report, 1999-10-22, annual

1999
Annual Report
Groundwater Performance Monitoring

Corrective Action Management Unit

Wabash Aluminum Alloys, L.L.C.
East Syracuse, New York

C&S Engineers, Inc.
1099 Airport Blvd.
North Syracuse, NY 13212

October 1999

FOIL207753

Wabash
Alloys,
L.L.C.

Wabash Alloys, L.L.C.
6223 Thompson Road
P.O. Box 639
East Syracuse, New York 13057-0639
315-463-9500
FAX 315-433-9069

Wabash

RECEIVED
NYSDEC

OCT 22 1999

BUREAU OF RADIATION &
HAZARDOUS SITE MANAGEMENT
DIVISION OF SOLID &
HAZARDOUS MATERIALS

October 20, 1999

Ms. Denise M. Radtke
Senior Engineering Geologist
New York State Department of Environmental Conservation
50 Wolf Road, Room 462
Albany, New York 12233-7252

Re: 1999 Annual Report Groundwater Performance Monitoring
Corrective Action Management Unit

Dear Ms. Radtke:

Enclosed please find the above referenced report. Sampling was performed in July of 1999.

If you have any questions or comments I may be reached at (315) 463-9500 extension 117.

Sincerely,

WABASH ALUMINUM ALLOYS, L.L.C.

James G. Nighan
Engineering Manager

Att.
c: Ron Marchbanks w/o attachments

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1.0 INTRODUCTION

The annual groundwater monitoring program for the Corrective Action Management Unit (CAMU) at the Wabash Aluminum Alloys L.L.C. site in East Syracuse, New York has been completed for reporting year 1999. This report summarizes the results of groundwater monitoring completed at Wabash on July 8, 1999. The required groundwater sampling was performed by Life Science Laboratories, Inc., (LSL) in accordance with approved New York State Department of Health (NYSDOH) water testing methodologies and protocols. As indicated in Table 1, the following monitoring wells were sampled as part of the 1999 groundwater monitoring program:

B107	B108	B280	B281	B290
B401	B402	B403	B404	

Concurrent with the 1999 monitoring event, a Comprehensive Groundwater Monitoring Evaluation (CME) Inspection was performed by a representative of the New York State Department of Environmental Conservation (NYSDEC). The CME included an inspection of the monitoring wells, observation of sampling procedures, and a general review of the groundwater monitoring program. In addition, split groundwater sampling was collected by the NYSDEC from various groundwater monitoring wells.

Analysis of site groundwater samples was completed by Life Science Laboratory (LSL) Inc. A site plan identifying the locations of site-specific groundwater monitoring well locations is shown in Figure 1. Seven of the groundwater monitoring wells (B280, B281, B290, B401, B402, B403, and B404) are located in the vicinity of Plant #2, while monitoring wells B107 and B108 are located in the vicinity of Plant #1. Monitoring well B281 serves as the background well. It should be noted that monitoring well B307 was decommissioned and removed from the monitoring program in July 1998 as a result of the construction of a baghouse in its location.

2.0 GROUNDWATER FLOW

Groundwater elevation measurements were obtained from each of the groundwater monitoring wells prior to well evacuation and sampling activities. The groundwater elevations were

determined by subtracting the depth to water measured from the top of the PVC riser. Based on groundwater elevation data collected during the sampling event, groundwater appears to flow in a northeasterly direction. Figure 2 illustrates water table contours for the site as well as groundwater flow directions. Table 2 summarizes groundwater elevation measurements for each of the wells included in the approved groundwater monitoring program:

3.0 GROUNDWATER MONITORING WELL SAMPLING & ANALYSIS

This 1999 Annual Groundwater Monitoring Report is based upon the analytical results of groundwater samples collected from groundwater monitoring wells located on the Wabash site on July 8, 1999. Groundwater samples were collected in accordance with the sampling procedures described in the Sampling and Analysis Plan, which is contained in Appendix D of the approved O&M Plan. It should be noted that samples collected for soluble metals were first placed in a clean unpreserved bottle. Samples were then field filtered using a hand-held pump equipped with a 0.45 *um* filters. The filtered samples were then placed in clean bottles and preserved. Prior to sampling, groundwater monitoring wells were purged by removing, at a minimum, three well volumes (or bailed to dryness) of groundwater by dedicated bailer. Life Science Laboratories recorded field measurements for each well for field parameters including pH, conductance, turbidity, and temperature. The field measurements were recorded in LSL's Field Data Log. A copy of the Field Data Log is included in Appendix A. Table 3 provides a summary of field measurements from each of the nine groundwater monitoring wells:

4.0 GROUNDWATER QUALITY ANALYTICAL RESULTS

Analytical results from the 1999 monitoring program are summarized in Table 4. Analytical results that were reported above the NYSDEC Class GA Standards are noted by shading in the table. Specific comments for each parameter are provided below. The analytical data reports prepared by LSL have been included in Appendix B.

Barium

As shown in Table 4, barium and dissolved barium were detected above the Class GA standard for samples collected from groundwater monitoring well B108 (2.8 mg/l barium, 2.6 mg/l dissolved barium). This well is not downgradient from the CAMU. This well has previously shown barium levels in excess of the GA standard. All other monitoring wells sampled for

barium showed results below the GA standard.

Lead

Total lead was detected above the Class GA standard in samples collected from monitoring wells B280 (0.089 mg/l), B401 (0.061 mg/l), B402 (0.29 mg/l), and B403 (0.24 mg/l). Dissolved lead was detected above the standard of 0.025 mg/l in the samples collected from monitoring well B290 (0.72 mg/l). Note that this is an anomalous result since the total lead for that sample was <0.01 mg/l; accidental switching of the filtered and unfiltered samples cannot be ruled out. During the 1998 sampling event, the sample from B290 had the highest lead content. Clearly, the elevated lead levels are from filterable solids in the samples.

PCBs

The groundwater sample collected from monitoring well B403 was analyzed for PCBs and found to have a concentration of 0.17 ug/l which exceeded the PCB Class GA Water Quality Standard of 0.09 ug/l. PCBS were undetected in all other samples collected as part of this monitoring. PCBs were not detected in any samples collected in the 1998 monitoring program.

Arsenic

Arsenic was not detected in any samples collected during the 1999 monitoring program.

Quality Assurance

The field duplicate samples collected showed good correlation for all constituents. In addition, neither the equipment blank or the filter blank showed detectable levels of the parameters being monitored.

5.0 FUTURE SAMPLING

In accordance with the O&M Plan, the Environmental Monitoring Program shown in Table 1 of the O&M Plan will be conducted on an annual basis.

Table 1
Wabash Aluminum Alloys L.L.C.
1999 Groundwater Monitoring Program

Monitoring Wells	*Parameters*	*EPA Method*
B280	Total & Dissolved Arsenic	EPA 6010
	Total & Dissolved Lead	EPA 6010
	PCBs	EPA 8082
B281	Total & Dissolved Arsenic	EPA 6010
	Total & Dissolved Lead	EPA 6010
	Total & Dissolved Barium	EPA 6010
B290	Total & Dissolved Lead	EPA 6010
B401	Total & Dissolved Lead	EPA 6010
B402	Total & Dissolved Lead	EPA 6010
	PCBs	EPA 8082
B403	Total & Dissolved Lead	EPA 6010
	PCBs	EPA 8082
B404	Total & Dissolved Lead	EPA 6010
	PCBs	EPA 8082
B107	Total & Dissolved Barium	EPA 6010
B108	Total & Dissolved Barium	EPA 6010
QA/QC (Duplicates & Blanks)	Total & Dissolved Arsenic	EPA 6010
	Total & Dissolved Lead	EPA 6010
	Total & Dissolved Barium	EPA 6010
	PCB	EPA 8082
	Equipment Blank	EPA 6010
	Filter Blank	EPA 6010

Table 2
Wabash Aluminum Alloys, L.L.C.
Groundwater Elevation Measurements

Monitoring Well	*MP* Elevation (ft)*	*Depth to Water (ft)*	*Groundwater Elevation (ft)*
B280	410.00	6.32	403.68
B281	423.22	5.96	417.26
B290	414.49	5.44	409.05
B401	413.54	8.89	404.65
B402	409.40	4.55	404.85
B403	411.05	4.49	406.56
B404	410.73	5.75	404.98
B107	410.44	2.47	407.97
B108	411.90	3.31	408.59

MP- Measuring Point or Reference Elevation in feet*

Table 3
Wabash Aluminum Alloys L.L.C.
Field Measurements

Monitoring Wells	pH	Conductance	Turbidity	Temperature
Units	*S.U.*	*mS/cm*	*NTU*	*deg C*
B280	6.24	0.893	>999	13.8
B281	7.47	3.12	>999	16.2
B290	7.24	2.37	>999	20.8
B401	6.69	1.51	>999	16.0
B402	8.12	3.35	>999	17.2
B403	7.36	0.710	>999	15.7
B404	6.72	1.74	60	17.5
B107	7.32	0.96	527	15.8
B108	6.19	2.85	>999	18.0

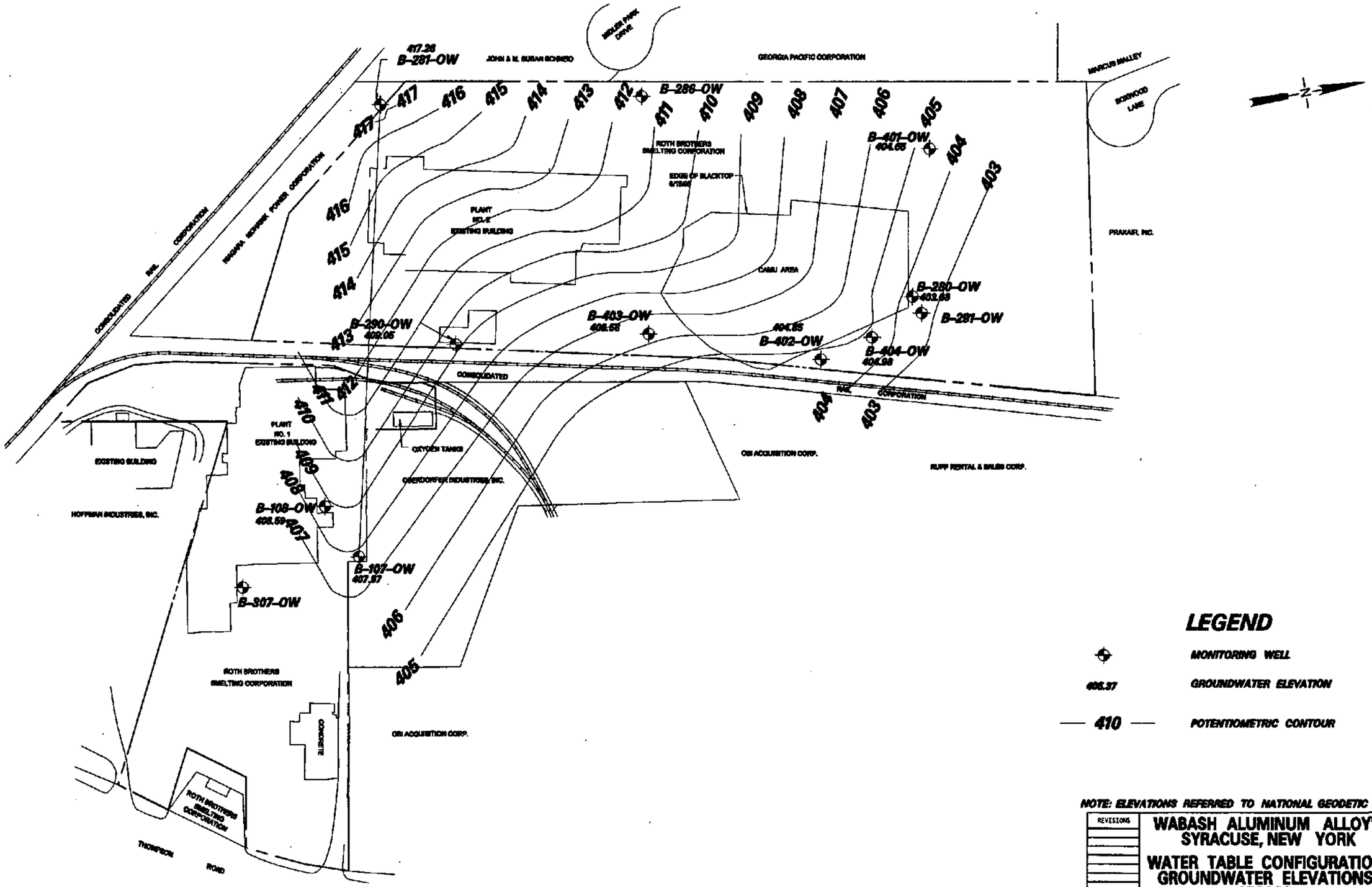
TABLE 4
Wabash Aluminum Alloys L.L.C
Groundwater Monitoring Data - 1999

Parameters	Units	Class GA Standards	B107	B108	B280	B281	B290	B401	B402	B403	B404	B281 Duplicate	B404 Duplicate	B108 Duplicate	B281 Duplicate	Equipment Blank	Filter Blank
Arsenic (Dissolved)	mg/l		NA	NA	<0.01	<0.01	NA	NA	NA	NA	NA	<0.01	NA	NA	NA	NA	NA
Arsenic	mg/l	0.025	NA	NA	<0.01	<0.01	NA	NA	NA	NA	NA	<0.01	NA	NA	NA	<0.01	<0.01
Barium (Dissolved)	mg/l		0.38	2.6	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	2.5	NA	NA	NA
Barium	mg/l	1	0.44	2.8	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	2.9	NA	<0.2	<0.2
Lead (Dissolved)	mg/l		NA	NA	<0.01	<0.01	0.72	<0.01	<0.01	<0.01	<0.01	NA	<0.01	NA	NA	NA	NA
Lead	mg/l	0.025	NA	NA	0.089	<0.01	<0.01	0.061	0.29	0.24	<0.01	NA	<0.01	NA	NA	<0.01	<0.01
pH	Std. Units	6.5-8.5	7.32	6.19	6.24	7.47	7.24	6.69	8.12	7.36	6.72	NA	NA	NA	NA	NA	NA
Specific Conductance	us/cm		960	2,850	893	3,120	2,370	1,510	3,350	710	1,740	NA	NA	NA	NA	NA	NA
Turbidity	NTU		572	>999	>999	>999	>999	>999	>999	>999	60	NA	NA	NA	NA	NA	NA
Temperature	Degrees C		15.8	18.0	13.8	16.2	20.8	16	17.2	15.7	17.5	NA	NA	NA	NA	NA	NA
EPA 8082 PCBs																	
Arochlor-1016	ug/l	0.09*	NA	NA	<0.1	<0.1	NA	NA	<0.1	<0.1	<0.1	NA	NA	NA	<0.1	<0.1	NA
Arochlor-1221	ug/l	0.09*	NA	NA	<0.1	<0.1	NA	NA	<0.1	<0.1	<0.1	NA	NA	NA	<0.1	<0.1	NA
Arochlor-1232	ug/l	0.09*	NA	NA	<0.1	<0.1	NA	NA	<0.1	<0.1	<0.1	NA	NA	NA	<0.1	<0.1	NA
Arochlor-1242	ug/l	0.09*	NA	NA	<0.1	<0.1	NA	NA	<0.1	<0.1	<0.1	NA	NA	NA	<0.1	<0.1	NA
Arochlor-1248	ug/l	0.09*	NA	NA	<0.1	<0.1	NA	NA	<0.1	<0.1	<0.1	NA	NA	NA	<0.1	<0.1	NA
Arochlor-1254	ug/l	0.09*	NA	NA	<0.1	<0.1	NA	NA	<0.1	0.17	<0.1	NA	NA	NA	<0.1	<0.1	NA
Arochlor-1260	ug/l	0.09*	NA	NA	<0.1	<0.1	NA	NA	<0.1	<0.1	<0.1	NA	NA	NA	<0.1	<0.1	NA

* applies to the sum of these substances

NA - Not Analyzed

Denotes concentrations above Class GA Groundwater Quality Standards.



LEGEND

⌖	MONITORING WELL
405.37	GROUNDWATER ELEVATION
— 410 —	POTENTIOMETRIC CONTOUR

NOTE: ELEVATIONS REFERRED TO NATIONAL GEODETIC DATUM (NGVD) 1929.

200 0 200 400 FT.
200'

NO ALTERATION PERMITTED HEREON EXCEPT AS PROVIDED UNDER SECTION 7209 SUBDIVISION 2 OF THE NEW YORK EDUCATION LAW

REVISIONS

WABASH ALUMINUM ALLOY'S SYRACUSE, NEW YORK

WATER TABLE CONFIGURATION GROUNDWATER ELEVATIONS 07/08/99

C&S Engineers, Inc.

DATE: OCTOBER 7, 1999
SCALE: AS SHOWN
FILE NO. 868.002.001.110

SHEET NO.
FIGURE 1

CADD FILE NO. WABASH1.DGN

IN CHARGE OF:
MADE BY:
CHECKED BY:

Copyright ©

SYTIME

APPENDIX A
FIELD DATA LOGS & CHAINS OF CUSTODY

Field Data Log

Life Science Laboratories
5854 Butternut Drive
East Syracuse, NY 13057
(315)-445-1105

Client Name C & S ENGINEERS

Site Name WABASH ALLOYS

Samplers E. BIRDSLOW
P. PORILLO

GAL/FT.	Well Casing Volumes	
	1-1/4" = 0.077	3" = 0.37
	1-1/2" = 0.10	3-1/2" = 0.50
	2" = 0.16	4" = 0.65
	2-1/2" = 0.24	6" = 1.46

Date	7/8/99 →					
Well ID	B280	B281	B290	B401	B402	B403
Diameter	2"	2"	2"	2"	2"	2"
TSD	12.47	12.95	10.22	11.52	12.14	11.20
DTW	6.32	5.96	5.44	8.89	4.55	4.49
H2O Column	6.15	6.99	4.78	2.63	7.59	6.71
Conversion	.16	.16	.16	.16	.16	.16
Well Volume	.98	1.1	0.7	0.4	1.2	1.0
Amount to Evacuate	2.9	3.3	2.2	1.2	3.6	3.2
Act. Amount Evac.	3	3	2.5	DRY @ 1/2 gal	DRY @ 2.5	3

Field Readings

Date	7/8/99 →					
Time	1354	1137	1106	1328	1500	1428
pH (Std. Units)	6.24	7.47	7.24	6.69	8.12	7.36
Cond.(mS/cm)	0.893	3.12	2.37	1.51	3.35	0.710
Turbidity(NTU)	>999	>999	>999	>999	>999	>999
D.O (mg/L)						
Temp. (Degrees C)	13.8	16.2	20.8	16.0	17.2	15.7
eh (mv)						
Appearance	VERY TURBID	VERY TURBID	VERY TURBID	VERY TURBID	VERY TURBID	VERY TURBID
Comments		NO lock on WELL	NO lock on WELL			

DTW Depth to Water
DTP Depth to Product
TSD Total Sounded Depth

Field Data Log

Life Science Laboratories
5854 Butternut Drive
East Syracuse, NY 13057
(315)-445-1105

Client Name: C & S ENGINEERS

Site Name: WABASH ALLOYS

Samplers: E. BIRDSLOW, P. PORILLO

GAL/FT. Well Casing Volumes
1-1/4" = 0.077 3" = 0.37
1-1/2" = 0.10 3-1/2" = 0.50
2" = 0.16 4" = 0.65
2-1/2" = 0.24 6" = 1.46

Date	7/8/99					→
Well ID	B404	B107	B108	DUP-1	DUP-2	DUP-3
Diameter	2"	2"	2"			
TSD	18.10	8.65	8.24			
DTW	5.75	2.47	3.31			
H2O Column	12.35	6.18	4.93			
Conversion	.16	.16	.16			
Well Volume	1.9	0.9	0.7			
Amount to Evacuate	5.9	2.9	2.3			
Act. Amount Evac.	6	3	2.5			

Field Readings

Date	7/8/99					→
Time	1010	1300	1243	1140	1013	1249
pH (Std. Units)	6.72	7.32	6.19			
Cond.(mS/cm)	1.74	0.96	2.85			
Turbidity(NTU)	60	527	>999			
D.O (mg/L)						
Temp. (Degrees C)	17.5	15.8	18.0			
eh (mv)						
Appearance	CLEAR	TURBID	VERY TURBID			
Comments						

DTW Depth to Water
DTP Depth to Product
TSD Total Sounded Depth

Field Data Log

Life Science Laboratories
5854 Butternut Drive
East Syracuse, NY 13057
(315)-445-1105

Client Name C&S ENGINEERS

Site Name WABASH ALLOYS

Samplers C. BIRDSLOW
P. PORRILLO

GAL./FT.

Well Casing Volumes	
1-1/4" = 0.077	3" = 0.37
1-1/2" = 0.10	3-1/2" = 0.50
2" = 0.16	4" = 0.65
2-1/2" = 0.24	6" = 1.46

Date	7/8/99 →					
Well ID	DUP-4	EQUIPMENT BLANK	FILTER BLANK			
Diameter						
TSD						
DTW						
H2O Column						
Conversion						
Well Volume						
Amount to Evacuate						
Act. Amount Evac.						

Field Readings

Date	7/8/99 →					
Time	1135	0940	1030			
pH (Std. Units)						
Cond.(mS/cm)						
Turbidity(NTU)						
D.O (mg/L)						
Temp. (Degrees C)						
eh (mv)						
Appearance						
Comments						

DTW Depth to Water
DTP Depth to Product
TSD Total Sounded Depth

Life Science Laboratories, Inc.
5854 Butternut Drive
East Syracuse, NY 13057
Phone # (315) 445-1105 Telefax # (315) 445-1301

Chain of Custody Record

Client: C & S Engineers Phone # (315)455-2000
Address: 1099 Airport Blvd. Telefax #(315)455-9667
N.Syracuse, N.Y. 13212

Authorization:

Contact Person: Tom Barba

LSL Project #: 9904982
Client's Site I.D.: WABASH ALLOYS
Client's Project I.D.:

LSL Sample Number	Client's Sample Identifications	Sample Date	Sample Time	Type grab	Type comp.	Matrix	Preserv. Added	Containers #	Containers size/type	Analyses	Preserv. Check
001	B108	7/8/99	1243	X		GW	HNO3	1	500 ml	(Total) Ba	
↓	"		↓			"	HNO3	1	500 ml	(Dis) Ba	
002	Duplicate -1		1140			"	HNO3	1	500 ml	(Total) As	
↓	" -1		↓			"	HNO3	1	500 ml	(Dis) As	
003	" -2		1013			"	HNO3	1	550 ml	(Total) Pb	
↓	" -2		↓			"	HNO3	1	500 ml	(Dis) Pb	
004	" -3		1249			"	HNO3	1	500 ml	(Total) Ba	
↓	" -3		↓			"	HNO3	1	500 ml	(Dis) Ba	
005	" -4		1135	✓		"	None	1	Liter(g)	PCB (8082)	
006	Equipment Blank		0940			D.I.	HNO3	1	500 ml	(Total) As,Ba,Pb	
↓	"		↓			D.I.	None	1	Liter(g)	PCB (8082)	
007	Filter Blank	↓	1030			D.I.	HNO3	1	500 ml	(Dis) As,Ba,Pb	

Notes and Hazard identifications:

Custody Transfers		Date	Time
Sampled By: [signature]	Received By: [signature]	7/8/99	1249
Relinquished By:	Received By:		
Relinquished By: [signature]	Received for Lab By: [signature]	7/8/99	1611

Shipment Method: Samples Received Intact: Y N

FOIL207768

Life Science Laboratories, Inc.
5854 Butternut Drive
East Syracuse, NY 13057
Phone # (315) 445-1105 Telefax # (315) 445-1301

Chain of Custody Record

Client: C & S Engineers
Address: 1099 Airport Blvd.
N.Syracuse, N.Y. 13212

Phone # (315)455-2000
Telefax # (315)455-9667

Authorization:

Contact Person: Tom Barba

LSL Project #: 9904982

Client's Site I.D.: WABASH ALLOYS

Client's Project I.D.:

LSL Sample Number	Client's Sample Identifications	Sample Date	Sample Time	Type grab	Type comp.	Matrix	Preserv. Added	Containers #	Containers size/type	Analyses	Preserv. Check
008	B280	7/8/99	1354	X		GW	HNO3	1	500 ml	(Total) As,Pb	
↓	"	↓	↓	↓		"	HNO3	1	500 ml	(Dis) As,Pb	
↓	"		↓			"	None	1	Liter(g)	PCB (8082)	
009	B281		1137			"	HNO3	1	500 ml	(Total) As,Pb, Ba	
↓	"		↓			"	HNO3	1	500 ml	(Dis) As,PB, Ba	
↓	"		↓			"	None	1	Liter(g)	PCB (8082)	
010	B290		1106			"	HNO3	1	500 ml	(Total) Pb	
↓	"		↓			"	HNO3	1	500 ml	(Dis) Pb	
011	B401		1328			"	HNO3	1	500 ml	(Total) Pb	
↓	"	↓	↓	↓		"	HNO3	1	500 ml	(Dis) Pb	

Notes and Hazard identifications:

Custody Transfers		Date	Time
Sampled By: [signature]	Received By:	7/8/99	1354
Relinquished By:	Received By:		
Relinquished By: [signature]	Received for Lab By: [signature]	7/8	1611

Shipment Method:

Samples Received Intact: Y N

FOIL207769

Life Science Laboratories, Inc.
5854 Butternut Drive
East Syracuse, NY 13057
Phone # (315) 445-1105 Telefax # (315) 445-1301

Chain of Custody Record

Client: C & S Engineers
Address: 1099 Airport Blvd.
N.Syracuse, N.Y. 13212
Phone # (315)455-2000
Telefax # (315)455-9667
Authorization:

Contact Person: Tom Barba

LSL Project #: 9904982
Client's Site I.D.: WABASH ALLOYS
Client's Project I.D.:

LSL Sample Number	Client's Sample Identifications	Sample Date	Sample Time	Type grab	Type comp.	Matrix	Preserv. Added	Containers #	Containers size/type	Analyses	Preserv. Check
012	B402	7/8/99	1500	X		GW	HNO3	1	500 ml	(Total) Pb	
↓	"	↓	↓	↓		"	HNO3	1	500 ml	(Dis) Pb	
↓	"	↓	↓	↓		"	None	1	Liter(g)	PCB (8082)	
013	B403	↓	1428	↓		"	HNO3	1	500 ml	(Total) Pb	
↓	"	↓	↓	↓		"	HNO3	1	500 ml	(Dis) Pb	
↓	"	↓	↓	↓		"	None	1	Liter(g)	PCB (8082)	
014	B404	↓	1010	↓		"	HNO3	1	500 ml	(Total) Pb	
↓	"	↓	↓	↓		"	HNO3	1	500 ml	(Dis) Pb	
↓	"	↓	↓	↓		"	None	1	Liter(g)	PCB (8082)	
015	B107	↓	1300	↓		"	HNO3	1	500 ml	(Total) Ba	
↓	"	↓	↓	↓		"	HNO3	1	500 ml	(Dis) Ba	

Notes and Hazard identifications:

Custody Transfers		Date	Time
Sampled By:	Received By:	7/8/99	1500
Relinquished By:	Received By:		
Relinquished By:	Received for Lab By:	7/8	1611

Shipment Method: Samples Received Intact: Y N

FOIL207770

APPENDIX B
LABORATORY ANALYTICAL DATA

-- LABORATORY ANALYSIS REPORT --

C&S Engineers, Inc.
1099 Airport Blvd.
N. Syracuse, NY 13212

Attn: Tom Barba
Phone: (315) 455-2000
FAX: (315) 455-9667

Sample ID: B108
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-001
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 200.7 Dissolved Metals				
Barium	2.6	mg/l	7/20/99	
EPA 200.7 RCRA Metals				
Barium	2.8	mg/l	7/14/99	
Field Parameters				
Static Water Level	3.31	ft	7/8/99	
pH	6.19	Std. Units	7/8/99	
Specific Conductance	2850	µS/cm	7/8/99	
Turbidity	>999	NTU	7/8/99	
Temperature	18.0	Degrees C	7/8/99	

Life Science Laboratories, Inc.
5854 Butternut Drive, East Syracuse, New York 13057 Telephone: (315) 445-1105 Telefax: (315) 445-1301
NYS DOH ELAP No. 10248

FOIL207772

-- LABORATORY ANALYSIS REPORT --

C&S Engineers, Inc.
1099 Airport Blvd.
N. Syracuse, NY 13212

Attn: Tom Barba
Phone: (315) 455-2000
FAX: (315) 455-9667

Sample ID: Duplicate - 1
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-002
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 200.7 Dissolved Metals				
Arsenic	<0.01	mg/l	7/20/99	
EPA 200.7 RCRA Metals				
Arsenic	<0.01	mg/l	7/14/99	

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Sample ID: Duplicate - 2
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-003
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 200.7 Dissolved Metals				
Lead	<0.01	mg/l	7/20/99	
EPA 200.7 RCRA Metals				
Lead	<0.01	mg/l	7/14/99	

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Sample ID: Duplicate - 3
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-004
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 200.7 Dissolved Metals				
Barium	2.5	mg/l	7/20/99	
EPA 200.7 RCRA Metals				
Barium	2.9	mg/l	7/14/99	

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Sample ID: Duplicate - 4
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-005
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 8082 PCB's				
Arochlor-1016	<0.1	ug/l	7/9/99	
Arochlor-1221	<0.1	ug/l	7/9/99	
Arochlor-1232	<0.1	ug/l	7/9/99	
Arochlor-1242	<0.1	ug/l	7/9/99	
Arochlor-1248	<0.1	ug/l	7/9/99	
Arochlor-1254	<0.1	ug/l	7/9/99	
Arochlor-1260	<0.1	ug/l	7/9/99	

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Sample ID: Equipment Blank
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-006
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 200.7 RCRA Metals				
Arsenic	<0.01	mg/l	7/14/99	
Barium	<0.2	mg/l	7/14/99	
Lead	<0.01	mg/l	7/14/99	
EPA 8082 PCB's				
Arochlor-1016	<0.1	ug/l	7/9/99	
Arochlor-1221	<0.1	ug/l	7/9/99	
Arochlor-1232	<0.1	ug/l	7/9/99	
Arochlor-1242	<0.1	ug/l	7/9/99	
Arochlor-1248	<0.1	ug/l	7/9/99	
Arochlor-1254	<0.1	ug/l	7/9/99	
Arochlor-1260	<0.1	ug/l	7/9/99	

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Sample ID: Filter Blank
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-007
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 200.7 Dissolved Metals				
Barium	<0.2	mg/l	7/20/99	
Arsenic	<0.01	mg/l	7/20/99	
Lead	<0.01	mg/l	7/20/99	

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Attn: Tom Barba
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Sample ID: B280
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-008
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 200.7 Dissolved Metals				
Arsenic	<0.01	mg/l	7/20/99	
Lead	<0.01	mg/l	7/20/99	
EPA 200.7 RCRA Metals				
Arsenic	<0.01	mg/l	7/14/99	
Lead	0.089	mg/l	7/14/99	
EPA 8082 PCB's				
Arochlor-1016	<0.1	ug/l	7/9/99	
Arochlor-1221	<0.1	ug/l	7/9/99	
Arochlor-1232	<0.1	ug/l	7/9/99	
Arochlor-1242	<0.1	ug/l	7/9/99	
Arochlor-1248	<0.1	ug/l	7/9/99	
Arochlor-1254	<0.1	ug/l	7/9/99	
Arochlor-1260	<0.1	ug/l	7/9/99	
Field Parameters				
Static Water Level	6.32	ft	7/8/99	
pH	6.24	Std. Units	7/8/99	
Specific Conductance	893	µS/cm	7/8/99	
Turbidity	>999	NTU	7/8/99	
Temperature	13.8	Degrees C	7/8/99	

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Sample ID: B281
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-009
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 200.7 Dissolved Metals				
Arsenic	<0.01	mg/l	7/20/99	
Lead	<0.01	mg/l	7/20/99	
Barium	<0.2	mg/l	7/20/99	
EPA 200.7 RCRA Metals				
Arsenic	<0.01	mg/l	7/14/99	
Lead	<0.01	mg/l	7/14/99	
Barium	<0.2	mg/l	7/14/99	
EPA 8082 PCB's				
Arochlor-1016	<0.1	ug/l	7/9/99	
Arochlor-1221	<0.1	ug/l	7/9/99	
Arochlor-1232	<0.1	ug/l	7/9/99	
Arochlor-1242	<0.1	ug/l	7/9/99	
Arochlor-1248	<0.1	ug/l	7/9/99	
Arochlor-1254	<0.1	ug/l	7/9/99	
Arochlor-1260	<0.1	ug/l	7/9/99	
Field Parameters				
Static Water Level	5.96	ft	7/8/99	
pH	7.47	Std. Units	7/8/99	
Specific Conductance	3120	µS/cm	7/8/99	
Turbidity	>999	NTU	7/8/99	
Temperature	16.2	Degrees C	7/8/99	

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Attn: Tom Barba
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Sample ID: B290
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-010
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 200.7 Dissolved Metals				
Lead	0.72	mg/l	7/20/99	
EPA 200.7 RCRA Metals				
Lead	<0.01	mg/l	7/14/99	
Field Parameters				
Static Water Level	5.44	ft	7/8/99	
pH	7.24	Std. Units	7/8/99	
Specific Conductance	2370	µS/cm	7/8/99	
Turbidity	>999	NTU	7/8/99	
Temperature	20.8	Degrees C	7/8/99	

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Attn: Tom Barba
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Sample ID: B4010
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-011
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 200.7 Dissolved Metals				
Lead	<0.01	mg/l	7/20/99	
EPA 200.7 RCRA Metals				
Lead	0.061	mg/l	7/14/99	
Field Parameters				
Static Water Level	8.89	ft	7/8/99	
pH	6.69	Std. Units	7/8/99	
Specific Conductance	1510	µS/cm	7/8/99	
Turbidity	>999	NTU	7/8/99	
Temperature	16.0	Degrees C	7/8/99	

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Attn: Tom Barba
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Sample ID: B402
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-012
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 200.7 Dissolved Metals				
Lead	<0.01	mg/l	7/20/99	
EPA 200.7 RCRA Metals				
Lead	0.29	mg/l	7/14/99	
EPA 8082 PCB's				
Arochlor-1016	<0.1	ug/l	7/9/99	
Arochlor-1221	<0.1	ug/l	7/9/99	
Arochlor-1232	<0.1	ug/l	7/9/99	
Arochlor-1242	<0.1	ug/l	7/9/99	
Arochlor-1248	<0.1	ug/l	7/9/99	
Arochlor-1254	<0.1	ug/l	7/9/99	
Arochlor-1260	<0.1	ug/l	7/9/99	
Field Parameters				
Static Water Level	4.55	ft	7/8/99	
pH	8.12	Std. Units	7/8/99	
Specific Conductance	3350	µS/cm	7/8/99	
Turbidity	>999	NTU	7/8/99	
Temperature	17.2	Degrees C	7/8/99	

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Attn: Tom Barba
Phone: (315) 455-2000
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Sample ID: B403
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-013
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 200.7 Dissolved Metals				
Lead	<0.01	mg/l	7/20/99	
EPA 200.7 RCRA Metals				
Lead	0.24	mg/l	7/14/99	
EPA 8082 PCB's				
Arochlor-1016	<0.1	ug/l	7/9/99	
Arochlor-1221	<0.1	ug/l	7/9/99	
Arochlor-1232	<0.1	ug/l	7/9/99	
Arochlor-1242	<0.1	ug/l	7/9/99	
Arochlor-1248	<0.1	ug/l	7/9/99	
Arochlor-1254	0.17	ug/l	7/9/99	
Arochlor-1260	<0.1	ug/l	7/9/99	
Field Parameters				
Static Water Level	4.49	ft	7/8/99	
pH	7.36	Std. Units	7/8/99	
Specific Conductance	710	µS/cm	7/8/99	
Turbidity	>999	NTU	7/8/99	
Temperature	15.7	Degrees C	7/8/99	

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Attn: Tom Barba
Phone: (315) 455-2000
FAX: (315) 455-9667

Sample ID: B404
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-014
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 200.7 Dissolved Metals				
Lead	<0.01	mg/l	7/20/99	
EPA 200.7 RCRA Metals				
Lead	<0.01	mg/l	7/14/99	
EPA 8082 PCB's				
Arochlor-1016	<0.1	ug/l	7/9/99	
Arochlor-1221	<0.1	ug/l	7/9/99	
Arochlor-1232	<0.1	ug/l	7/9/99	
Arochlor-1242	<0.1	ug/l	7/9/99	
Arochlor-1248	<0.1	ug/l	7/9/99	
Arochlor-1254	<0.1	ug/l	7/9/99	
Arochlor-1260	<0.1	ug/l	7/9/99	
Field Parameters				
Static Water Level	5.75	ft	7/8/99	
pH	6.72	Std. Units	7/8/99	
Specific Conductance	1740	µS/cm	7/8/99	
Turbidity	60	NTU	7/8/99	
Temperature	17.5	Degrees C	7/8/99	

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Sample ID: B107
Project No.:
Source: Wabash Alloys
LSL Sample ID: 9904982-015
Sample Matrix: NPW

Authorization:
LSL Project No.: 9904982
Date Sampled: 7/8/99
Report Date: 7/21/99

Analytical Method Parameter(s)	Results	Units	Analysis Date	Comment
EPA 200.7 Dissolved Metals				
Barium	0.38	mg/l	7/20/99	
EPA 200.7 RCRA Metals				
Barium	0.44	mg/l	7/14/99	
Field Parameters				
Static Water Level	2.47	ft	7/8/99	
pH	7.32	Std. Units	7/8/99	
Specific Conductance	960	µS/cm	7/8/99	
Turbidity	572	NTU	7/8/99	
Temperature	15.8	Degrees C	7/8/99	
Sampling Charge				
Sampling Charge			7/8/99	

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