1	45	1110	164	NP			1125	1130	28	28			
	P7-P6	48	1118	065	VL			1132	1137	26	25			
	P8-P7	50	1125	164	NP			1136	1141	28	27			
	P10-P8	51	1130	065	VL			1143	1148	29	29			
	P9-P8	3											BL	P
	P9-P10	46	1140	164	NP			1239	1244	28	28	P		
	P11-P10	65	1248	065	VL			1257	1302	30	28	P		
	P12-P11	71	1240	164	NP			"	"	27	26			
	P13-P12	76	1256	065	VL			1313	1318	25	22			
	P14-P13	18	130	164	NP			1335	1340	25	22			
	P15-P13	65	107	"	"			1325	1330	27	26			
	P14-P15	62	135	"	"			1351	1356	28	26			
	P17-P14	16	132	065	VL			1338	1343	27	25			
	P17-P16	22	139	"	"			1346	1351	27	25			
	P16-P14	79	114	"	"			1331	1336	28	28			
	P18-P16	85	151	"	"			1405	1410	28	27			
	P18-P17	16	146	"	"			1352	1357	27	25			
	P19-P18	103	150	164	NP			1414	1419	29	28			
	P20-P19	106	218	065	VL			1447	1452	27	27			
	P21-P20	110	220	164	NP			1448	1453	28	27			

ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

GEOMEMBRANE SEAMING & TESTING REPORT

PROJECT NAME: Bell Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

DATE	SEAM #	TOTAL SEAM LENGTH	TIME	MACH #	TECH	LENGTH IF PARTIAL START	LENGTH IF PARTIAL END	AIR PRESSURE TEST TIME START	AIR PRESSURE TEST TIME END	AIR PRESSURE TEST PRESSURE (psi) START	AIR PRESSURE TEST PRESSURE (psi) END	AIR PRESSURE TEST P/F	V-BOX TECH	V-BOX P/F
10-23	P22-P21	121	256	065	VL	W	8	1527	1532	29	26	P		
						10	121	1526	1531	29	28			
	P23-P22	122	307	164	NP			1546	1551	27	27			
	P23-P24	128	328	065	VL			1600	1605	29	28			
	P24-P26	54	357	164	NP			1614	1609	29	27			
	P26-P25	22	354	065	VL			1602	1607	28	26			
	P24-P25	69	345	164	NP			1602	1607	29	29			
	P25-P27	62	402	065	VL			1614	1619	28	27			
	P26-P27	61	413	1	1			1624	1629	29	28			
	P27-P28	123				E	16	1643	1648	30	27			
						20	123	1638	1643	26	26			

ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

GEOMEMBRANE SEAMING & TESTING REPORT

PROJECT NAME: Bern Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

DATE	SEAM #	TOTAL SEAM LENGTH	TIME	MACH #	TECH	LENGTH IF PARTIAL START	LENGTH IF PARTIAL END	AIR PRESSURE TEST TIME START	AIR PRESSURE TEST TIME END	AIR PRESSURE TEST PRESSURE (psi) START	AIR PRESSURE TEST PRESSURE (psi) END	AIR PRESSURE TEST P/F	V-BOX TECH	V-BOX P/F
10-24	P28-P29	29	921	164	NP			944	949	28	28	P		
	P28-P30	29	916					945	950	30	29	P		
	P28-P31	16	902					952	957	29	29			
	P30-P31	18	900					948	953	30	28			
	P29-P30	54	840					1	1	28	27			
	P35-P4	21	141	065	VL	5	16						BL	P
						17	21	211	216	25	24	P		
	P35-P3	24	144	065	VL			219	224	30	28			
	P35-P2	11	148					211	216	26	24			
	P34-P2	13	158					1	1	25	24			
	P34-P1	18	200					212	217	30	29			
	P33-P1	6	203					213	218	30	30			
	P33-P6	19	204					1	1	25	24			
	P44-P6	4											BL	P
	P44-P7	19	252	065	VL			314	319	30	30	P		
	P46-P7	4											BL	P
	P46-P8	22	257	065	VL			314	319	29	28	P		
	P46-P9	6											BL	P
	P48-P9	17	343	065	VL			348	353	27	25	P		
	P48-P11	4	346					1	1	28	27	P		
	P49-P11	17	428					450	455	25	25	P		
	P49-P12	4	430										BL	P
	P50-P12	20	431					451	456	28	28	P		
	P50-P13	1											BL	P
	P43-P13	15	435	065	VL			452	457	25	20	P		

ALCO ATLANTIC LINING CO., INC.

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GEOMEMBRANE SEAMING & TESTING REPORT

PROJECT NAME:	PROJECT #:
SUPERINTENDENT:	QC TECHNICIAN:

DATE	SEAM #	TOTAL SEAM LENGTH	TIME	MACH #	TECH	LENGTH IF PARTIAL START	LENGTH IF PARTIAL END	AIR PRESSURE TEST TIME START	AIR PRESSURE TEST TIME END	AIR PRESSURE TEST PRESSURE (psi) START	AIR PRESSURE TEST PRESSURE (psi) END	AIR PRESSURE TEST P/F	V- BOX TECH	V- BOX P/F
10-24	P43-P14	7	437	065	VL			452	457	29	28	P		
	P35-P34	48	1110	164	NP			1126	1131	30	29	|		
	P34-P36	68	1130	065	VL			1133	1138	27	24	|		
	P33-P34	13	103	164	NP			108	113	29	26	|		
	P33-P36	16	101	|	|			|	|	27	25	|		
	P33-P32	22	1145	164	NP			1239	1244	30	30	|		
	P32-P36	6	1249	|	|		108	113	27	26	|		
	P32-P37	21	1255	164	NP			102	107	26	25	|		
	P36-P37	64	1125	|	|		1239	1244	28	28	|		
	P37-P39	38	1144 ~~1236~~	065	VL			1243	1248	30	30	|		
	P37-P38	22	1141	|	|		|	|	30	30	|		
	P38-P39	22	1236	164	VL			|	|	30	29	|		
	P39-P40	31	103	065	VL			128	133	25	25	|		
	P40-P42	12	115	164	NP			132	137	26	25	|		
	P41-P42	14	124	065	VL			|	|	25	23	|		
	P40-P41	27	120	065	VL			128	133	30	28	|		
	P32-P38	51	1245	|	|		102	107	26	23	|		
	P33/P44	18	215	164	NP			232	237	27	24	|		
	P32/P44	71	218	|	|		316	321	29	29	|		
	P38-P47	6	306	164	NP								BL	P
	P44-P47	37	258	164	NP			317	322	28	26	P		
	P45-P47	32	252	164	NP			|	|	29	29	|		
	P45-P48	5						2					BL	P
	P46-P45	22	227	065	VL			233	238	25	23	P		
	P31-P38	37	130	164	NP			823	828	25	24	|		

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GEOMEMBRANE SEAMING & TESTING REPORT

PROJECT NAME:	PROJECT #:
SUPERINTENDENT:	QC TECHNICIAN:

DATE	SEAM #	TOTAL SEAM LENGTH	TIME	MACH #	TECH	LENGTH IF PARTIAL START	LENGTH IF PARTIAL END	AIR PRESSURE TEST TIME START	AIR PRESSURE TEST TIME END	AIR PRESSURE TEST PRESSURE (psi) START	AIR PRESSURE TEST PRESSURE (psi) END	AIR PRESSURE TEST P/F	V-BOX TECH	V-BOX P/F
10-24	P46-P44	21	239	065	VL			315	320	30	27	P		
"	P45-P44	30	234	"	"			"	"	30	30	"		
"	P48-P47	22	322	065	VL			347	352	29	26	"		
"	P49-P48	3											BL	P
"	P49-P47	57	354	065	VL			409	414	29	29	P		
"	P47-P43	29	420	164	NP			432	437	30	29	"		
"	P49-P43	36	415	"	"			"	"	25	25	"		
"	P50-P49	34	400	164	NP			411	416	25	24	"		
"	P50-P43	29	410	"	"			417	422	27	25	"		

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GEOMEMBRANE SEAMING & TESTING REPORT

PROJECT NAME: Bern Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenegg

DATE	SEAM #	TOTAL SEAM LENGTH	TIME	MACH #	TECH	LENGTH IF PARTIAL START	LENGTH IF PARTIAL END	AIR PRESSURE TEST TIME START	AIR PRESSURE TEST TIME END	AIR PRESSURE TEST PRESSURE (psi) START	AIR PRESSURE TEST PRESSURE (psi) END	AIR PRESSURE TEST P/F	V-BOX TECH	V-BOX P/F
10-25	P43-P51	62	936	164	NP			1000	1005	29	28	P		
	P52-P51	22	931	065	VL			951	956	30	29	"		
	P43-P52	39	930	164	NP			"	"	27	26	"		
	P52-P53	46	940	065	VL	W	43	954	959	26	24	"		
						44	46						BL	P
	P51-P53	63	947	065	VL			1007	1012	28	26	P		
	P53-P54	115	1035	164	NP			1108	1113	29	28	"		
	P55-P54	123	1258	164	NP			121	126	30	29	"		
	P52-P14	13	103	065	VL			118	123	30	22	"		
	P52-P16	9	105	"	"			"	"	29	27	"		
	P53-P17	13	106	"	"			120	125	25	22	"		
	P53-P18	9	108	"	"			"	"	29	27	"		
	P54-P18	13	109	"	"			121	126	26	25	"		
	P54-P19	11	224	065	VL			237	242	29	28	"		
	P55-P19	11	226	"	"			"	"	25	24	"		
	P55-P20	11	228	"	"			239	244	30	29	"		
	P56-P20	11	230	"	"			214	"	25	24	"		
	P56-P21	12	232	"	"			240	245	29	27	"		
	P56-P55	132	1.55	164	NP			239	244	30	30	"		
	P56-P57	135	245	"	"			343	348	30	30	"		
	P58-P57	136	350	"	"			420	425	30	28	"		
	P57-P21	11	351	065	VL			403	408	26	25	"		
	P57-P22	11	353	"	"			"	"	30	30	"		
	P58-P22	11	355	"	"			406	411	26	26	"		
	P58-P23	11	357	"	"			"	"	30	28	"		

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GEOMEMBRANE SEAMING & TESTING REPORT

PROJECT NAME:	PROJECT #:
SUPERINTENDENT:	QC TECHNICIAN:

DATE	SEAM #	TOTAL SEAM LENGTH	TIME	MACH #	TECH	LENGTH IF PARTIAL START	LENGTH IF PARTIAL END	AIR PRESSURE TEST TIME START	AIR PRESSURE TEST TIME END	AIR PRESSURE TEST PRESSURE (psi) START	AIR PRESSURE TEST PRESSURE (psi) END	AIR PRESSURE TEST P/F	V- BOX TECH	V- BOX P/F
10-25	P61-P23	12	515	164	NP			533	538	25	25	P		
	P61-P58	16	510					527	532	30	27			
	P61-P60	22	505					522	527	25	25			
	P60-P58	60	500					1	1	30	29			
	P60-P59	22	450					508	513	25	25			
	P59-P58	64	435			W	4	506	511	30	28			
						8	64	1	1	30	30			

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GEOMEMBRANE SEAMING & TESTING REPORT

PROJECT NAME: Bern Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

DATE	SEAM #	TOTAL SEAM LENGTH	TIME	MACH #	TECH	LENGTH IF PARTIAL START	LENGTH IF PARTIAL END	AIR PRESSURE TEST TIME START	AIR PRESSURE TEST TIME END	AIR PRESSURE TEST PRESSURE (psi) START	AIR PRESSURE TEST PRESSURE (psi) END	AIR PRESSURE TEST P/F	V-BOX TECH	V-BOX P/F
10-28	P61-P62	14	831	065	VL			850	855	27	26	P		
	P60-P62	62	833	"	"			855	900	25	25	"		
	P59-P62	63	845	"	"			904	909	30	30	"		
	P63-P62	147	915	164	NP			945	950	29	29	"		
	P64-P63	148	950	"	"			1023	1028	28	28	"		
	P61-P24	12	1028	065	VL			1113	1118	30	30	"		
	P62-P24	13	1030	"	"			1107	1112	25	24	"		
	P62-P26	11	1032	"	"			"	"	30	29	"		
	P63-P26	12	1034	"	"			1108	1113	30	29	"		
	P63-P27	12	1036	"	"			"	"	27	26	"		
	P64-P27	12	1038	"	"			1109	1114	28	27	"		
	P64-P28	10	1040	"	"			"	"	30	30	"		
	P65-P66	65	1131	164	NP			1146	1151	30	30	"		
	P66-P67	45	1140	164	NP			1147	1152	29	28	"		
	P67-P68	19	1127	065	VL			1148	1153	29	27	"		
	P64-P65	83	1210	164	NP			105	110	30	29	"		
	P70-P69	86	125	"	"			152	157	30	30	"		
	P71-P70	64	118	065	VL			153	158	25	25	"		
	P72-P71	39	137	"	"			154	159	26	25	"		
	P73-P72	17	150	164	NP			155	200	30	27	"		
	P73-P68	16	205	065	VL			222	227	28	27	"		
	P73-P67	1	207	"	"								BL	P
	P72-P67	32	208	"	"			222	227	30	30	P		
	P71-P67	1	213	"	"								BL	P
	P71-P66	31	214	"	"			229	234	25	25	P		

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GEOMEMBRANE SEAMING & TESTING REPORT

PROJECT NAME:	PROJECT #:
SUPERINTENDENT:	QC TECHNICIAN:

DATE	SEAM #	TOTAL SEAM LENGTH	TIME	MACH #	TECH	LENGTH IF PARTIAL START	LENGTH IF PARTIAL END	AIR PRESSURE TEST TIME START	AIR PRESSURE TEST TIME END	AIR PRESSURE TEST PRESSURE (psi) START	AIR PRESSURE TEST PRESSURE (psi) END	AIR PRESSURE TEST P/F	V-BOX TECH	V-BOX P/F
10-28	P71-P65	1	219	065	VL								BL	P
	P70-P65	30	220					229	234	29	28	P		
	P69-P65	2	225										BL	P
	P69-P74	87	230	164	NP	5	18	307	312	25	24	P		
						20	87	1	1	30	29			
	P64-P69	21	320	164	NP			343	348	26	23			
	P64-P74	22	315			W	6	332	337	29	28			
						7	22	354	359	28	28			
	P64-P75	22	310					332	337	29	28			
	P74-P75	90	300	065	VL	5	77	332	337	26	25			
						79	90	340	345	30	29			
	P75-P76	83	405	164	NP			449	454	30	30			
	P28-P76	20	440					453	458	30	29			

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GEOMEMBRANE SEAMING & TESTING REPORT

PROJECT NAME: BernMetal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

DATE	SEAM #	TOTAL SEAM LENGTH	TIME	MACH #	TECH	LENGTH IF PARTIAL START	LENGTH IF PARTIAL END	AIR PRESSURE TEST TIME START	AIR PRESSURE TEST TIME END	AIR PRESSURE TEST PRESSURE (psi) START	AIR PRESSURE TEST PRESSURE (psi) END	AIR PRESSURE TEST P/F	V-BOX TECH	V-BOX P/F
10-29	P76-P78	75	830	164	NP			859	904	28	28	P		
"	P78-P79	68	855	"	"			914	919	30	29	"		
"	P79-P80	46	915	"	"			935	940	25	24	"		
"	P80-P81	28	925	"	"			"	"	29	27	"		
"	P81-P82	15	945	"	"			946	951	28	26	"		
"	P77-P76	5											BL	P
"	P77-P28	23	955	164	NP			1000	1005	29	26	P		
"	P77-P29	80	805	"	"			832	837	28	28	"		
"	P82-P77	5	1025	"	"								BL	P
"	P81-P77	24	1020	"	"			1032	1037	30	30	P		
"	P80-P77	28	1015	"	"			"	"	30	30	"		
"	P79-P77	27	1010	"	"			1036	1041	25	23	"		
"	P78-P77	28	1005	"	"			"	"	25	24	"		

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PATCHING DETAIL SHEET

PROJECT NAME: Bern Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

PATCH #	PANEL/ SEAM #	LOCATION OF REPAIR	DATE REPAIRED	TECH	REASON FOR REPAIR LENGTH, IF CAP CODES LISTED BELOW	V-BOX TESTING TECH	V-BOX TESTING P/F
1	P1	17 N EOS 7' P1/P6	10-23	PS	R	PS	P
2	1	39 N EOP 7' P1/P6			R		
3	P10/P8	32 N EOS			DS # 2		
4	P8/P9/10	End of P9/P8			T		
5	P9/P10	17' N EOS			DS-1		
6	P9/P10	End of Seam			C(8)		
7	P13/P14/P15	End of P14/P13			T		
8	P14/P15	End of Seam.			C(7)		
9	P14/P17/P16	End of P14/P17			T		
10	P16/P17/P18	End of P17/P18			T		
11	P16/P18	20' EEOS			DS3		
12	P18/P19	41' EEOS			DS-4		
13	P22/P21	8 WEOS			R		
14	P24/P23	94 WEOS			DS 5		
15	P26/P24	37 EEOS			DS 6		
16	P24/P26/P25	End of P24/P26			T		
17	P25/P26/P27	End of P26/P27			T		
18	P28/P29/P30	End of P28/P29	10-24		T		
19	P28/P30/P31	End of P28/P30			T		
20	P35/P4	Beginning of Seam S	10-25		C(7)	BL	P
21	P 1	8' SEOS			C(8)		
22	P4/P3/P35	Beginning of P4/P3			T		
23	P3/P2/P35	Beginning of P3/P2			T		

REPAIR TYPE	CODE	REPAIR TYPE	CODE	REPAIR TYPE	CODE	REPAIR TYPE	CODE
Air Test	AT	Damage by Contractor	GC	Pipe Boot or Gas Vent	PB or GV	Welder Restart	WS
Burnout	BO	Destructive Test #	DS # 1	T Seam	T	Wrinkle	WR
Cap	C	Manhole	MH	Vacuum Test Leak	VL	Other	

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PATCHING DETAIL SHEET

PROJECT NAME: Bern Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

PATCH #	PANEL/ SEAM #	LOCATION OF REPAIR	DATE REPAIRED	TECH	REASON FOR REPAIR LENGTH, IF CAP CODES LISTED BELOW	V-BOX TESTING TECH	V-BOX TESTING P/F
24	P2/P35/P34	Beginning of P35/P34	10-25	PS	T	BL	P
25	P2/P1/P34	Beginning of P2/P1			T		
26	P1/P34/P33	Beginning of P34/P33			T		
27	P1/P6/P33	Beginning of P1/P6			T		
28	P6/P7/P33/P44	Beginning of P6/P7			T		
29	P7/P8/P44/P46	Beginning of P7/P8			T		
30	P8/P9/P46/P48	Beginning of P8/P9			T		
31	P9/P11/P48	Beginning of P9/P11			T		
32	P11/P48/P49	Beginning of P48/P49			T		
33	P11/P12/P49/P50	Beginning of P11/P12			T		
34	P12/P13/P50/P48	Beginning of P12/P13			T		
35	P13/P14/P43	Beginning of P13/P14			T		
36	P34/P33/P36	End of P34/P33			T		
37	P36/P33/P32	End of P33/P36			T		
38	P33/P32/P44	End of P33/P44			T		
39	P32/P36/P37	End of P32/P36			T		
40	P32/P37	10 SEOS			DS 8		
41	P32/P37/P38	End of P32/P37			T		
42	P37/P38/P39	End of P37/P38			T		
43	P37/P38	13' SEOS			DS 7		
44	P38/P39/P40/P41	End of P38/P39			T		
45	P40/P41/P42	End of P40/P41			T		
46	P32/P44/P47	End of P47/P44			T		

REPAIR TYPE	CODE	REPAIR TYPE	CODE	REPAIR TYPE	CODE	REPAIR TYPE	CODE
Air Test	AT	Damage by Contractor	GC	Pipe Boot or Gas Vent	PB or GV	Welder Restart	WS
Burnout	BO	Destructive Test #	DS # 1	T Seam	T	Wrinkle	WR
Cap	C	Manhole	MH	Vacuum Test Leak	VL	Other	

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PATCHING DETAIL SHEET

PROJECT NAME: Benn Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

PATCH #	PANEL/ SEAM #	LOCATION OF REPAIR	DATE REPAIRED	TECH	REASON FOR REPAIR LENGTH, IF CAP CODES LISTED BELOW	V-BOX TESTING TECH	V-BOX TESTING P/F
47	P47/P44/P45	End of P45/P47	10-25	PS	T	BL	P
48	P44/P46/P45	End of P44/P46			T		
49	P43/P51/P52	End of P43/P52			T		
50	P51/P52/P53	End of P52/P53			T		
51	P14/P43/P52	Beginning of P43/P52			T		
52	P14/P17/P52	Beginning of P14/P16			T		
53	P17/P52/P53	Beginning of P52/P53			T		
54	P17/P18/P53	Beginning of P16/P18			T		
55	P18/P53/P54	Beginning of P53/P54			T		
56	P18/P19/P54	Beginning of P18/P19			T		
57	P19/P54/P55	Beginning of P54/P55			T		
58	P19/P20/P55	Beginning of P19/P20			T		
59	P20/P55/P56	Beginning of P55/P56			T		
60	P20/P21/P56	Beginning of P20/P21			T		
61	P57/P56	49 WEOS			DS10		
62	P53/P54	78 WEOS			DS9		
63	P55/P19	6 SEOS			DS11		
64	P56/P57/P21	Beginning of P56/P57			T		
65	P57/P21/P22	Beginning of P21/P22			T		
66	P57/P58/P22	Beginning of P57/P58			T		
67	P58/P22/P23	Beginning of P22/P23			T		
68	P58/P60/P23	Beginning of P58/P60			T		
69	P61/P23/P24	Beginning of P23/P24			T		

REPAIR TYPE	CODE	REPAIR TYPE	CODE	REPAIR TYPE	CODE	REPAIR TYPE	CODE
Air Test	AT	Damage by Contractor	GC	Pipe Boot or Gas Vent	PB or GV	Welder Restart	WS
Burnout	BO	Destructive Test #	DS # 1	T Seam	T	Wrinkle	WR
Cap	C	Manhole	MH	Vacuum Test Leak	VL	Other	

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PATCHING DETAIL SHEET

PROJECT NAME: Bern Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

PATCH #	PANEL/ SEAM #	LOCATION OF REPAIR	DATE REPAIRED	TECH	REASON FOR REPAIR LENGTH, IF CAP CODES LISTED BELOW	V-BOX TESTING TECH	V-BOX TESTING P/F
R70	P61/P60/P58	End of P60/P58	10-28	PS	T	BL	P
71	P60/P59/P58	End of P60/P58			T		
72	P60/P59	1' SEOS			C(12)		
73		14 SEOS			C(7)		
74	P60/61/62	End of P60/P62	10-29		T	BL	P
75	P60/P59/62	End of P60/P62			T		
76	P61/62/24	Beginning of 61/62			T		
77	P61/23/24	Beginning of 23/24			T		
78	P66/24/26	Beginning of 24/26			T		
79	P62/63/26	Beginning of 62/63			T		
80	P63/26/27	Beginning of 26/27			T		
81	P63/64/27	Beginning of 63/64			T		
82	P64/27/28	Beginning of 27/28			T		
83	P65/P66	8 WEOS			DS13		
84	P62/P63	70 WEOS			DS12		
85	P67/68/72/73	Beginning of 67/68			T		
86	P66/67/71/72	Beginning of 66/67			T		
87	P65/66/70/71	Beginning of 65/66			T		
88	P65/69/70	Beginning of 67/70			T		
89	P64/65/69	Beginning of 64/65			T		
90	P71-P70	17 SEOS			DS14		
91	P69-P70	17 SEOS			DS15		
92	P69-P74	~~18 SEOS~~ Beginning of Seam			C(20)		

REPAIR TYPE	CODE	REPAIR TYPE	CODE	REPAIR TYPE	CODE	REPAIR TYPE	CODE
Air Test	AT	Damage by Contractor	GC	Pipe Boot or Gas Vent	PB or GV	Welder Restart	WS
Burnout	BO	Destructive Test #	DS # 1	T Seam	T	Wrinkle	WR
Cap	C	Manhole	MH	Vacuum Test Leak	VL	Other	

ALCO ATLANTIC LINING CO., INC.

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PATCHING DETAIL SHEET

PROJECT NAME: Bern Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

PATCH #	PANEL/ SEAM #	LOCATION OF REPAIR	DATE REPAIRED	TECH	REASON FOR REPAIR LENGTH, IF CAP CODES LISTED BELOW	V-BOX TESTING TECH	P/F
93	P64/69/74	Beginning of 69/74	10-29	PS	T	BL	P
94	P64/P74	6' WEOS			R		
95	P64/P74/P75	Beginning of 74/75			T		
96	P74/P75	77 SEOS			R		
97	P64/75/76/~~78~~	P75/76 Beginning			T(8)		
98	P~~28~~/76/77	End of P28/76			T		
99	P76/77/78	Beginning of 76/78			T		
100	P77/78/79	Beginning of 78/79			T		
101	P77/79/80	Beginning of 79/80			T		
102	P77/80/81	Beginning of 80/81			T		
103	P77/81/82	Beginning of 81/82			T		
104	P82/P77	Beginning of Seam			C(5)		
105	P77	3~~7~~ EEOB 8 From P77/P29			R		
106	P29/R97	~~3' EEOP 8'~~ P 25EOS			DS17		
107	R92/P74	11 SEOS			DS18		
108	P29/P77	28 EEOS			DS20		
109	P64	135 WEOP 3' P64/P63			R		
110	P49	27' WEOP 4' P49/P47			C(7)		
111		23' WEOP 1 P49/P50			C(5)		
112	R907/P74	1' From SEOS			DS18		
113	R109/P64	2 From WEOS			DS19		

REPAIR TYPE	CODE	REPAIR TYPE	CODE	REPAIR TYPE	CODE	REPAIR TYPE	CODE
Air Test	AT	Damage by Contractor	GC	Pipe Boot or Gas Vent	PB or GV	Welder Restart	WS
Burnout	BO	Destructive Test #	DS # 1	T Seam	T	Wrinkle	WR
Cap	C	Manhole	MH	Vacuum Test Leak	VL	Other	

ATLANTIC LINING CO., INC.

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TRIAL WELD INFORMATION

PROJECT NAME: Bern Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

DATE/ TIME	AIR TEMP °F	MACH #	TECH	LINER TYPE ___ MIL SM/TXT	EXTRUSION WELDS BARREL TEMP, °F	EXTRUSION WELDS PREHEAT TEMP, °F	FUSION WELDS WEDGE TEMP, °F	FUSION WELDS SPEED FT/MIN	PEEL/SHEAR VALUES POUNDS PER INCH WIDTH MIN PEEL ____ppi MIN SHEAR ____ppi			P/F
10-24 7:30	31	168	PS	TXT	500	400			PEEL	130	128	P
									SHEAR	218		
10.28 8:00		065	VL	S+S			850	5-9	PEEL	114/120	131/119	
									SHEAR			
10.28 8.00		065	VL	T+T			850	5-9	PEEL	175/170	147/155	
									SHEAR			
8:30 10-28		164	NP	S+S					PEEL	120/137	131/138	
									SHEAR			
				S+T			850	5-0	PEEL	139/140	135/138	
									SHEAR			
12:31 10-28	40	164	NP	S+S			850	50	PEEL	120/122	130/128	
									SHEAR			
				S+T					PEEL	135/131	129/131	
									SHEAR			
10.28.02 12:40		065	VL	S&S					PEEL	106/110	127/123	
									SHEAR			
10.28.02 12:40		065	VL	T+T					PEEL	166/112	168/163	
									SHEAR			
10.2802 PM		168	PS	T+T	500	400			PEEL	119	120	
									SHEAR	189		
10-29 7:30	33	168	PS	T+T	500	400			PEEL	98	108	
									SHEAR	200		
10 29 7:40		164	NP	S+S					PEEL	135/140	136/134	
									SHEAR			
				S+T					PEEL	128/127	139/136	
									SHEAR			
10-29 PM		563	PS	T+T	500	400			PEEL	107	131	
									SHEAR	130		
10 29 PM	34	563	PS	T+T	500	400			PEEL	114	118	
									SHEAR	170		

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TRIAL WELD INFORMATION

PROJECT NAME: Bern Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

DATE/ TIME	AIR TEMP °F	MACH #	TECH	LINER TYPE ___ MIL SM/TXT	EXTRUSION WELDS BARREL TEMP, °F	EXTRUSION WELDS PREHEAT TEMP, °F	FUSION WELDS WEDGE TEMP, °F	FUSION WELDS SPEED FT/MIN	PEEL/SHEAR VALUES POUNDS PER INCH WIDTH MIN PEEL ______ppi MIN SHEAR ______ppi						P/F
10-30 PM	37	168	PS	TXT	500	400			PEEL	117	110				P
									SHEAR	178					
10-31 1150 pm	36	563	PS	''	''	''			PEEL	110	106				
									SHEAR	141					
									PEEL						
									SHEAR						
									PEEL						
									SHEAR						
									PEEL						
									SHEAR						
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									PEEL						
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									SHEAR						

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TRIAL WELD INFORMATION

PROJECT NAME: Berry Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

DATE/ TIME	AIR TEMP °F	MACH #	TECH	LINER TYPE 60 MIL SM/TXT	EXTRUSION WELDS BARREL TEMP, °F	EXTRUSION WELDS PREHEAT TEMP, °F	FUSION WELDS WEDGE TEMP, °F	FUSION WELDS SPEED FT/MIN	PEEL/SHEAR VALUES POUNDS PER INCH WIDTH MIN PEEL ____ppi MIN SHEAR ____ppi						P/F
10-23-02	31	164	NP	S/S			850	5.0	PEEL	146/158	149/155	142/140			P
				S/T					SHEAR						
									PEEL	135/140	150/142	156/146			
									SHEAR						
		168	PS	T/T	500	400			PEEL	70	75				
									SHEAR						
		065	VL	S/S			850	4.9	PEEL	161/142	129/142				
									SHEAR						
				T/T					PEEL	177/174	171/164				
									SHEAR						
10-23 350	40	164	NP	S/S			850	5.0	PEEL	142/142	145/140				
									SHEAR						
				S/T					PEEL	142/148	140/141				
									SHEAR						
815 1024	30	164	NP	S/S			850	5.0	PEEL	141/130	151/150				
									SHEAR						
				S/T					PEEL	147/143	147/151				
									SHEAR						
820 10-24	560	560	PS		500	300			PEEL	139	146				
									SHEAR						
10-24 1017	32	065	VL	S/S			850	5.9	PEEL	140/115	156/147				
									SHEAR						
				T/T					PEEL	165/136	159/133				
									SHEAR						
1238 10-24	36	164	NP	S/S			850	5	PEEL	140/141	89/145				
									SHEAR						
				S/T					PEEL	150/159	149/148				
									SHEAR						
10-24 1240		065	VL		—		850	5.8	PEEL	130/138	129/138				
									SHEAR						

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TRIAL WELD INFORMATION

PROJECT NAME: Bernal Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

DATE/ TIME	AIR TEMP °F	MACH #	TECH	LINER TYPE 60 MIL SM/TXT	EXTRUSION WELDS BARREL TEMP, °F	EXTRUSION WELDS PREHEAT TEMP, °F	FUSION WELDS WEDGE TEMP, °F	FUSION WELDS SPEED FT/MIN	PEEL/SHEAR VALUES POUNDS PER INCH WIDTH MIN PEEL ____ ppi MIN SHEAR ____ ppi			P/F
1025	36	065 563	JL				850	5.8	PEEL	135/145	151/132	P
									SHEAR			
10-25 900	31	563	PS		500	300			PEEL	136	128	
									SHEAR			
10-25 9-15	|	164	NP	S/S			850	5.1	PEEL	128/129	138/141	
									SHEAR			
				S/T			|	|	PEEL	138/141	142/145	
									SHEAR			
1120 -25		065	UL	S/S			850	5.4	PEEL	145/151	151/121	
									SHEAR			
	|	|	|	T/T			|	|	PEEL	173/149	175/167	
									SHEAR			
10-25 1240	41	164	NP	S/S			850	5.0	PEEL	140/141	139/135	
									SHEAR			
	|			S/T			|	|	PEEL	132/133	135/140	
									SHEAR			
1245 10-25	|	563	PS		500	400			PEEL	120	128	
									SHEAR	190		
134 1025	|	065	UL				850	4.9	PEEL	125/140	121/123	
									SHEAR			
	|						|	|	PEEL	159/152	123/142	
									SHEAR			
10-26 816	37	168	JL		500	400			PEEL	120	139	
									SHEAR			
10-26 836	|	563	PS		|	|			PEEL	99	110	
									SHEAR			
10-26 45	41	168	NP		|	|			PEEL	102	112	
									SHEAR			
10-24 1250	|	563	JL		|	|			PEEL	120	115	
									SHEAR			

ALCO **ATLANTIC LINING CO., INC.**

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DESTRUCTIVE TEST LOG

PROJECT NAME: Bern Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

DATE	DS #	SEAM #	MACH #	TECH	LOCATION		PEEL/SHEAR VALUES POUNDS PER INCH WIDTH					P/F
10-25	1	P10-P8				PEEL	106/111	111/111	116/115	105/113	112/118	P
						SHEAR	179	172	172	174	176	
2	2	P10-P8				PEEL	116/128	130/120	123/131	119/131	133/127	
						SHEAR	180	175	181	180	177	
3	3	P16-P18				PEEL	121/110	110/123	117/110	111/119	115/122	
						SHEAR	170	175	168	169	174	
4	4	P18-P19				PEEL	110/109	108/117	115/112	114/110	108/117	
						SHEAR	161	168	163	162	163	
5	5	P24-P23				PEEL	133/131	134/135	135/132	130/125	140/135	
						SHEAR	181	181	177	182	175	
6	6	P26-P24				PEEL	121/115	116/110	122/121	124/115	117/112	
						SHEAR	165	168	163	161	169	
						PEEL						
						SHEAR						
						PEEL						
						SHEAR						
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						PEEL						

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DESTRUCTIVE TEST LOG

PROJECT NAME: Bern Metal	PROJECT #:
SUPERINTENDENT: Barry Garland	QC TECHNICIAN: Bill Lichtenfels

DATE	DS #	SEAM #	MACH #	TECH	LOCATION	PEEL/SHEAR VALUES POUNDS PER INCH WIDTH						P/F
10-24	7	P32/P37	164	NP	10SEOS	PEEL	116/121	109/111	114/107	121/116	113/120	P
						SHEAR	175	176	168	163	172	
	8	P37/P38	065	VL	13EEOS	PEEL	129/135	118/123	129/129	116/122	126/131	
						SHEAR	163	164	159	168	163	
10-25	9	P53/P54	164	NP	78WEOS	PEEL	109/105	104/113	106/110	110/105	111/116	
						SHEAR	181	172	178	181	172	
	10	P57/P56	164	NP	49WEOS	PEEL	131/121	125/119	132/125	124/132	119/123	
						SHEAR	175	175	171	178	173	
	11	P55/P19	065	VL	6SEOS	PEEL	116/113	125/110	111/118	118/122	110/115	
						SHEAR	165	160	159	163	169	
10-28	12	P62/P63	164	NP	20WEOS	PEEL	135/131	126/132	123/135	135/141	140/135	
						SHEAR	171	125	168	167	177	
	13	P65/P66	164	NP	8WEOS	PEEL	113/113	110/120	116/119	116/117	113/110	
						SHEAR	162	165	165	164	161	
	14	P71/P70	065	VL	17SEOS	PEEL	129/131	138/133	128/132	137/129	123/132	
						SHEAR	162	170	168	170	169	
	15	P69/P70	164	NP	17SEOS	PEEL	119/110	109/105	116/111	108/103	116/110	
						SHEAR	181	173	175	169	161	
10-29	16	R92/P74		PS		PEEL	101	110	105	105	103	
						SHEAR	141	138	136	136	140	
	17	P29/R97		PS		PEEL	112	115	106	107	111	
						SHEAR	151	150	145	143	151	
	18	R107/P74		PS		PEEL	118	109	108	111	120	
						SHEAR	146	141	142	148	145	
	19	R109/P64		PS		PEEL	101	99	105	103	98	
						SHEAR	139	141	141	139	145	
	20	P29/P77	164	NP	28EEOS	PEEL	131/128	128/136	137/123	121/130	129/125	
						SHEAR	161	167	170	162	172	
						PEEL						
						SHEAR						
						PEEL						
						SHEAR						
						PEEL						
						SHEAR						
						PEEL						

DMTECH Services Inc.

Thermoplastic welding and testing equipment for the geosynthetics industry

CALIBRATION CERTIFICATE

Customer Name:	Atlantic Lining Co.	110 Volt	X
Load Cell Model Number:	Accura-Lite AL-0102	220 Volt	
Tensiometer Serial Number:	NAL-0995	Lbs.	X
		Kg.	

Calibrated: S-Type load cell, 0 - 500 lbs. Tension

Calibration Apparatus: Dead Weight system w/ Fluke Model 187 Multimeter

M2300-500	
183400	
Model No:	2840AG-24123
Serial No:	03480828-48
	N/A

W1	2	R1	92
W2	152	R2	1916
W3	302	R3	3922

Reading with no load: 0

Force (lbs.)	Output (mv):	Display reading:	Deviation Error
	-0.267	2	0.00
	1.734	52	0.00
	3.747	102	0.00
15	5.754	152	0.00
202	7.758	202	0.00
	9.772	252	0.00
2	11.778	302	0.00

Total Deviation Error (%): 0.00%

Temperature at time of calibration: 73 degrees F

Supply Voltage: 10 V DC

Scale Factor (1):	0.07	Offset (1):	9
Scale Factor (2):	0.07	Offset (2):	9
Brake point:	1916	Calibration Check #	N/A

This calibration conforms to the standards set by ASTM E4 and is traceable to NIST standards

Note: Readout and load cell above have been systems calibrated and are considered a matched pair. In general, calibrated readouts and load cells are not interchangeable.

Calibrated by: Andre DeRieux Date: 02/20/02

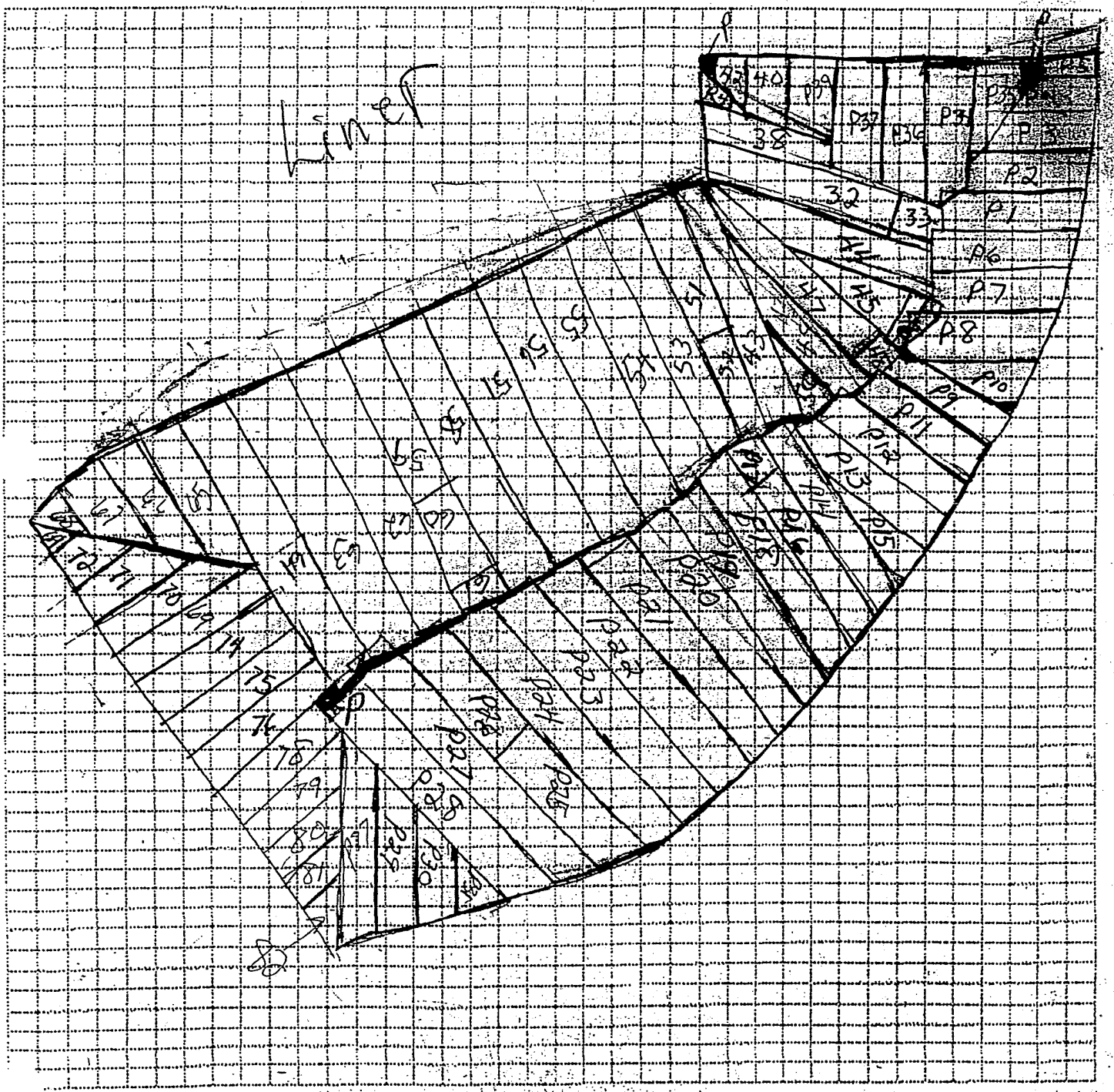
Toll Free: (888) 324-9353 • Office: (520) 791-3200

ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

AS-BUILT SKETCH

MATERIAL(Circle One): LINER GCL GEOCOMPOSITE
DATE OF PLACEMENT: _____
PANELS INSTALLED(i.e. #22-#36): _____



ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

SUBGRADE PREPARATION ACCEPTANCE

Liner (Installed 10/23/02)

TO: BBL
PROJECT: Bern Metal

SUBJECT: APPROVAL OF SUBGRADE PREPARATION

PANEL AREA INSTALLED: P- 1 - P- 28

Gentlemen:

The undersigned Atlantic Lining Co., Inc. representative has inspected the subgrade preparation on the above referenced project. The subgrade surface appeared to be firm, smooth and free of all sharp rocks or other sharp objects, vegetation or stubble that could puncture the liner. The subgrade surface preparation was found to be acceptable for placement of Atlantic Lining Co., Inc.'s membrane liner. This acceptance is based on visual observation only; it does not address subbase compaction or subsurface conditions.

Signed:

William Lichtenfels
Authorized ALCO Representative

QC/QA
Title

10-23-02
Date

Acknowledged:

Brad A. Fan
Authorized Project Representative

Jr. Engineer
Title

10/24/02
Date

ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
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SUBGRADE PREPARATION ACCEPTANCE

Liner (Installed 10/24/02)

TO: BBL
PROJECT: Bern Metal

SUBJECT: APPROVAL OF SUBGRADE PREPARATION

PANEL AREA INSTALLED: P-29 - P-50

Gentlemen:

The undersigned Atlantic Lining Co., Inc. representative has inspected the subgrade preparation on the above referenced project. The subgrade surface appeared to be firm, smooth and free of all sharp rocks or other sharp objects, vegetation or stubble that could puncture the liner. The subgrade surface preparation was found to be acceptable for placement of Atlantic Lining Co., Inc.'s membrane liner. This acceptance is based on visual observation only; it does not address subbase compaction or subsurface conditions.

Signed: William Lichtenfels
Authorized ALCO Representative

QC/QA
Title

10-24-02
Date

Acknowledged: Brian A. Fran
Authorized Project Representative

Jr. Engineer
Title

10/25/02
Date

ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

SUBGRADE PREPARATION ACCEPTANCE

Liner CI installed 10/25/02

TO: BBL

PROJECT: Bern Metal

SUBJECT: APPROVAL OF SUBGRADE PREPARATION

PANEL AREA INSTALLED: P- 50 - P- 61

Gentlemen:

The undersigned Atlantic Lining Co., Inc. representative has inspected the subgrade preparation on the above referenced project. The subgrade surface appeared to be firm, smooth and free of all sharp rocks or other sharp objects, vegetation or stubble that could puncture the liner. The subgrade surface preparation was found to be acceptable for placement of Atlantic Lining Co., Inc.'s membrane liner. This acceptance is based on visual observation only; it does not address subbase compaction or subsurface conditions.

Signed:

William L Lichtenfels
Authorized ALCO Representative

QC/QA
Title

10-25
Date

Acknowledged:

Brad Fin
Authorized Project Representative

Jr. Engineer
Title

10/28/02
Date

Liner

SUBGRADE.doc

ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

SUBGRADE PREPARATION ACCEPTANCE

TO: BBL
PROJECT: Bernmetal

SUBJECT: APPROVAL OF SUBGRADE PREPARATION

PANEL AREA INSTALLED: P-62 P-76

Gentlemen:

The undersigned Atlantic Lining Co., Inc. representative has inspected the subgrade preparation on the above referenced project. The subgrade surface appeared to be firm, smooth and free of all sharp rocks or other sharp objects, vegetation or stubble that could puncture the liner. The subgrade surface preparation was found to be acceptable for placement of Atlantic Lining Co., Inc.'s membrane liner. This acceptance is based on visual observation only; it does not address subbase compaction or subsurface conditions.

Signed: William Lichtenfels
Authorized ALCO Representative

QC/QA
Title

10-28-02
Date

Acknowledged: Brian S. Hall
Authorized Project Representative

Senior Engineer - BBL
Title

10/29/02
Date

Liner

ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

SUBGRADE PREPARATION ACCEPTANCE

TO: BBL
PROJECT: Bern Metal

SUBJECT: APPROVAL OF SUBGRADE PREPARATION

PANEL AREA INSTALLED: P- 77 - P- 82

Gentlemen:

The undersigned Atlantic Lining Co., Inc. representative has inspected the subgrade preparation on the above referenced project. The subgrade surface appeared to be firm, smooth and free of all sharp rocks or other sharp objects, vegetation or stubble that could puncture the liner. The subgrade surface preparation was found to be acceptable for placement of Atlantic Lining Co., Inc.'s membrane liner. This acceptance is based on visual observation only; it does not address subbase compaction or subsurface conditions.

Signed:
William Lichtenfeld
Authorized ALCO Representative

QC/QA
Title

10-29
Date

Acknowledged:
Brian T. Kirk
Authorized Project Representative

Senior Engineer - BBL
Title

10/29/02
Date

ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
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COMPOSITE PLACEMENT REPORT

PROJECT NAME: Bernl Metal DATE: 10-29

MANUFACTURER: _____ ROLL DIMENSIONS: _____

WEATHER CONDITIONS: Cloudy & Cold PAGE 1 OF 2

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
13110 3610	1	228	14	
13110 3577	2	10	1	
	3	11	5	
	4	16	14	
	5	20	1	
	6	27	1	
	7	31	1	
	8	38	1	
	9	43	1	
3608	10	47	1	
	11	49	1	
	12	56	1	
	13	58	1	
3589	14	63	1	
	15	62	1	
	16	30	9	
	17	41	14	
3597	18	63	1	
1	19	65	1	
	20	66	1	
3607	21	230	1	
3573	22	67	1	
	23	70	1	
	24	71	1	
LENGTH SUBTOTAL		1742		

QUANTITY INSTALLED THIS DATE (SF): 23959 RUNNING TOTAL INSTALLED: _____

ADDITIONIAL COMMENTS _____

ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
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COMPOSITE PLACEMENT REPORT

PROJECT NAME: _____ DATE: _____

MANUFACTURER: _____ ROLL DIMENSIONS: _____

WEATHER CONDITIONS: _____ PAGE 2 OF 2

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
3577	25	27	14	
3597	26	32		
3589	27	40		
3586	28	53		
	29	40		
	30	73		
	31	20	5'	
	32	5	14	
LENGTH SUBTOTAL				

QUANTITY INSTALLED THIS DATE (SF): _____ RUNNING TOTAL INSTALLED: _____

ADDITIONIAL COMMENTS _____

ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

COMPOSITE PLACEMENT REPORT

PROJECT NAME: Bern metal DATE: 10-30

MANUFACTURER: _____ ROLL DIMENSIONS: _____

WEATHER CONDITIONS: _____ PAGE 1 OF 3

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
3588	33	230	14	
3575	34	84		
3575	35	67		
	36	36		
	37	19	6	
3587	38	86	14	
	39	92		
3609	40	97		
	41	98		
3574	42	105		
	43	106		
3610	44	114		
	45	113		
3601	46	119		
	47	114		
3508	48	126		
	49	102		
3573	50	7		
3579	51	124		
	52	103		
3598	53	20		
	54	21		
	55	128		
3596	56	130		
LENGTH SUBTOTAL		3725		

QUANTITY INSTALLED THIS DATE (SF): 51542 RUNNING TOTAL INSTALLED: 75,501

ADDITIONIAL COMMENTS _____

ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

COMPOSITE PLACEMENT REPORT

PROJECT NAME: _____ DATE: _____

MANUFACTURER: _____ ROLL DIMENSIONS: _____

WEATHER CONDITIONS: _____ PAGE 2 OF 3

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
3596	57	102	14	
3581	58	128	"	
"	59	103	"	
3548 ~~3587~~	60	29	"	
3594 ~~3578~~	61	38	"	
3592	62	90	"	
3576	63	77	"	
"	64	59	"	
"	65	47	"	
3594	66	36	"	
3601	67	29	"	
3609	68	24	"	
3574	69	10	"	
3609	70	11	9	
3594	71	48	14	
"	72	68	"	
3594	73	10	4	
2803	74	74	14	
"	75	~~61~~ 65	6	
2803	76	61	14	
"	77	63	"	
2803	78	19	7	
"	79	10	14	
3592	80	93	1	
LENGTH SUBTOTAL				

QUANTITY INSTALLED THIS DATE (SF): _____ RUNNING TOTAL INSTALLED: _____

ADDITIONIAL COMMENTS _____

ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

COMPOSITE PLACEMENT REPORT

PROJECT NAME: _____ DATE: _____

MANUFACTURER: _____ ROLL DIMENSIONS: _____

WEATHER CONDITIONS: _____ PAGE 3 OF 3

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
3603	81	41	14	
	82	24	1	
	83	16	6	
	84	82	14	
	85	56	1	
3592	86	31	1	
LENGTH SUBTOTAL				

QUANTITY INSTALLED THIS DATE (SF): _____ RUNNING TOTAL INSTALLED: _____

ADDITIONIAL COMMENTS _____

ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

COMPOSITE PLACEMENT REPORT

PROJECT NAME: Bern Metal DATE: 10-31

MANUFACTURER: ROLL DIMENSIONS: /

WEATHER CONDITIONS: PAGE 1 OF 3

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
3595	87	96	14	
|	88	98	|	
|	89	83	|	
3600	90	69	|	
|	91	103	|	
|	92	32	|	
|	93	19	|	
3590	94	75	|	
|	95	88	|	
|	96	31	|	
|	97	30	|	
3583	98	81	|	
|	99	83	|	
3585	100	122	|	
3593	101	124	|	
3591	102	127	|	
3584	103	129	|	
3602	104	150	|	
3599	105	151	|	
3606	106	1	|	
3582	107	153	|	
3598	108	87	|	
3585	109	1	|	
0926	110	93	|	
LENGTH SUBTOTAL				

QUANTITY INSTALLED THIS DATE (SF): RUNNING TOTAL INSTALLED:

ADDITIONIAL COMMENTS

ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

COMPOSITE PLACEMENT REPORT

PROJECT NAME: _____ DATE: _____

MANUFACTURER: _____ ROLL DIMENSIONS: _____

WEATHER CONDITIONS: _____ PAGE 2 OF 3

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
0926	111	94	14	
3599	112	78		
0931	113	106		
"	114	100		
3604	115	69		
3582	116	61		
3585	117	54		
3604	118	63		
3583	119	33		
"	120	13		
3602	121	82		
3591	122	83		
3604	123	42		
3599	124	34		
"	125	14		
3585	126	9		
"	127	17		
3604	128	85		
3605	129	1		
"	130	64		
"	131	1		
0921	132	40		
"	133	52		
"	134	56		
	LENGTH SUBTOTAL			

QUANTITY INSTALLED THIS DATE (SF): _____ RUNNING TOTAL INSTALLED: _____

ADDITIONIAL COMMENTS _____

ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

COMPOSITE PLACEMENT REPORT

PROJECT NAME: ____________________ DATE: ____________

MANUFACTURER: ____________________ ROLL DIMENSIONS: ____________

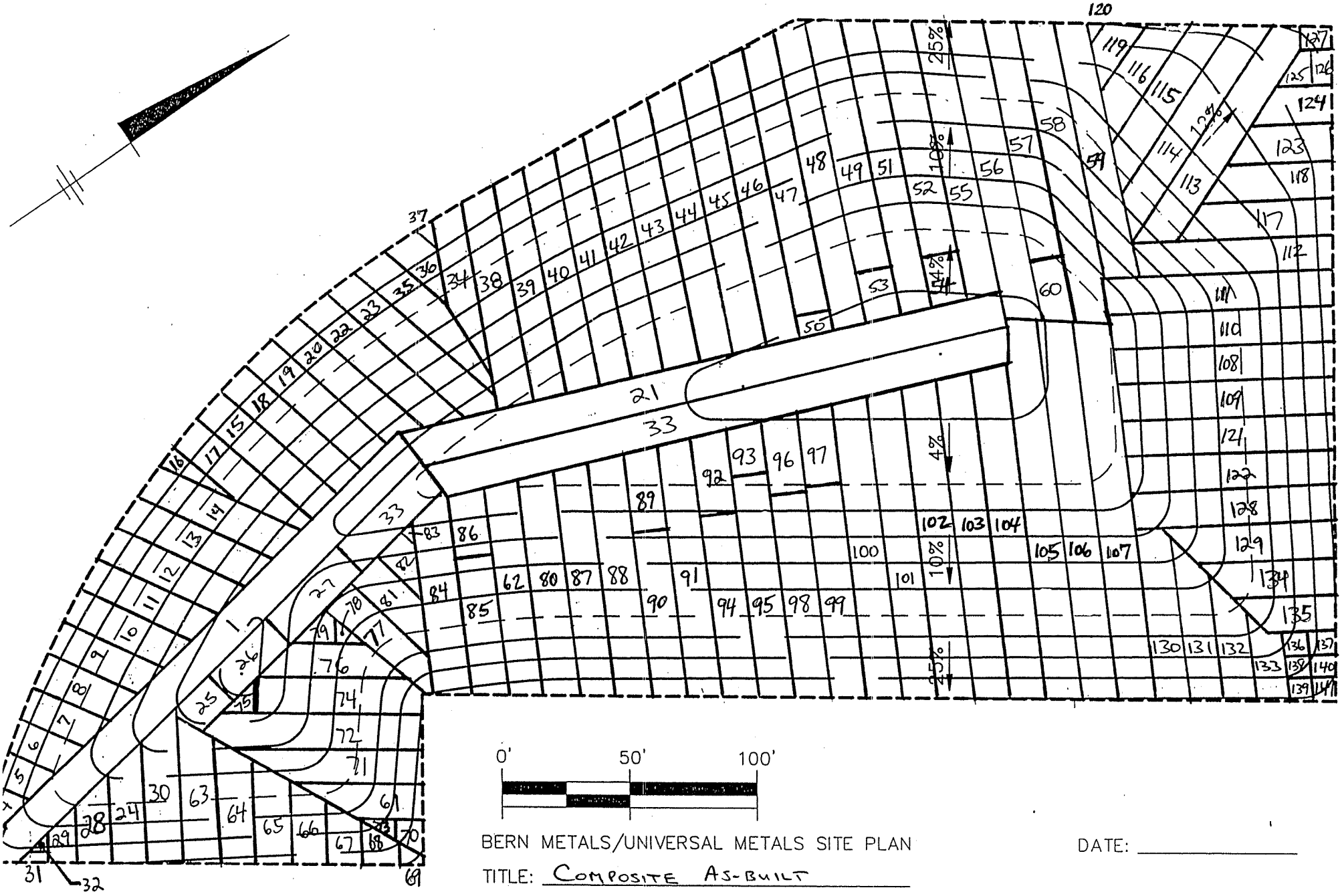
WEATHER CONDITIONS: ____________________ PAGE 3 OF 3

ROLL NUMBER	PANEL NUMBER	LENGTH	WIDTH	COMMENTS
0921	135	43		
3579	136	21		
	137	7		
3588	138	19		
	139	5		
35609	140	14		
	141	14		
	LENGTH SUBTOTAL			

...ANTITY INSTALLED THIS DATE (SF): 52,248 RUNNING TOTAL INSTALLED: 127,949

...DITIONIAL COMMENTS ____________________

...CO Field Forms\COMP PLACEMENT REPORT.doc10/23/00



BERN METALS/UNIVERSAL METALS SITE PLAN

DATE: _____

TITLE: Composite As-Built

ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

SUBGRADE PREPARATION ACCEPTANCE

TO: BBL

PROJECT: Bern Metal

SUBJECT: APPROVAL OF SUBGRADE PREPARATION

PANEL AREA INSTALLED: P-1 - P-32

Gentlemen:

The undersigned Atlantic Lining Co., Inc. representative has inspected the subgrade preparation on the above referenced project. The subgrade surface appeared to be firm, smooth and free of all sharp rocks or other sharp objects, vegetation or stubble that could puncture the liner. The subgrade surface preparation was found to be acceptable for placement of Atlantic Lining Co., Inc.'s membrane liner. This acceptance is based on visual observation only; it does not address bbase compaction or subsurface conditions.

Signed: William Lichtenfeld

Authorized ALCO Representative

10/30/02

Title

10-29

Date

Acknowledged:

Brue A. Fulton

Authorized Project Representative

Jr. Engineer - BBL

Title

10/31/02

Date

Composite

ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

SUBGRADE PREPARATION ACCEPTANCE

TO: BBL

PROJECT: Berm Meta

SUBJECT: APPROVAL OF SUBGRADE PREPARATION

PANEL AREA INSTALLED: P-33 - P-86

Gentlemen:

The undersigned Atlantic Lining Co., Inc. representative has inspected the subgrade preparation on the above referenced project. The subgrade surface appeared to be firm, smooth and free of all sharp rocks or other sharp objects, vegetation or stubble that could puncture the liner. The subgrade surface preparation was found to be acceptable for placement of Atlantic Lining Co., Inc.'s membrane liner. This acceptance is based on visual observation only; it does not address ubbase compaction or subsurface conditions.

Signed: [signature]

Authorized ALCO Representative

QC/QA

Title

10-30

Date

Acknowledged:

Brie A. Fran

Authorized Project Representative

Jr. Engineer-BBL

Title

10/31/02

Date

Composite

ALCO ATLANTIC LINING CO., INC.

12 Saddlebrook Road
Robbinsville, NJ 08691
Tel (609) 448-6868
Fax (609) 448-7575

SUBGRADE PREPARATION ACCEPTANCE

TO: BBL
PROJECT: Bern Metal

SUBJECT: APPROVAL OF SUBGRADE PREPARATION

PANEL AREA INSTALLED: P-87 - P- 141

Gentlemen:

The undersigned Atlantic Lining Co., Inc. representative has inspected the subgrade preparation on the above referenced project. The subgrade surface appeared to be firm, smooth and free of all sharp rocks or other sharp objects, vegetation or stubble that could puncture the liner. The subgrade surface preparation was found to be acceptable for placement of Atlantic Lining Co., Inc.'s membrane liner. This acceptance is based on visual observation only; it does not address subbase compaction or subsurface conditions.

Signed: William L Lichtenfels
Authorized ALCO Representative

QC/QA
Title

10-31-02
Date

Acknowledged: Ben A. Jan
Authorized Project Representative

Jr. Engineer - BBL
Title

10/31/02
Date

Composite

SUBGRADE.doc

PRO RATA LIMITED WARRANTY
FOR GSE LINING TECHNOLOGY, INC.
(GEOSYNTHETIC MANUFACTURED MATERIALS)
(U.S.A.)

Date:	November 22, 2002	Warranty No.:	511104
Purchaser Name:	Bern Metal/Universal Metal	Project No.:	511104
Address:	410 Main Street	Effective Date:	October 31, 2002
City, State:	Buffalo, New York 14202	Project Name:	Bern Metal/Universal Metal Site
Product Type/Description:	GSE HD Textured 60 mil	Project Address:	Buffalo, New York

GSE Lining Technology, Inc. ("GSE") warrants each GSE product described above to be free from material manufacturing defects (as described by the contract's material specifications) and to be able to withstand normal weathering for a period of five (5) years from the above effective date for "normal use" in approved applications. This limited warranty does not include damages or defects in the GSE product resulting from acts of God, casualty or catastrophe, including but not limited to: earthquakes, floods, piercing hail, tornadoes or force majeure. The term "normal use" does not include, among other things, the exposure of GSE's product to harmful chemicals, abuse by machinery, equipment or people; improper site preparation or placement of cover materials; excessive pressures or stresses from any source. This warranty is intended for commercial use only and is not in effect for the consumer as defined in the Magnuson-Moss Warranty Act.

Should defects or premature loss of use within the scope of this warranty occur, GSE will, at its option, repair or replace the GSE product on a pro-rata basis at the current price in such manner as to charge the Purchaser only for that portion of the warranted life which has elapsed since the purchase of the product. GSE shall have the right to inspect and determine the cause of the alleged defect in the product and to take appropriate steps to repair or replace the product if a defect exists that is covered under this warranty. This limited warranty only extends to the geosynthetic portion of this product manufactured by GSE and does not apply to any third-party manufactured materials attached to GSE's product. The third-party portion of the product will carry the original manufacturer's warranty that will be passed through to the Purchaser.

Any claim for any alleged breach of this warranty must be made in writing, by certified mail or courier, to the President of GSE, within ten (10) days of Purchaser becoming aware of the alleged defect. Should the required notice not be given, the defect and all warranties are waived by the Purchaser, and Purchaser shall not have rights under this warranty. GSE shall not be obligated to perform any inspection or obligated to perform any repair or replacement under this warranty until the area is made available free from all obstructions, water, dirt, sludge, residuals and liquids of any kind. If after inspection it is determined that there is no claim under this warranty, Purchaser shall reimburse GSE for its costs associated with the site inspection.

In the event the exclusive remedy provided herein fails in its essential purpose, and in that event only, the Purchaser shall be entitled to a return of the purchase price for so much of the product as GSE determines to have violated the warranty provided herein. GSE shall not be liable for direct, indirect, special, consequential or incidental damages resulting from a breach of this warranty including, but not limited to: damages for loss of production, lost profits, personal injury or property damage. GSE shall not be obligated to reimburse Purchaser for any repairs, replacement, modifications or alterations made by Purchaser to GSE's product, unless GSE specifically authorized, in writing, said repairs, replacements, modifications or alterations in advance. GSE liability under this warranty shall in no event exceed the replacement cost of the product sold to the Purchaser for the particular installation in which it failed.

GSE neither assumes nor authorizes any person other than an officer of GSE to assume for it any other or additional liability in connection with the GSE product made on the basis of the Limited Warranty. **GSE MAKES NO WARRANTY OF ANY KIND OTHER THAN THAT GIVEN HEREIN AND HEREBY DISCLAIMS ALL WARRANTIES, INCLUDING BOTH EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, AND BY ACCEPTING DELIVERY OF THE PRODUCT, PURCHASER WAIVES ALL OTHER POSSIBLE WARRANTIES. GSE's WARRANTY BECOMES AN OBLIGATION OF GSE TO PERFORM UNDER THE WARRANTY ONLY UPON RECEIPT OF FINAL PAYMENT.**

This warranty is extended to the Purchaser and is non-transferable and non-assignable, i.e. there are no third-party beneficiaries to this warranty.

GSE LINING TECHNOLOGY, INC.

BY: Carolyn Gregor
Authorized Representative

GEOMEMBRANE5p

NON-PRO RATA LIMITED WARRANTY
FOR GSE LINING TECHNOLOGY, INC.
(GEOSYNTHETIC MANUFACTURED MATERIALS)
(U.S.A.)

Date:	November 22, 2002	Warranty No.:	511104
Purchaser Name:	Bern Metal/Universal Metal	Project No.:	511104
Address:	410 Main Street	Effective Date:	October 31, 2002
City, State:	Buffalo, New York 14202	Project Name:	Bern Metal/Universal Metal Site
Product Type/Description:	GSE FabriNet	Project Address:	Buffalo, New York

GSE Lining Technology, Inc. ("GSE") warrants the geonet component of each GSE product described above to be free from material manufacturing defects (as described by the contract's material specifications) and to be able to withstand normal weathering for a period of one (1) year from the above effective date for "normal use" in approved applications. This limited warranty does not include damages or defects in the GSE product resulting from acts of God, casualty or catastrophe, including but not limited to: earthquakes, floods, piercing hail, tornadoes or force majeure. The term "normal use" does not include, among other things, the exposure of GSE's product to harmful chemicals, abuse by machinery, equipment or people; improper site preparation or placement of cover materials; excessive pressures or stresses from any source. This warranty is intended for commercial use only and is not in effect for the consumer as defined in the Magnuson-Moss Warranty Act.

Should defects or premature loss of use within the scope of this warranty occur, GSE will, at its option, repair or replace the GSE product. GSE shall have the right to inspect and determine the cause of the alleged defect in the product and to take appropriate steps to repair or replace the product if a defect exists that is covered under this warranty. This limited warranty only extends to the geosynthetic portion of this product manufactured by GSE and does not apply to any third-party manufactured materials attached to GSE's product. The third-party portion of the product will carry the original manufacturer's warranty that will be passed through to the Purchaser.

Any claim for any alleged breach of this warranty must be made in writing, by certified mail or courier, to the President of GSE, within ten (10) days of Purchaser becoming aware of the alleged defect. Should the required notice not be given, the defect and all warranties are waived by the Purchaser, and Purchaser shall not have rights under this warranty. GSE shall not be obligated to perform any inspection or obligated to perform any repair or replacement under this warranty until the area is made available free from all obstructions, water, dirt, sludge, residuals and liquids of any kind. If after inspection it is determined that there is no claim under this warranty, Purchaser shall reimburse GSE for its costs associated with the site inspection.

In the event the exclusive remedy provided herein fails in its essential purpose, and in that event only, the Purchaser shall be entitled to a return of the purchase price for so much of the product as GSE determines to have violated the warranty provided herein. GSE shall not be liable for direct, indirect, special, consequential or incidental damages resulting from a breach of this warranty including, but not limited to: damages for loss of production, lost profits, personal injury or property damage. GSE shall not be obligated to reimburse Purchaser for any repairs, replacement, modifications or alterations made by Purchaser to GSE's product, unless GSE specifically authorized, in writing, said repairs, replacements, modifications or alterations in advance. GSE liability under this warranty shall in no event exceed the replacement cost of the product sold to the Purchaser for the particular installation in which it failed.

GSE neither assumes nor authorizes any person other than an officer of GSE to assume for it any other or additional liability in connection with the GSE product made on the basis of the Limited Warranty. **GSE MAKES NO WARRANTY OF ANY KIND OTHER THAN THAT GIVEN HEREIN AND HEREBY DISCLAIMS ALL WARRANTIES, INCLUDING BOTH EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, AND BY ACCEPTING DELIVERY OF THE PRODUCT, PURCHASER WAIVES ALL OTHER POSSIBLE WARRANTIES. GSE's WARRANTY BECOMES AN OBLIGATION OF GSE TO PERFORM UNDER THE WARRANTY ONLY UPON RECEIPT OF FINAL PAYMENT.**

This warranty is extended to the Purchaser and is non-transferable and non-assignable, i.e. there are no third-party beneficiaries to this warranty.

GSE LINING TECHNOLOGY, INC.

BY: Caroline Gregor
Authorized Representative

GEOCOMPOSITE1np

ALCO ATLANTIC LINING CO., INC.

100 Youngs Road, Suite 8
Mercerville, NJ 08619
Tel. (609) 588-8767
Fax (609) 588-8786

ONE YEAR LIMITED WORKMANSHIP WARRANTY

PROJECT: **BERN METAL/UNIVERSAL METAL SITE**
Buffalo, NY

Subject to the terms and conditions set forth below, Atlantic Lining Co. Inc. (ALCO) warrants that the lining or cover installation at the above referenced Project was installed by ALCO in accordance with the specifications in a good and workmanlike manner and that the installation of the liner is free from defects in workmanship for a period of one (1) year from the date of completion of installation. This warranty covers only defects in workmanship occurring during the installation of the liner. This warranty does not cover any damages to, or defects in the liner found to have been a result of conditions such as, but not limited to, misuse, abuse, vandalism, exposure of the liner to harmful chemicals, mechanical abuse of any kind, floating debris, excessive pressures or stresses from any source, Acts of God, such as, but not limited to, fire, earthquakes, flood or severe weather conditions of any type.

In the event that circumstances are found to exist which Purchaser believes may precipitate a claim under this warranty, the following procedures shall apply:

a. Purchaser shall give ALCO written notice of the facts and circumstances of said claim within 30 days of becoming aware of said facts and circumstances.

b. Within thirty days after receipt of the notice described in paragraph (a) above, ALCO shall provide written notification to the Purchaser that either it will send a representative to inspect the allegedly defective installation or that another mutually agreed upon course of action will be taken. In the event that upon inspection, ALCO determines that the claim is caused by any event or circumstance not covered by this warranty, the Purchaser agrees to pay all expenses incurred by ALCO in making the inspection.

c. Purchaser shall not repair, replace, remove, alter or disturb liner. Nor allow anyone else to repair, replace, remove, alter or disturb any liner prior to ALCO inspection.

d. If ALCO determines that the alleged defects are covered by this warranty, Atlantic Lining Co., Inc. will, at its sole discretion, either repair the defects in the installation or reinstall the liner. **THE REMEDIES PROVIDED HEREIN ARE THE EXCLUSIVE REMEDIES AVAILABLE UNDER THIS WARRANTY.**

e. Purchaser agrees that it shall bear full responsibility for providing ALCO with clean, dry and unobstructed access to the liner in order for ALCO to perform the inspections and warranty work which may be required pursuant to this warranty.

THE REMEDIES PROVIDED TO PURCHASER HEREIN ARE THE EXCLUSIVE REMEDIES AVAILABLE UNDER THIS WARRANTY AND ARE INTENDED FOR THE SOLE BENEFIT OF PURCHASER. ATLANTIC LINING CO., INC. SHALL HAVE NO LIABILITY UNDER THIS WARRANTY TO THIRD PARTIES OR STRANGERS TO THIS AGREEMENT. THE WARRANTY APPLICABLE TO THE INSTALLATION OF THE LINER AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.

ATLANTIC LINING CO., INC.

BY: _____
Francis X. Taylor, Vice President

DATE: November 7, 2002

I have read and agree to be bound by the terms and conditions of the foregoing warranty.

BY: _____

TITLE: PROJECT MANAGER

COMPANY: CRA

DATE: 12/6/02