report. 1998-08-15. annual

MALCOLM PIRNIE

Corrective Action Management Unit Groundwater Performance Monitoring Annual Report

Philip Services
East Syracuse, New York

Prepared by:

Malcolm Pirnie, Inc.
15 Cornell Road
Latham, New York 12110

August 1998
1084088

RECYCLED PAPER

MALCOLM PIRNIE

Corrective Action Management Unit Groundwater Performance Monitoring Annual Report

Philip Services
East Syracuse, New York

Prepared by:

Malcolm Pirnie, Inc.
15 Cornell Road
Latham, New York 12110

August 1998
1084088

RECYCLED PAPER

D. Radtke

MALCOLM PIRNIE

MALCOLM PIRNIE, INC.
ENVIRONMENTAL ENGINEERS, SCIENTISTS & PLANNERS

RECEIVED
NYSDEC

SEP - 9 1998

BUREAU OF
HAZARDOUS WASTE FACILITIES
DIV. OF SOLID & HAZ. MATERIALS

September 1, 1998

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: Philip Services (formerly Roth Bros.)
CAMU Groundwater Performance Monitoring
Annual Report - 1998

Dear Ms. Radtke:

On behalf of our client, Philip Services – Roth Bros. Smelting Corporation (Roth), we are submitting three copies of the Corrective Action Management Unit Groundwater Performance Monitoring Annual Report for 1998. If you have any questions or comments, please do not hesitate to call me at (518) 786-7349.

Very truly yours,

MALCOLM PIRNIE, INC.

Matthew C. Yonkin

Matthew C. Yonkin
Engineer

caw
Enclosures
F:\PROJECT\1084088\DOC\O&M.98\RADTKE.LTR

c: Bob Hubbert - Philip Services (w/2 copies)
Marcia Cornell (w/1 copy)
Kelley Roe, MPI SYR (w/1 copy)

TABLE OF CONTENTS

		Page
1.0	BACKGROUND	1
2.0	GROUNDWATER SAMPLING AND ANALYSIS	1
3.0	ANALYTICAL PLAN	2
4.0	GROUNDWATER FLOW	2
5.0	GROUNDWATER DATA	3
5.1	Field Duplicates and Blank Samples	3
5.2	Barium	4
5.3	Arsenic	5
5.4	Lead	5
5.5	Polychlorinated Biphenyls (PCBs)	5
6.0	DECOMMISSIONING OF WELL B307	6
7.0	FUTURE SAMPLING	6

LIST OF FIGURES

Figure No.	Description	Following Page
1	Water Table Configuration Groundwater Elevations (6/4/98)	1

LIST OF TABLES

Table No.	Description	Following Page
1	O&M - Groundwater Sampling Program	2
2	O&M Groundwater Sampling Program Annual Sampling - June 4, 1998	2
3	O&M Groundwater Sampling Program Annual Sampling - June 4, 1998 Reanalyses of Samples	3

TABLE OF CONTENTS (Continued)

LIST OF APPENDICES

Appendix	Description
A	Summary of Groundwater Purging/Sampling Field Parameters
B	Analytical Data Package July 4, 1998
C	Water Level Data
D	Analytical Results Reanalyses of Samples B107, MWZ, B281, B280, and MWX
E	Decommissioning of Well B307 Correspondence and Decommissioning Log

1.0 BACKGROUND

The annual performance monitoring associated with the Corrective Action Management Unit (CAMU) at the Philip Services' (formally Roth Bros. Smelting) site in East Syracuse, New York has been completed for reporting year 1998. The required groundwater sampling was conducted by Malcolm Pirnie, Inc. in accordance with the approved Operations and Maintenance (O&M) Plan and the New York State Department of Environmental Conservation's (NYSDEC) September 30, 1997 comment letter. Ten monitoring wells were sampled. The locations of the wells are shown on Figure 1.

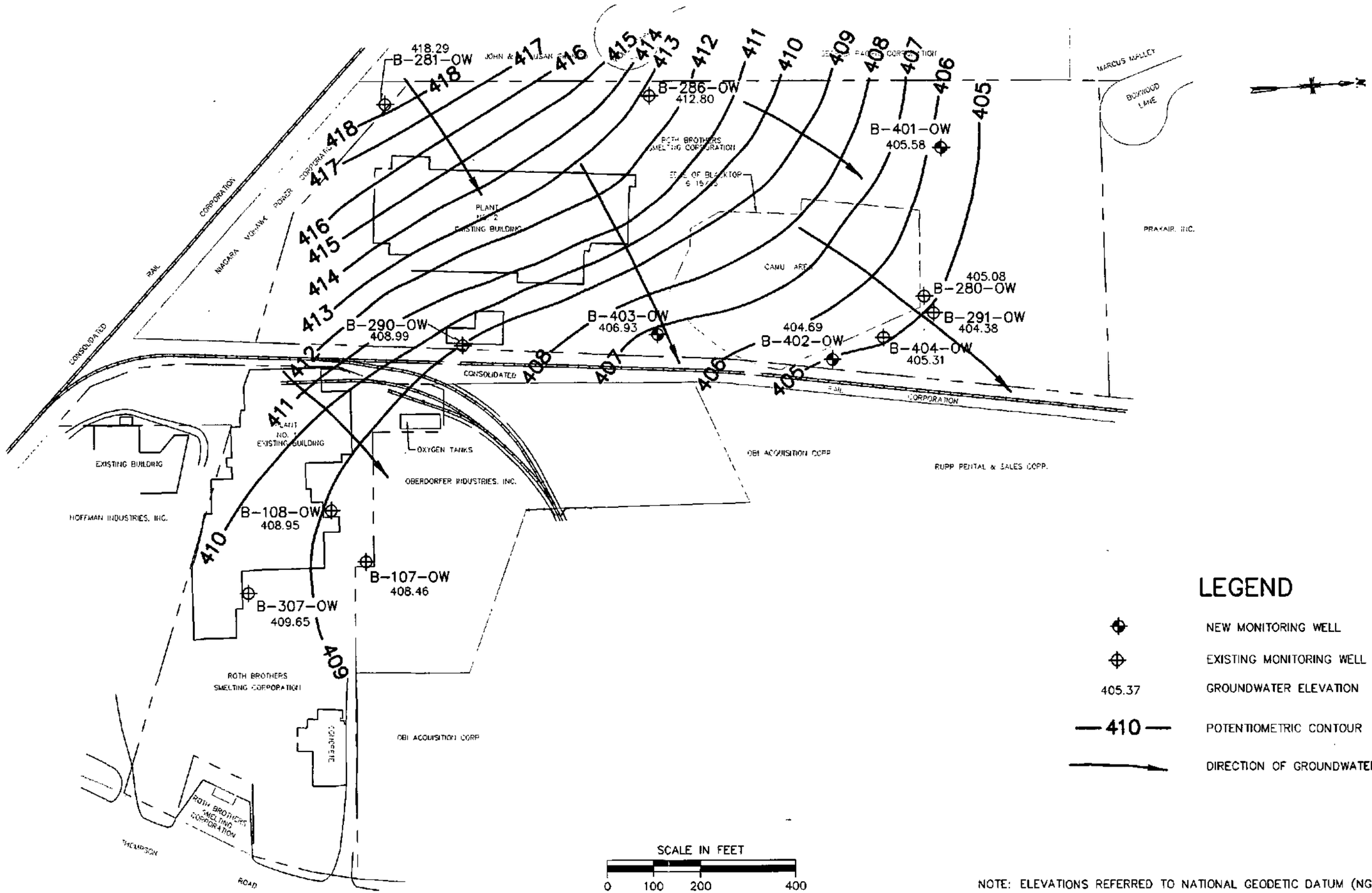
Seven monitoring wells (B280, B281, B290, B401, B402, B403, and B404) located in the vicinity of Plant #2 are included in the program. Monitoring well B281 serves as the background well. Monitoring well B404 was installed to replace well B293, which was decommissioned because it was damaged and could no longer be sampled.

Although no corrective actions were conducted in the vicinity of Plant #1, the NYSDEC requested that the Plant #1 wells (B107, B108, and B307) be sampled for total and dissolved barium. Monitoring well B307 was decommissioned in July of 1998, because it was located where a new baghouse would be constructed.

This report includes a description of the activities conducted at the site (sampling and well decommissioning), the field data collected (water levels, pH, temperature, conductivity, and turbidity measurements), groundwater flow, analytical reports, a discussion of the analytical results, and a description of the sampling that will be conducted in the future.

2.0 GROUNDWATER SAMPLING AND ANALYSIS

Sampling of the 10 site monitoring wells was conducted on June 4, 1998. 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. To remove stagnant water and ensure collection of representative samples, a minimum of three well volumes were bailed from each well prior to sampling (from those wells, that recharged quickly). Wells that recharged slowly were bailed to dryness. Measurements of



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

MALCOLM PIRNIE

PHILIP SERVICES
(FORMERLY ROTH BROS. SMELTING CORP.)
SYRACUSE, NEW YORK

WATER TABLE CONFIGURATION GROUNDWATER ELEVATIONS (6/4/98)

COPYRIGHT © 1998
MALCOLM PIRNIE, INC.

FIGURE 1
FOIL207370

Scale: 1:1 Date: 08/03/1998 Time: 09:10

pH, temperature, conductivity, and turbidity were recorded; the results of these measurements are shown in Appendix A.

Analytical testing was conducted on groundwater samples from the 10 monitoring wells. The frequency of analysis, the analytical methods used, the target quantitation limits, the sampling locations, the action limits, the number and type of quality assurance/quality control (QA/QC) samples collected and the required laboratory deliverables are shown in Table 1.

The laboratory deliverable requirements for the samples included a narrative report and items A, B, and C from Table I-1 of the NYSDEC's RCRA QAPjP Guidance Document (December 1995). Four blind duplicate samples were collected during the sampling event. Sample MWW was collected for PCB analysis from location B404. The blind duplicate, sample MWX, was collected for total and dissolved arsenic from location B280. Sample MWY was collected from location B402 for total and dissolved lead analysis, and sample MWZ was collected from well B107 for total and dissolved barium analysis. Samples B281-T, B281-D, and B280 were selected for matrix spike and matrix spike duplicate analyses.

3.0 ANALYTICAL DATA

All laboratory work was conducted by Galson Laboratories located in East Syracuse, New York. Galson is a NYSDOH ELAP laboratory that has approval to conduct the required analyses. A copy of the analytical package is provided as Appendix B. The analytical results are summarized in Table 2.

4.0 GROUNDWATER FLOW

Based on water level elevation data collected during the sampling event, groundwater flow at the site trends toward the northeast. Figure 1 depicts the configuration of the water table at the time of sampling. The water level data collected is provided as Appendix C.

TABLE 1
O&M - GROUNDWATER SAMPLING PROGRAM
PHILIP SERVICES

Sampling Frequency	Analyte	Analytical Method	Quantitation Limit ug/l	Sampling Locations	No. of Samples	Action Limit ug/l	No. and type of QA/QC Samples	Laboratory Deliverables
Annually	As - T & D	6010	4	B280, B281	2	25	1D,1FB	Narrative Report & Items A, B, & C on Table I-1 (from the NYSDEC's RCRA QAPjP Guidance Document)
	Pb - T & D	6010	2	B280, B281, B290, B401,B402; B403 & B404	7	15		
	Ba - T & D	6010	300	B107, B108, B281, & B307	4	1000		
	PCBs	8082	0.05	B280, B402, B403 & B404	4	0.1	1D	

Notes: (1) ASP CAT B deliverables will be required to be submitted to the NYSDEC every five years
(2) D=duplicate; FB=filter blank
(3) Digestion methods: ICP - 3010
(4) Well B307 was decommissioned in July of 1998. According to NYSDEC comment letter, no replacement well is necessary.

TABLE 2
PHILIP SERVICES
O&M GROUNDWATER SAMPLING PROGRAM
ANNUAL SAMPLING - JUNE 4, 1998

Analyte	Action Limit	MONITORING WELL LOCATIONS																													
		B-107		MW-Z [6]		B-108		B-280		MW-X [7]		B-281		B-290		B-307		B-401		B-402		MW-Y [8]		B-403		B-404		MW-W [9]		FB		EB	
Arsenic - Total	25	N/A		N/A		N/A		3.0	U	3.0	U	5.9	B	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		3.0	U
Arsenic - Dissolved		N/A		N/A		N/A		3.6	B	4.9	B	3.0	U	N/A		N/A		N/A		N/A		N/A		N/A		N/A		N/A		3.0	U	N/A	
Barium - Total	1000	393		378		1730		N/A		N/A		17.0	B	N/A		436		N/A		N/A		N/A		N/A		N/A		N/A		N/A		1.0	U
Barium Dissolved		500		532		1140		N/A		N/A		276		N/A		436		N/A		N/A		N/A		N/A		N/A		N/A		1.0	U	N/A	
Lead - Total	15	N/A		N/A		N/A		3.6		N/A		2.0	U	41.9		N/A		12.4		6.4		5.0		28.4		7.1		N/A		N/A		2.0	U
Lead - Dissolved		N/A		N/A		N/A		2.0	U	N/A		2.0	U	2.0	U	N/A		2.0	U	4.1		4.6		2.0	U	2.7	B	N/A		2.0	U	N/A	
PCBs	0.1																																
Aroclor - 1016		N/A		N/A		N/A		0.05	U	N/A		N/A		N/A		N/A		N/A		0.05	U	N/A		0.05	U	0.05	U	0.05	U	N/A		N/A	
Aroclor - 1221		N/A		N/A		N/A		0.05	U	N/A		N/A		N/A		N/A		N/A		0.05	U	N/A		0.05	U	0.05	U	0.05	U	N/A		N/A	
Aroclor - 1232		N/A		N/A		N/A		0.05	U	N/A		N/A		N/A		N/A		N/A		0.05	U	N/A		0.05	U	0.05	U	0.05	U	N/A		N/A	
Aroclor - 1242		N/A		N/A		N/A		0.05	U	N/A		N/A		N/A		N/A		N/A		0.05	U	N/A		0.05	U	0.05	U	0.05	U	N/A		N/A	
Aroclor - 1248		N/A		N/A		N/A		0.05	U	N/A		N/A		N/A		N/A		N/A		0.05	U	N/A		0.05	U	0.05	U	0.05	U	N/A		N/A	
Aroclor - 1254		N/A		N/A		N/A		0.05	U	N/A		N/A		N/A		N/A		N/A		0.05	U	N/A		0.05	U	0.05	U	0.05	U	N/A		N/A	
Aroclor - 1260		N/A		N/A		N/A		0.05	U	N/A		N/A		N/A		N/A		N/A		0.05	U	N/A		0.05	U	0.05	U	0.05	U	N/A		N/A	

Notes:

1. All results are expressed as ug/l (ppb).
2. N/A - not analyzed (analysis not required).
3. Shaded data indicates results above the action level.
4. B - Qualifier indicating that the reported value was obtained from a reading that was less than the Contract. Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
5. U - Qualifier indicating that the analyte was analyzed for but not detected.
6. MW-Z - Duplicate sample of monitoring well B-107 (for barium).
7. MW-X - Duplicate sample of monitoring well B-280 (for arsenic).
8. MW-Y - Duplicate sample of monitoring well B-402 (for lead).
9. MW-W - Duplicate sample of monitoring well B-404 (for PCBs).
10. Analytical data package shows data for both total and dissolved samples that were submitted to the laboratory (e.g., B-107T and B-107D correspond respectively to the total and dissolved samples for monitoring well B-107).
11. EB and FB correspond to the equipment blank and filter blank, respectively, for the samples submitted on June 4, 1998.

5.0 GROUNDWATER DATA

The analytical results have been tabulated and are shown in Table 2. The results that are above the action levels are shaded in the data tables.

5.1 Field Duplicates and Blank Samples

Field duplicate samples that were collected showed good correlation for all constituents. Although there is a good correlation between the blind duplicate samples and the well samples, the analyses of two duplicate samples (sample I.D. MWZ and MWX) and the corresponding well samples (B107 and B280) showed total metals concentrations to be less than the dissolved metals concentration. The concentration of total barium for the blind duplicate sample (MWZ-T) was reported at 378 ug/l and the concentration of total barium for sample B107-T was reported at 393 ug/l. The dissolved barium concentrations for MWZ-D and B107-D were reported at 532 and 500 ug/l, respectively. The same type of results was reported for the samples collected for arsenic analysis. The blind duplicate sample, MWX-D, and sample B280-D both showed dissolved arsenic at concentrations higher than the total (4.9 ug/l and 3.6 ug/l, respectively). These levels are slightly higher than the instrument detection limit. The corresponding total arsenic samples (MWX-T and B280-T) both showed arsenic as not detected at the given quantitation limit.

Since the total can not be less than the dissolved quantity, we requested that the laboratory reanalyze the samples. The results of the reanalyses are shown in Table 3. (The analytical report for these data are included as Appendix D). The results of the reanalyses of MWZ and B107 were consistent with the original analyses. The results of the reanalyses of MWX and B280 showed total arsenic to be 4.3 ug/l and dissolved arsenic to be not detected at the given quantitation limit. The total and dissolved arsenic levels for sample MWX showed arsenic to be not detected at the given quantitation limit. The low levels (non-detectable levels) of arsenic are consistent with the data collected for these locations in 1997.

The reason for the dissolved quantity being higher than the total concentration is not known. Two scenarios, mislabeling of the bottles and leaching of the filters were considered. The possibility of mislabeling the samples (placing the filtered sample in the total bottle and

TABLE 3
PHILIP SERVICES
REANALYSIS OF SAMPLES
O&M SAMPLING PROGRAM
ANNUAL SAMPLING - JUNE 4, 1998

Analyte	Sample I.D.				
	B-107	MW-Z [3]	B-281	B-280	MW-X [4]
Arsenic - Total	N/A	N/A	N/A	4.3	<3
Arsenic - Dissolved	N/A	N/A	N/A	<3	<3
Barium - Total	390	370	16	N/A	N/A
Barium - Dissolved	490	530	150	N/A	N/A

Notes:
1. All results are expressed as ug/l (ppb).
2. N/A - Not analyzed (analysis not requested).
3. MW-Z - Duplicate sample of monitoring well B-107.
4. MW-X - Duplicate sample of monitoring well B-280.

the unfiltered sample in the dissolved bottle) was discussed with the sampling team and was eliminated as a possibility. The sampling team specifically remembered placing the samples in the appropriately labeled sample jars. This was further supported by the information provided by the laboratory stating that the bottles submitted for total analysis had some sediment in them and the bottles submitted for dissolved analysis were clear.

Two disposable filter systems (Costar and Enviroline) were utilized to filter groundwater samples. One of the duplicate samples in question (MWZ) was filtered with an Enviroline filter apparatus and the other duplicate sample in question (MWX) was filtered using a Costar filter apparatus. A filter blank (sample I.D. FB060498), was collected from the Costar filter apparatus utilizing analyte-free water provided by the laboratory. The results showed levels of all metal analytes as below the quantitation limit. In addition, the equipment blank sample showed all analytes as below the quantitation level.

Although a filter blank was not collected from the Enviroline apparatus during this round of sampling, samples collected during the 1997 sampling event using an Enviroline filter apparatus showed elevated levels of barium and arsenic.

It is suspected that barium and/or arsenic may have leached from the filters. The manufacturers were contacted and they do not have any barium or arsenic data for their filters. We have requested that the manufacturers provide us with samples of the filters and we will have these samples analyzed for total barium and total arsenic. Once the results of these analyses are received, we will forward them to the NYSDEC under separate cover.

5.2 Barium

Plant #1 monitoring wells (B107, B108, and B307) and the background well (B281) were sampled and analyzed for both total and dissolved barium. The data reported showed good correlation with previous sampling events. All results except those for the sample collected from monitoring well B108 showed concentrations below the action limit (1,000 ug/l). Both the filtered and unfiltered sample from this well showed levels of barium above the action level. This is consistent with the levels detected during the 1997 sampling events. The analytical data for the monitoring well located downgradient from this location

and near the property line (B107) show concentrations below the action limit. As discussed in the field duplicate section, the samples collected from well B107 showed levels of dissolved barium at concentrations higher than the total. In addition, the background well also showed concentrations of barium at levels higher than the total concentration reported. We are unsure of the cause for this. We suspect that the filters may have leached barium, and are awaiting analysis of filters obtained from each manufacturer.

5.3 Arsenic

Monitoring well B280 and background well B281 were sampled and analyzed for total and dissolved arsenic analysis. Low concentrations, less than 5.9 ug/l (which is below the action level of 25 ug/l) were reported by the laboratory for these samples. Again, as was the case with the barium samples there were two samples that were collected and analyzed that showed dissolved arsenic concentrations higher than the corresponding total arsenic concentrations. We suspect that the cause was leaching of arsenic from the filtering apparatus.

5.4 Lead

Monitoring wells B280, B290, B401, B402, B403, and B404 were sampled and analyzed for total and dissolved lead during the annual sampling event. With two exceptions, all lead levels were reported at concentrations below the action level of 15 ug/l. The laboratory reported total lead in the samples collected from B290 at 41.9 ug/l and from well B403 at 28.4 ug/l. Since lead was not detected in the corresponding filtered samples, these data indicated that the lead detected in the unfiltered sample is due to sediment entrained in the sample. These levels are fairly consistent with data collected during 1997.

5.5 Polychlorinated Biphenlys (PCBs)

Monitoring wells B280, B402, B403, and B404 were sampled and analyzed for PCBs using USEPA Method 8082 (the method used changed from method 8080 to 8082 per

SW-846 Update III). The results of the analyses showed all Aroclors as not detected at the given quantitation limit.

6.0 DECOMMISSIONING OF WELL B307

As discussed in the background section, Philip Services requested permission from the NYSDEC to decommission well B307. The well was decommissioned on July 22, 1998 in accordance with the procedures described in O&M Plan. The well decommissioning log and all correspondence regarding the decommissioning of this well is provided in Appendix E.

7.0 FUTURE SAMPLING

In accordance with the O&M Plan, the sampling program shown in Table 1 will be conducted annually. Based on review of the analytical data, it is recommended that the Plant #1 wells (B107 and B108) continue to be sampled annually for total and dissolved barium. In the future, one filter blank will be collected for each type of filter utilized during that specific sampling event.

APPENDIX A

Summary of Groundwater Purging/Sampling Field Parameters

Philip Services
(formerly Roth Bros. Smelting Corp.)

Summary of Groundwater Purging/Sampling Field Parameters
June 1998

Date	Time	BOW	DTW	Gallons	Temperature	Specific Conductance	pH (s.u.)	Turbidity (NTU)	Observations
B107-OW									
6/4/98	12:06	8.77	1.98	0	13.2 °C	0.950 (mS/cm)	7.30	42	*Samples collected for total barium (B107-T) and dissolved*
6/4/98	12:10	NM	NM	1	12.8	0.990	7.35	165	*barium (B107-D); dissolved sample collected using Enviroline*
6/4/98	12:12	NM	NM	2	12.2	1.020	7.38	106	*in-line filter. Duplicate samples collected for total and dissolved*
6/4/98	12:15	NM	NM	3	12.0	1.020	7.38	136	*barium (MW-Z-T and MW-Z-D).*
6/4/98	12:17	NM	NM	4	12.0	1.020	7.40	85	
6/4/98	18:10	NM	NM	Sample	13.2	1.020	6.81	23	Collect samples B107-T, B107-D, MW-Z-T and MW-Z-D.
B108-OW									
6/4/98	12:30	9.35	2.95	0	14.4 °C	2.580 (mS/cm)	6.61	40	
6/4/98	12:32	NM	NM	1	14.2	2.640	6.92	>999	*Samples collected for total barium (B108-T) and dissolved*
6/4/98	12:34	NM	NM	2	13.9	2.620	6.93	608	*barium (B108-D); dissolved sample collected using Enviroline in-*
6/4/98	12:36	NM	NM	3	13.9	2.610	6.96	410	*line filter.*
6/4/98	12:39	NM	NM	4	13.4	2.600	6.97	216	
6/4/98	18:50	NM	3.11	Sample	14.7	2.660	6.70	290	Collect samples B108-T and B108-D.
B307-OW									
6/4/98	11:42	12.20	3.05	0	12.4 °C	2.480 (mS/cm)	6.98	108	
6/4/98	11:45	NM	NM	1	11.9	1.840	7.12	894	*Samples collected for total barium (B307-T) and dissolved*
6/4/98	11:48	NM	NM	2	11.5	1.880	7.16	561	*barium (B307-D); dissolved sample collected using Costar filter*
6/4/98	11:52	NM	NM	3	11.5	1.880	7.18	466	*apparatus.*
6/4/98	11:54	NM	NM	4	11.4	1.930	7.15	370	
6/4/98	17:50	NM	3.16	Sample	12.9	1.810	7.33	>100	Collect samples B307-T and B307-D.

FOIL 207380

Philip Services
(formerly Roth Bros. Smelting Corp.)

Summary of Groundwater Purging/Sampling Field Parameters
June 1998

Date	Time	BOW	DTW	Gallons	Temperature	Specific Conductance	pH (s.u.)	Turbidity (NTU)	Observations
					B280-OW				
6/4/98	9:35	12.60	4.92	0	11.6 °C	0.786 (mS/cm)	6.80	201	*Samples collected for PCBs (B-280), total lead and arsenic (B280-T), dissolved lead and arsenic (B280-D); dissolved sample collected using Costar filter apparatus; duplicate samples collected for total (MW-X-T) and dissolved (MW-X-D) arsenic.*
6/4/98	9:40	NM	NM	1	10.7	0.780	6.90	>999	
6/4/98	9:45	NM	11.90	2	10.5	1.040	7.00	>999	Well "dry" after purging two volumes.
6/4/98	15:55	NM	5.45	Sample	11.2	0.801	7.06	295	Collect samples B-280, B280-T, B280-D, MW-X-T and MW-X-D.
					B281-OW				
6/4/98	12:56	13.05	4.93	0	14.2 °C	3.180 (mS/cm)	6.90	475	*Samples collected for total lead, arsenic & barium (B281-T) and dissolved lead, arsenic & barium (B281-D); dissolved sample collected using Costar filter apparatus.*
6/4/98	12:59	NM	NM	1	12.6	3.170	6.92	>999	
6/4/98	13:02	NM	12.55	2	11.5	3.170	6.95	>999	Well "dry" after purging two volumes.
6/4/98	18:50	NM	5.08	Sample	13.6	2.690	6.53	134	Collect samples B281-T and B281-D.
					B290-OW				
6/4/98	11:13	10.35	5.50	0	16.8 °C	2.590 (mS/cm)	6.87	565	
6/4/98	11:16	NM	NM	1	16.6	2.360	6.97	430	
6/4/98	11:18	NM	NM	2	16.6	2.120	7.02	528	*Samples collected for total lead (B290-T) and dissolved (B290-D); dissolved sample collected using Enviroline in-line filter.*
6/4/98	11:21	NM	NM	3	16.7	1.910	7.04	250	
6/4/98	11:23	NM	NM	4	16.7	1.850	7.08	400	
6/4/98	11:26	NM	NM	5	17.0	1.810	7.09	552	
6/4/98	17:30	NM	NM	Sample	15.9	2.180	6.94	38	Collect samples B290-T and B290-T.
					B401-OW				
6/4/98	10:30	12.25	4.71	0	13.5 °C	3.750 (mS/cm)	8.61	9	*Samples collected for PCBs (B-401), total lead (B401-T) and dissolved lead (B401-D); dissolved sample collected using Costar filter apparatus.*
6/4/98									
6/4/98									
6/4/98	10:30	NM	11.78	1	13.9	3.870	8.71	767	Well "dry" after purging one volume.
6/4/98	10:30	NM	4.78	Sample	13.8	3.930	8.80	236	Collect samples B-401, B401-T, B401-D.

Philip Services
(formerly Roth Bros. Smelting Corp.)

Summary of Groundwater Purging/Sampling Field Parameters
June 1998

Date	Time	BOW	DTW	Gallons	Temperature	Specific Conductance	pH (s.u.)	Turbidity (NTU)	Observations
B402-OW									
6/4/98	10:30	12.25	4.71	0	13.5 °C	3.750 (mS/cm)	8.61	9	*Samples collected for PCBs (B-402), total lead (B402-T) and dissolved lead (B402-D); dissolved sample collected using Enviro-line filter; duplicate sample collected for total (MW-Y-T) and dissolved (MW-Y-D) lead.*
6/4/98	10:30	NM	11.78	1	13.9	3.870	8.71	767	Well "dry" after purging one volume.
6/4/98	10:30	NM	4.78	Sample	13.8	3.930	8.80	236	Collect samples B-402, B402-T, B402-D, MW-Y-T and MW-Y-D.
B403-OW									
6/4/98	10:45	11.33	4.12	0	12.1 °C	1.080 (mS/cm)	7.35	380	*Samples collected for PCBs (B-403), total lead (B403-T) and dissolved lead (B403-D); dissolved sample collected using Enviro-line filter.*
6/4/98	10:50	NM	NM	1	12.7	1.120	7.25	>999	
6/4/98	10:52	NM	NM	2	12.6	1.140	7.23	830	
6/4/98	10:55	NM	NM	3	12.7	1.180	7.25	>999	
6/4/98	17:10	NM	4.13	Sample	14.0	1.280	7.21	290	Collect samples B-403, B403-T and B403-D.
B404-OW									
6/4/98	9:58	16.20	5.42	0	11.0 °C	2.080 (mS/cm)	10.29	12	
6/4/98	10:02	NM	NM	1	12.9	2.210	10.20	140	*Samples collected for PCBs (B-404), total lead (B404-T) and dissolved lead (B404-D); dissolved sample collected using Costar filter apparatus; duplicate sample collected for PCBs (MW-W).*
6/4/98	10:05	NM	NM	2	13.0	2.280	10.38	82	
6/4/98	10:10	NM	NM	3	12.4	2.250	10.32	85	
6/4/98	10:15	NM	NM	4	11.7	2.100	10.15	70	
6/4/98	16:15	NM	5.63	Sample	14.3	2.380	10.55	43	Collect samples B-404, B404-T, B404-D, MW-W.

Notes: BOW = Bottom of Well, feet below top of PVC well riser pipe.
DTW = Depth to Water, feet below top of PVC well riser pipe.
s.u. = Standard Units.
NTU = Nephelometric Turbidity Unit
NM = Not Measured.

Weather Conditions: 5/8/1997 - Hazy sun to cloudy, 52-60°F, high humidity, winds WNW 0-5 mph.
8/7/1997 - Sunny, 75-85°F, low humidity, winds NNW 0-5 mph.
6/4/1998 - Mostly sunny, 72-78°F, high humidity, winds NNW 0-10 mph.

APPENDIX B

Analytical Data Package
July 4, 1998

Malcolm Pirnie, Incorporated
Project: Roth Brothers Smelting

SDG: L43491
Login: L43491

Summary Data Package
for samples collected
June 4, 1998

Data package sent to:

Ms. Marcia Cornell
Malcolm Pirnie, Incorporated
1342 Sky High Road
Tully, NY 13159

Galson Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057-0369
Phone: (315) 432-5227
Fax: (315) 437-0571
www.galsonlabs.com

Ms. Marcia Cornell
Malcolm Pirnie Inc.
1342 Sky High Road
Tully, NY 13159

RE: Roth Bros. Smelting Corp.; Project No. 1084-088
SDG L43491

The following package contains the analytical results of the water samples submitted to our laboratory on June 4, 1998. The samples were received intact and under proper chain of custody. Six samples submitted for metals analysis were received at a pH greater than 2. 1:1 nitric acid was added to each sample until a pH of less than 2 was obtained. See sample pH record in front end of data summary and inorganic data package. The samples were assigned to login and sample delivery group (SDG) L43491.

All samples were reported according to Components Required for RCRA Analytical Data Submitted to NYSDEC as described in Table I-1, A, B and C. The report contents and all relevant circumstances are summarized in the package review checklists. Samples B281-T, B281-D and B-280 were selected for matrix spike and matrix spike duplicate analyses. The samples were analyzed by SW846 methods 8082 for PCBs, and 6010 for total and dissolved arsenic, barium and lead.

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 condition detailed in the *package review checklists*. Release of the data contained in this hardcopy data package has been authorized by the laboratory manager or manager's designee, as verified by the following signature.

Galson Laboratories

Date: June 25, 1998

Galson Laboratories

Table of Contents -- Summary Data Package

Malcolm Pirnie, Inc.
Project: Roth Brothers Smelting

SDG: L43491
Login: L43491

Letter 1

Checklist(s) 2

NYS DEC Summary Forms 7

Client Chain of Custody Forms 13

Sample Login Sheet(s) 16

Internal Chain of Custody Forms 17

Reporting Qualifier 25

Sample Results 27

Surrogate Spike Results 60

Blank Spike/Laboratory Control Sample Results 61

Duplicate Sample Results 63

Spiked Sample Results 65

Blank Data 67

Instrument Detection Limits 71

Total Paginated Pages in Package 72

Method 8082 PCB Package Review Checklist

Client MALCOLM PIRNIE **Project** BOTH BEDS. **SDG** 143491

		Yes	No	NA
DEC Forms:	Present and complete	✓		
	Holding times met	✓		

Comments: _____

Internal Chain of Custody: Present		✓		
Form 1D:	Present and complete	✓		
	Raw Data present for all samples			✓
	Non-detects lined-out and initialed			✓

Comments: _____

Form 2E:	Present and complete	✓		
	Surrogate Recoveries within limits	✓		

Comments: _____

Form 3E:	Present and complete	✓		
	Spike Recoveries within limits	✓		

Comments: _____

Method 8082 PCB Package Review Checklist

Client MALCOLM PIRNIE **Project** ROTH BROS **SDG** 443491

		Yes	No	NA
Form 4C:	Present and complete	✓		
MDLs/IDLs:	Present and complete	✓		
GC Parameters:	Present and complete			✓
Form 6E:	Present and complete			✓
	% RSD within limits (± 20 %)	✓		

Comments: _____

Form 7:	Present and complete			✓
	% D Within limits (± 15%)	✓		

Comments: _____

Form 8:	Present and complete			✓
	% D within limits			✓
Form 9:	Present and complete			✓
	% D within limits (± 15%)	✓		

Comments: _____

Calibration Data:	Present and complete			✓

Method 8082 PCB Package Review Checklist

Client MALCOLM PIRNIE **Project** BOTH BRDS **SDG** L43491

	Yes	No	NA
Form 1D, Method Blanks, MS/MSD, MSB:			
Present and complete	✓		
Raw Data present			✓
Non-detects lined-out and initialed			✓
Method Blank(s) results < MDL	✓		
If no, associated results flagged "B"			✓

Comment: _____

Calculation Formula:	Present			✓
Extraction Logs:	Present			✓
GPC/Calibration Logs:	Present			✓
% Moisture Calculation:	Present			✓
Calibration and Spike Standards Log:	Present			✓

Section Supervisor: Ommen V. Kappil Date: 6/23/98

QC Reviewer: Lynda W. Moore Date: 6/25/98

INORGANIC PACKAGE REVIEW CHECKLIST

CLIENT Malcolm Pirnie PROJECT Roth Bros. SDG U13491

	YES	NO	NA
DEC FORMS: PRESENT AND COMPLETE	X		
HOLD TIMES MET	X		
COMMENTS:			
COVER PAGE: PRESENT AND COMPLETE	X		
METALS CHAIN OF CUSTODY PRESENT	X		
FORM 1: PRESENT AND COMPLETE	X		
COMMENTS:			
FORM 2: PRESENT AND COMPLETE	X		
ICV/CCV RECOVERIES WITHIN LIMITS	X		
COMMENTS:			
FORM 2B: PRESENT AND COMPLETE	X		
RECOVERIES WITHIN 80-120%	X		
Not required for Al, Ba, Ca, Fe, Mg, Na, K			
COMMENTS:			
FORM 3: PRESENT AND COMPLETE	X		
ICB/CCBs LESS THAN CRDL	X		
ALL PBs PRESENT AND <CRDL	X		
COMMENTS:			
FORM 4: PRESENT AND COMPLETE	X		
RECOVERIES WITHIN 80-120%	X		
Not required for Ca, Mg, K and Na			
COMMENTS:			
FORM 5: PRESENT AND COMPLETE	X		
IF SR<4XSA, RECOVERIES WITHIN 75-125%	X		
Not required for Ca, Mg, K and Na for all matrices, and Al, Fe for soils.			
IF NO, POST SPIKES PERFORMED			X
ASSOCIATED RESULTS FLAGGED "N"			X
COMMENTS:			

/u/pkgrv/inorgrvw

INORGANIC PACKAGE REVIEW CHECKLIST

CLIENT Malcolm Pirnie PROJECT Roth Bros. SDG L43491

	YES	NO	NA
FORM 6: PRESENT AND COMPLETE	X		
IF CRDL < SR < 5XCRDL, |SR-DR| < CRDL	X		
IF SR > 5XCRDL, RPD <20%	X		
IF NO, ASSOCIATED RESULTS FLAGGED "*"			X
COMMENTS:			
FORM 7: PRESENT AND COMPLETE	X		
RECOVERIES WITHIN 80-120% FOR WATER	X		
RECOVERIES WITHIN LIMITS FOR SOILS			X
COMMENTS:			
FORM 9: PRESENT AND COMPLETE	X		
IF SR > 50X IDL; %D < 10%	X		
IF NO, ASSOCIATED RESULTS FLAGGED "E"			X
COMMENTS:			
FORM 10: PRESENT AND COMPLETE	X		
FORM 11: PRESENT AND COMPLETE	X		
FORM 12: PRESENT AND COMPLETE	X		
FORM 13: PRESENT AND COMPLETE	X		
COMMENTS:			
FORM 14: PRESENT AND COMPLETE	X		
COMMENTS:			
RAW DATA: PRESENT FOR ALL SAMPLES	X		
CALIBRATION STANDARDS LOG: PRESENT	X		
PERCENT MOISTURE CALCULATION: PRESENT			X

SECTION SUPERVISOR: Karen S. Becker DATE: 6-18-98

QC REVIEWER: [illegible signature] DATE: 6/18/98

/u/pkqrw/inorqrvw

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

LOGIN : L43491 SDG : L43491 MATRIX : Water

Client Sample Code	Laboratory Sample Code	If CLP, Indicate year of protocol 1991														
		VOA	MS BNA	Pest/ PCB'S	Organophos Pesticides	Chlor. Herb.	T. Dithio-Carbametes Pest.	Methyl-Carbamates	Organics List #	ETU	Karb.	CN-Total	CN-Amen.	Metals List #	Diss. Metals List #	Wet Chem. List #
B107-T	L43491-1													1		
B107-D	L43491-2													1		
B108-T	L43491-3													1		
B108-D	L43491-4													1		
B307-T	L43491-5													1		
B307-D	L43491-6													1		
B404-T	L43491-7													2		
B404-D	L43491-8													2		
B290-T	L43491-9													2		
B290-D	L43491-10													2		
B403-T	L43491-11													2		
B403-D	L43491-12													2		
B280-T	L43491-13													,AS,PB		
B280-D	L43491-14													,AS,PB		
B402-T	L43491-15													2		
B402-D	L43491-16													2		
B281-T	L43491-17													,AS,BA,P		
B281-T MS	L43491-18													,AS,BA,P		
B281-T MSD	L43491-19													,AS,BA,P		
B281-D	L43491-20													,AS,BA,P		
B401-T	L43491-21													2		
B401-D	L43491-22													2		
MW-X-T	L43491-23													,AS		
MW-X-D	L43491-24													,AS		
MW-Z-T	L43491-25													1		
MW-Z-D	L43491-26													1		
MW-Y-T	L43491-27													2		
MW-Y-D	L43491-28													2		
FB060498-T	L43491-29													,AS,BA,P		
FB060498-D	L43491-30													,AS,BA,P		

METALS LIST 1 : BA
METALS LIST 2 : PB

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

LOGIN : L43491 SDG : L43491 MATRIX : Water

Client Sample Code	Laboratory Sample Code	If CLP, Indicate year of protocol 1991														
		VOA	MS BNA	Pest/ PCB'S	Organophos Pesticides	Chlor. Herb.	T. Dithio. Carbametes Pest.	Methyl- Carbamates	Organics List #	ETU	Karb.	CN- Total	CN- Amen.	Metals List #	Diss. Metals List #	Wet Chem. List #
B-280	L43491-31			X												
B-280MS	L43491-32			X												
B-280MSD	L43491-33			X												
B-403	L43491-34			X												
B-404	L43491-35			X												
B-402	L43491-36			X												
MW-W	L43491-37			X												
MSB	L43491-38			X												
LCS	L43491-39													1		

METALS LIST 1 : AS,BA,PB

FOIL207393

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY - Pesticide

Sample ID	Matrix	Date Collected	Date Rec at Lab	Date Extracted	Date Analyzed
B-280 L43491-31	WATER	04-JUN-98	04-JUN-98	09-JUN-98	11-JUN-98
B-402 L43491-36	WATER	04-JUN-98	04-JUN-98	09-JUN-98	11-JUN-98
B-403 L43491-34	WATER	04-JUN-98	04-JUN-98	09-JUN-98	11-JUN-98
B-404 L43491-35	WATER	04-JUN-98	04-JUN-98	09-JUN-98	11-JUN-98
MW-W L43491-37	WATER	04-JUN-98	04-JUN-98	09-JUN-98	11-JUN-98

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY - Pesticide

Sample ID	Matrix	Analytical Protocol	Extraction Method	Auxilary Clean up	Dil/Conc Factor
B-280 L43491-31	Water	NYSDEC ASP CLP B	SW846/3510 /8082	FLORISIL	1
B-402 L43491-36	Water		SW846/3510 /8082		1
B-403 L43491-34	Water		SW846/3510 /8082		1
B-404 L43491-35	Water		SW846/3510 /8082		1
MW-W L43491-37	Water		SW846/3510 /8082		1

FOIL207395

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

SAMPLE ID	MATRIX	INORGANICS REQUESTED	DATE REC'D AT LAB	DATE ANALYZED
B107-D L43491-2	DISSOLVED WATER	Ba	06/04/98	ICP : 06/10/98
B107-T L43491-1	WATER	Ba	06/04/98	ICP : 06/10/98
B108-D L43491-4	DISSOLVED WATER	Ba	06/04/98	ICP : 06/10/98
B108-T L43491-3	WATER	Ba	06/04/98	ICP : 06/10/98
B280-D L43491-14	DISSOLVED WATER	As, Pb	06/04/98	ICP : 06/10/98
B280-T L43491-13	WATER	As, Pb	06/04/98	ICP : 06/10/98
B281-D L43491-20	DISSOLVED WATER	As, Ba, Pb	06/04/98	ICP : 06/10/98
B281-DMS L43491-20S	DISSOLVED WATER	As, Ba, Pb	06/04/98	ICP : 06/10/98
B281-DMSD L43491-20D	DISSOLVED WATER	As, Ba, Pb	06/04/98	ICP : 06/10/98
B281-T L43491-17	WATER	As, Ba, Pb	06/04/98	ICP : 06/10/98
B281-TMS L43491-18S	WATER	As, Ba, Pb	06/04/98	ICP : 06/10/98
B281-TMSD L43491-19D	WATER	As, Ba, Pb	06/04/98	ICP : 06/10/98
B290-D L43491-10	DISSOLVED WATER	Pb	06/04/98	ICP : 06/10/98
B290-T L43491-9	WATER	Pb	06/04/98	ICP : 06/10/98
B307-D L43491-6	DISSOLVED WATER	Ba	06/04/98	ICP : 06/10/98
B307-T L43491-5	WATER	Ba	06/04/98	ICP : 06/10/98
B401-D L43491-22	DISSOLVED WATER	Pb	06/04/98	ICP : 06/10/98
B401-T L43491-21	WATER	Pb	06/04/98	ICP : 06/10/98

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSIS

SAMPLE ID	MATRIX	INORGANICS REQUESTED	DATE REC'D AT LAB	DATE ANALYZED
B402-D L43491-16	DISSOLVED WATER	Pb	06/04/98	ICP : 06/10/98
B402-T L43491-15	WATER	Pb	06/04/98	ICP : 06/10/98
B403-D L43491-12	DISSOLVED WATER	Pb	06/04/98	ICP : 06/10/98
B403-T L43491-11	WATER	Pb	06/04/98	ICP : 06/10/98
B404-D L43491-8	DISSOLVED WATER	Pb	06/04/98	ICP : 06/10/98
B404-T L43491-7	WATER	Pb	06/04/98	ICP : 06/10/98
FB060498-D L43491-30	DISSOLVED WATER	As, Ba, Pb	06/04/98	ICP : 06/10/98
FB060498-T L43491-29	WATER	As, Ba, Pb	06/04/98	ICP : 06/10/98
MW-X-D L43491-24	DISSOLVED WATER	As	06/04/98	ICP : 06/10/98
MW-X-T L43491-23	WATER	As	06/04/98	ICP : 06/10/98
MW-Y-D L43491-28	DISSOLVED WATER	Pb	06/04/98	ICP : 06/10/98
MW-Y-T L43491-27	WATER	Pb	06/04/98	ICP : 06/10/98
MW-Z-D L43491-26	DISSOLVED WATER	Ba	06/04/98	ICP : 06/10/98
MW-Z-T L43491-25	WATER	Ba	06/04/98	ICP : 06/10/98

GALSON LABORATORIES
6601 Kirkville Road East
E. Syracuse, NY 13057
315-432-0506
800-950-0506

Company Name: Malcolm Pirnie Inc.

Project Name / Number: ROTH BROS. SNELTING 1084-088

Turn-Around Time
[X] - Standard Service
[ ] - * Rush Service
Date requested by:
Ph # (315) 635-4607
Fax # (315) 635-3491

Page 1 of 3

Send Report to: Malcolm Pirnie Inc.
~~PO Box 172~~
~~Baldwinsville NY 13027~~

Send Invoice to: Malcolm Pirnie Inc.
1342 Sty Hyne ~~PO Box 172~~
Tully NY 13159 ~~Baldwinsville NY 13027~~
P.O. # 1084-088

Chain of Custody Record

SAMPLE ID	Date	Time	TYPE Comp.	TYPE Grab	Aqueous	Soil	Other	Laboratory ID Number	Barium	Lead
B107-T	6/4/98	1810		X	X			Malcolm Pirnie, Incorporated L43491-1	X	X
B107-D		1810						Malcolm Pirnie, Incorporated L43491-2	X	
B108-T		1830						Malcolm Pirnie, Incorporated L43491-3 06/04/98 Water B108-T	X	X
B108-D		1830						Malcolm Pirnie, Incorporated L43491-4	X	X
B307-T		1750						Malcolm Pirnie, Incorporated L43491-5	X	X
B307-D		1750						Malcolm Pirnie, Incorporated L43491-6	X	
B404-T		1615						Malcolm Pirnie, Incorporated L43491-7		X
B404-D		1615						Malcolm Pirnie, Incorporated L43491-8		X
B290-T		1730						Malcolm Pirnie, Incorporated L43491-9		X
B290-D		1730						Malcolm Pirnie, Incorporated L43491-10		X
B403-T		1710						Malcolm Pirnie, Incorporated L43491-11 06/04/98 Water B403-T		X
B403-D		1710						Malcolm Pirnie, Incorporated L43491-12		X

PARAMETERS FOR ANALYSIS

REMARKS: Data deliverables per arrangement between Maria Cornell (MPI) and Pam Weaver (Galson)

Total Containers - 12 of 33 total

SAMPLER'S NAME: Kelley J. Roe/Matt C. Yonkin SIGNATURE: Kelley J. Roe

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: Kelley J. Roe	DATE: 6/4/98	NAME: Anne Lee	DATE: 6/4/98
SIGNATURE: Kelley J. Roe	TIME: 2000	SIGNATURE: Anne Lee	TIME: 2000
NAME:	DATE:	Received For Laboratory By: (Signature)	DATE:
SIGNATURE:	TIME:		TIME:
NAME:	DATE:	Received For Laboratory By: (Signature)	DATE:
SIGNATURE:	TIME:		TIME:

VOC Pres U P AU NA

Custody Seal Intact? [ ] Yes [ ] No [ ] N.A.
Shipment Complete? [ ] Yes [ ] No

Temp _____ °C TS TB TM

Airbill # FOIL207398

GALSON LABORATORIES
6601 Kirkville Road East
E. Syracuse, NY 13057
315-432-0506
800-950-0506

Company Name: Malcolm Pirnie Inc.

Project Name / Number: ROTH BROS. SMELTING 1084-088

Turn-Around Time
[X] - Standard Service
[ ] - * Rush Service
Date requested by:
Ph # (315) 635 4607
Fax # (315) 635-3491

Page 2 of 3

Send Report to: (See pg. 1 of 3)

Send Invoice to: (See pg. 1 of 3)

P.O. #

Chain of Custody Record

SAMPLE ID	Date	Time	TYPE Comp.	Grab	Aqueous	Soil	Other	Laboratory ID Number	Lead	Arsenic	Barium
B280-T	6/4/98	1555		X	X			Malcolm Pirnie, Incorporated L43491-13 06/04/98 Water B280-T	X	X	
B280-D		1555						Malcolm Pirnie, Incorporated L43491-14 06/04/98 Water B280-D	X	X	
B402-T		1650						Malcolm Pirnie, Incorporated L43491-15 06/04/98 Water B402-T	X		
B402-D		1650						Malcolm Pirnie, Incorporated L43491-16	X		
* B281-T		1850						Malcolm Pirnie, Incorporated L43491-17	X	X	X
B281-D		1850						Malcolm Pirnie, Incorporated L43491-20	X	X	X
B401-T		1525						Malcolm Pirnie, Incorporated L43491-21	X		
B401-D		1525						Malcolm Pirnie, Incorporated L43491-22	X		
MW-X-T		—						Malcolm Pirnie, Incorporated L43491-23		X	
MW-X-D		—						Malcolm Pirnie, Incorporated L43491-24		X	
MW-Z-T		—						Malcolm Pirnie, Incorporated L43491-25 06/04/98 Water MW-Z-T			X
MW-Z-D		—									X

L43491-18 L43491-19 L43491-26 -D

PARAMETERS FOR ANALYSIS

Total Containers: 10 of 55 total

REMARKS: Data Deliverables per discussion between Marcia Cornell (MPI) and Pam Weaver (Galson)

* B281-T selected as MS/MSD – PAW 6/5/98

SAMPLER'S NAME: Kelley J. Roe / Matt Yonkin SIGNATURE: Kelley J. Roe

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: Kelley J. Roe SIGNATURE: Kelley J. Roe	DATE: 6/4/98 TIME:	NAME: Anne Lee SIGNATURE: Anne Lee	DATE: 6/4/98 TIME: 2000
NAME: SIGNATURE:	DATE: TIME:	Received For Laboratory By: (Signature)	DATE: TIME:
NAME: SIGNATURE:	DATE: TIME:	Received For Laboratory By: (Signature)	DATE: TIME:

VOC Pres U P AU NA

Custody Seal Intact? [ ] Yes [ ] No [ ] N.A.

Shipment Complete? [ ] Yes [ ] No

Temp _____ °C TS TB TM

Airbill #

FOIL207399

14

GALSON LABORATORIES
6601 Kirkville Road East
E. Syracuse, NY 13057
315-432-0506
800-950-0506

Company Name: Malcolm Pirnie Inc

Project Name / Number: ROTH BROS. SMELTING 1084-088

Turn-Around Time: [X] - Standard Service; [ ] - * Rush Service

Date requested by:

Ph # (315) 635-4607

Fax # (315) 635-3491

Send Report to: (See pg 1 of 3)

Send Invoice to: Malcolm Pirnie Inc. (See pg 1 of 3)

P.O. #

Chain of Custody Record

PARAMETERS FOR ANALYSIS

SAMPLE ID	Date	Time	TYPE Comp.	Grab	Aqueous	Soil	Other	Laboratory ID Number	Lead	Arsenic	Barium	PCBs
MW-Y-T	6/4/98	—		X	X			Malcolm Pirnie, Incorporated L43491-27 06/04/98 Water MW-Y-T	X			
MW-Y-D		—						Malcolm Pirnie, Incorporated L43491-28 06/04/98 Water MW-Y-D	X			
FB060498-T		1575						Malcolm Pirnie, Incorporated L43491-29	X	X	X	
FB060498-D		1510						Malcolm Pirnie, Incorporated L43491-30	X	X	X	
* B-280		1555						Malcolm Pirnie, Incorporated L43491-31 L43491-32 L43491-33				X
B-403		1710						Malcolm Pirnie, Incorporated L43491-34				X
B-404		1615						Malcolm Pirnie, Incorporated L43491-35				X
B-402		1650						Malcolm Pirnie, Incorporated L43491-36				X
MW-W		—						Malcolm Pirnie, Incorporated L43491-37 06/04/98 OPTIONS MW-W				X
								Malcolm Pirnie, Incorporated L43491-38 06/04/98 OPTIONS MSB				
								Malcolm Pirnie, Incorporated L43491-39 06/04/98 OPTIONS LCS				

REMARKS: Data Deliverables per discussion between Marcia Cornell (MPI) and Pam Weaver (Galson)

* B-280 selected as MS/MSD PAW 6/5/98

Total Containers - 9 of 33 total

SAMPLER'S NAME: Kelley J. Roe / Matt C. Yonkin SIGNATURE:

SAMPLES RELINQUISHED BY:		SAMPLES RECEIVED BY:	
NAME: Kelley Roe	DATE: 6/4/98	NAME: Annette	DATE: 6/4/98
SIGNATURE:	TIME: 2000	SIGNATURE:	TIME: 2000
NAME:	DATE:	Received For Laboratory By: (Signature)	DATE:
SIGNATURE:	TIME:		TIME:
NAME:	DATE:	Received For Laboratory By: (Signature)	DATE:
SIGNATURE:	TIME:		TIME:

VOC Pres U P AU NA

Custody Seal Intact? [ ] Yes [ ] No [ ] N.A.

Shipment Complete? [ ] Yes [ ] No

Temp ____ °C TS TB TM

Airbill #

FOIL207400

Sample Log-In Sheet

Received By (Print Name) : Tim Kurr

Received By (Signature) : T. Kurr

CASE NUMBER L43491
S.D.G. NUMBER L43491
LOG-IN DATE 6/5/98

REMARKS:

1.) CUSTODY SEALS — PRESENT/ABSENT — INTACT/BROKEN

2.) CUSTODY SEAL No. — walk in

3.) C.O.C. RECORDS — PRESENT/ABSENT — N/A

4.) TRAFFIC REPTS. PACKING LIST — PRESENT/ABSENT — N/A

5.) AIRBILL — AIRBILL STICKER PRESENT/ABSENT

6.) AIRBILL # — walk in

7.) SAMPLE TAG # — LISTED/NOT LISTED

8.) SAMPLE CONDITION: — INTACT/BROKEN — LEAKING

9.) DOES THE INFORMATION AGREE? — YES/NO

10.) DATE REC'D — 6-4-98

11.) TIME REC'D — 2000

CORRESPONDING		
CLIENT ID	LAB ID	REMARKS
B107-T	L43491-1	Ba
B107-D	-2	
B108-T	-3	
B108-D	-4	
B307-T	-5	
B307-D	-6	
B404-T	-7	Pb
B404-D	-8	
B280-T	-9	
B280-D	-10	
B403-T	-11	
B403-D	-12	
B280-T	-13	Pb+As
B280-D	-14	
B402-T	-15	Pb
B402-D	-16	
B281-T	-17,18,19	Pb,As,Ba
B281-D	-20	
B401-T	-21	Pb
B401-D	-22	
MW-X-T	-23	As
MW-X-D	-24	
MW-Z-T	-25	Ba
MW-Z-D	-26	
MW-Y-T	-27	Pb
MW-Y-D	-28	
EB060498-T	-29	Pb,As,Ba
EB060498-D	-30	
B-280	-31,32,33	Pb,3
B-403	-34	
B404	-35	
B402	-36	
MW-V	-37	

Internal Chain of Custody Receipt and Termination Form

Client : Malcolm Prince
Job # :
Task : L43491
VTSR : 6-4-96/2120 (Date/Time)**

Cover Page 1 of 2
Final Report Date :
Disposal Holding Interval : ***
Request #:

Q: D:

Sample #	Client Id	Matrix #	pH	# Contr's Received	Storage Area	Analytes Circle Requests	Hazard Level	Containers Taken / Retn
-1	B107-T	H2O	<2	1	M-4-2	Ba		/
-2	B108-D							/
-3	B108-T							/
-4	B108-D							/
-5	B307-T							/
-6	B307-D					↓		/
-7	B404-T		*			Pb		/
-8	B404-D		*					/
-9	B240-T							/
-10	B240-D							/
-11	B403-T							/
-12	B403-D					↓		/
-13	B280-T					Pb; As		/
-14	B280-D					↓		/
-15	B402-T		*			Pb		/
-16	B402-D		*			↓		/
-17,18/19	B281-T					Pb, As, Ba		/
-20	B281-D					↓		/
-21	B401-T					Pb		/
-22	B401-D					↓		/
-23	MW-X-T					As		/
-24	MW-X-D					↓		/
-25	MW-Z-T					Ba		/
-26	MW-Z-D					↓		/
-27	MW-Y-T		*			Pb		/
-28	MW-Y-D		*			↓		/
-29	EB060498-T	↓	↓	↓	↓	Pb, As, Ba		/

Total # of Containers For Task: 33

Sample Receipt/Breakdown By: [signature] (Sig) 6-4-96/2000 (Date/Time)
Sample Storage By: [signature] (Sig) 6-5-96/1300 (Date/Time)
Sample Disposal By: (Sig) (Date/Time)

Total # Cntr's Taken

Disposal Comments:

* - pH adjustment was required, see attached sheet.
** - VTSR = Validated Time of Sample Receipt
*** - The period of time after final report for which the contract requires the lab tomaintain custody of the samples in question.
NR = Entire sample used: none to return.

Total # Cntr's Ret

Released To: (Sig) Released By : (Sig) (Date/Time)
Returned By: (Sig) Returned To : (Sig) (Date/Time)

Internal Chain of Custody Receipt and Termination Form

Client : Malcom Pirnie
Job # :
Task : L43491
VTSR : 6-4-98/2000 (Date/Time)**

Cover Page 2 of 2
Final Report Date :
Disposal Holding Interval : ***
Request #:

Q: D:

Sample #	Client Id	Matrix #	pH	# Contr's Received	Storage Area	Analytes Circle Requests	Hazard Level	Containers Taken / Retn
-30	FB060498D	H2o	<2	1	M4-02	Pb, As, Da		/
-31,32,33	#B-280	↓	↓	↓	I-4	PCB		/
34	B-403				↓	↓		/
35	B04B404							/
36	B402							/
37	MW-W	↓	↓	↓	↓	↓		/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/

(14)

Total # of Containers For Task: 33 6-5-98/800
Sample Receipt/Breakdown By: [signature] (Sig) 6-4-98 (Date/Time)
Sample Storage By: [signature] (Sig) 6-5-98/1300 (Date/Time)
Sample Disposal By: ________ (Sig) ________ (Date/Time)
Disposal Comments:

Total # Cntr's Taken

* - pH adjustment was required, see attached sheet.
** - VTSR = Validated Time of Sample Receipt
*** - The period of time after final report for which the contract requires the lab tomaintain custody of the samples in question.
NR = Entire sample used: none to return.

Total # Cntr's Ret.

Released To: ________ (Sig) Released By : ________ (Sig) ________ (Date/Time)
Returned By: ________ (Sig) Returned To : ________ (Sig) ________ (Date/Time)

FDIL207403

PRESERVED SAMPLE pH RECORD

CLIENT : Malcolm Pirnie

TASK : L43491

VTSR : 6-4-99/2000

JOB # :

MEASURED BY : TL

COMMENTS :

LOGIN NUMBER	CLIENT ID	ANALYSIS (ES)	INITIAL pH	ACID ADDED		FINAL pH
				TYPE / CONC	ML	
L43491-7	B404-T	Pb	7	HNO_3 / 1:1	1	<2
-8	B404-D		4		.5	
-15	B402-T		7		1.5	
-16	B402-D				1.5	
-27	MW-Y-T				1.0	
-28	MW-Y-D				1.5	

Client: Contact:

Date/Initials:

Comments/Corrective Action:

VTSR - VALIDATED TIME OF SAMPLE RECEIPT

FOIL207404

Internal Chain of Custody Receipt and Termination Form

Client : Malcom Prince
Job # :
Task : 143491
VTSR : 6-4-98/2000 (Date/Time)**

Cover Page 2 of 2
Final Report Date :
Disposal Holding Interval : ***
Request #: 1

Q: D:

Sample #	Client Id	Matrix #	pH	# Contr's Received	Storage Area	Analytes Circle Requests	Hazard Level	Containers Taken / Retn
-30	FB060498D	H2O	<2	1	MW-02	Pb, As, Ba		01 / 01
-31,32,33	PB-280				I-4	PCB		/
34	B-403							/
35	B04B404							/
36	B402							/
37	MW-W							/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/

Total # of Containers For Task: 33

Sample Receipt/Breakdown By: [signature] (Sig) 6-5-98/800 (Date/Time)
Sample Storage By: [signature] (Sig) 6-5-98/1300 (Date/Time)
Sample Disposal By: (Sig) (Date/Time)

Total # Cntr's Taken 01

Disposal Comments:

* - pH adjustment was required, see attached sheet.
** - VTSR = Validated Time of Sample Receipt.
*** - The period of time after final report for which the contract requires the lab tomaintain custody of the samples in question.
NR = Entire sample used: none to return.

Total # Cntr's Ret. 01

Released To: [signature] (Sig) Released By: [signature] (Sig) 6/5/98 1040 (Date/Time)
Returned By: [signature] (Sig) Returned To: [signature] (Sig) 6/11/98 (Date/Time) 11:35

20

Internal Chain of Custody Receipt and Termination Form

Client : Malcolm Prince
Job # :
Task : L43491
VTSR : 6-4-98 / 2000 (Date/Time)**

Cover Page 1 of 2
Final Report Date :
Disposal Holding Interval : ***
Request #: 2

Q: D:

Sample #	Client Id	Matrix #	pH	# Contr's Received	Storage Area	Analytes Circle Requests	Hazard Level	Containers Taken / Retn
-1	B107-T	H2O	<2	1	M-4-2	Ba		(1) / (1)
-2	B108-D							/
-3	B108-T							/
-4	B108-D							/
-5	B307-T							/
-6	B307-D					↓		/
-7	B404-T		*			Pb		/
-8	B404-D		*					/
-9	B240-T							/
-10	B240-D							/
-11	B403-T							/
-12	B403-D					↓		/
-13	B280-T					Pb; As		/
-14	B280-D					↓		/
-15	B402-T		*			Pb		/
-16	B402-D		*			b		/
-17,18,19	B281-T					Pb, As, Ba		/
-20	B281-D					↓		/
-21	B401-T					Pb		/
-22	B401-D					↓		/
-23	MW-X-T					As		/
-24	MW-X-D					↓		/
-25	MW-Z-T					Ba		/
-26	MW-Z-D					↓		/
-27	MW-Y-T		*			Pb		/
-28	MW-Y-D		*			↓		/
-29	EB060498-T	↓	↓	↓	↓	Pb, As, Ba		↓ / ↓

Total # of Containers For Task: 33

Sample Receipt/Breakdown By: [signature] (Sig) 6-4-98 / 2000 (Date/Time)
Sample Storage By: [signature] (Sig) 6-5-98 / 1300 (Date/Time)
Sample Disposal By: _____ (Sig) _____ (Date/Time)

Total # Cntr's Taken: 27

Disposal Comments:

* - pH adjustment was required, see attached sheet.
** - VTSR = Validated Time of Sample Receipt
*** - The period of time after final report for which the contract requires the lab to maintain custody of the samples in question.
NR = Entire sample used: none to return.

Total # Cntr's Ret: 27

Released To: [signature] (Sig) Released By : [signature] (Sig) 6/8/98 (Date/Time)
Returned By: [signature] (Sig) Returned To : [signature] (Sig) 6/11/98 (Date/Time)

TOIL207406

Internal Chain of Custody Receipt and Termination Form

Client : Malcom Prince
Job # :
Task : L43491
VTSR : 6-4-98/2000 (Date/Time)**

Cover Page 2 of 2
Final Report Date :
Disposal Holding Interval : ***
Request #: 3

Q: D:

Sample #	Client Id	Matrix #	pH	# Contr's Received	Storage Area	Analytes Circle Requests	Hazard Level	Containers Taken / Retn
-30	FB060498D	H2O	<2	1	M4-02	Pb, As, Ba		/
-31,32,33	#B-280				I-4	PCB		~~3~~ 1 / 0
34	B-403							1 / 0
35	B04B404							1 / 0
36	B402							1 / 0
37	MW-W							1 / 0
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/
								/

Total # of Containers For Task: 33 6-5-98/800
Sample Receipt/Breakdown By: [signature] (Sig) 6-4-98 (Date/Time)
Sample Storage By: [signature] (Sig) 6-5-98/800 (Date/Time)
Sample Disposal By: (Sig) (Date/Time)

Total # Cntr's Taken: 5

Disposal Comments:

* - pH adjustment was required, see attached sheet.
** - VTSR = Validated Time of Sample Receipt
*** - The period of time after final report for which the contract requires the lab tomaintain custody of the samples in question.
NR = Entire sample used: none to return.

Total # Cntr's Ret.: 0

Released To: PAN (Sig) Released By : [signature] (Sig) 6/9/98 1200 (Date/Time)
Returned By: (Sig) Returned To : (Sig) (Date/Time)

22

FQIL207407

Galson Laboratory Extractable Internal Chain of Custody

Page 1 of 1

Client: Roth Bros.
Relinquished by: PAM
Date/Time: 6/9/98 1500

Login: L43491
Received by: [signature]
Date/Time: 6/9/98 1500

Method: 8082-1
ALS vials stored in refrigerator: [signature]
Q-batch: Q-5516

4 ml / 8 ml / 12 ml vial storage location: NA
Matrix: Water

Galson login	Storage location of ALS vial	Sample removal and return tracking												
		Date and time out	Removed by	Removed for	Date and time in	Date and time out	Removed by	Removed for	Date and time in	Date and time out	Removed by	Removed for	Date and time in	Comments & disposal date
L43491-31	641 C-4	6/11/98 13:15	QVK	A	6/12/98 1616									
-34	-5													
-35	-6													
-36	-7													
-37	-8													
BLANK	-9													
BLKSPK	D-B													
BLKSPK DUP	E-0													

PM 6/9/98

FOIL207408

[redacted] ason [redacted] emov [redacted] A [redacted] lysis [redacted] D - d [redacted] l [redacted] other [redacted] cify i [redacted] amen [redacted]

GALSON LABORATORIES ENVIRONMENTAL METALS CHAIN OF CUSTODY

CLIENT	LAB ID'S	MATRIX	PREP. DATE TECH	CABINET SHELF/ STORE DATE	SIGNED OUT BY TIME DATE REASON	SIGNED IN BY TIME DATE	DATE OF DISPOSAL
[illegible]	L43387-1	Water	aP 6/4/98	M2-2	[illegible] 6/8/98 11:00	[illegible] 6/8/98 13:00	BOX
[illegible]	L43140-2 to 5, 8 to 9				[illegible] 6/8/98 13:30	[illegible] 6/8/98 16:30	BOX
[illegible]	L43460-1 to 2	Water	aP 6/5/98	M2-2	[illegible] 6/8/98 11:00	[illegible] 6/8/98 13:00	BOX
[illegible]	L43536-1 to 6	TCLP			[illegible] 6/9/98 14:30	[illegible] 6/9/98 17:00	BOX
Malcolm Pirnie	L43491-1, 3, 5, 7, 9, 11, 13, 15, 17 to 19, 21, 23, 25, 27, 29	Water	aP 6/8/98	M2-2	[illegible] 6/10/98 13:30	[illegible] 6/10/98	BOX
[illegible]	L43369-1 to 9	Water	aP 6/9/98	M2-2	[illegible] 10:00 6/15/98	[illegible] 14:00 6/15/98	BOX
[illegible]	TL43398-1	TCLP			[illegible] 6/9/98 14:30	[illegible] 6/9/98 17:00	BOX
[illegible]	L43493-1 to 17	Soil	aP 6/10/98	M2-2	[illegible] 6/16/98 11:00	15:30 [illegible] 6/16/98	BOX
[illegible]	L43564-5 to 8				[illegible] 6/11/98 11:30	[illegible] 6/11/98 14:00	BOX
[illegible]	L43587-1 to 6				[illegible] 6/11/98 9:30	[illegible] 6/11/98 11:30	BOX
ACRES	L43535-3 to 4						
[illegible]	L43536-1 to 6	Water	aP 6/11/98	M2-2	[illegible] 6/18/98 8:00		
ACRES	L43535-1 to 2						

FOIL207409

Organic Data Reporting Qualifiers

Value - If the result is a value greater than or equal to the detection limit, the value is reported.

U - Indicates the compound was analyzed for but not detected. The number is the minimum attained detection limit for the sample.

J - Indicates an estimated value. This flag is used to estimate a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed or when the mass spectral data indicate identification criteria, but the result is less than the specified detection limit.

C - Applies to pesticide parameters when the identification has been confirmed by GC/MS.

NC - Peak not confirmed.

B - Used when the analyte is found in the method blank, as well as a sample. It indicates possible/probable laboratory contamination and warns the data user to take appropriate action.

E - Identifies compounds whose concentrations exceed the calibration range of the instruments.

D - Identifies all compounds analyzed at a secondary dilution.

A - Indicates that a tentatively identified compound (TIC) is a suspected aldol-condensation product.

RE - Analysis performed on a re-extracted sample.

X - Any other specific flags & footnotes that may be required to properly define the results.

I - Indicates interferences present in the matrix which affected the result.

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 (see Form X). The lower of the two values is flagged and reported on Form 1.

N - Identifies tentatively identified compounds (TICs) where the identification is based on a mass spectral library search.

NR - Compound not required to be analyzed.

T - Used to indicate when the analyte is also found in the TCLP Blank.

Inorganic Data Reporting Qualifiers

C - (Concentration) qualifiers:

- B - The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).
- U - The analyte was analyzed for but not detected.

M - (Method) qualifiers:

- A - Flame AA
- C - Manual Spectrophotometric
- F - Furnace AA
- P - ICP
- T - Titrimetric
- AS - Semi-automated Spectrophotometric
- AV - Automated Cold Vapor AA
- NR - Analyte not required to be analyzed

Q - Qualifiers for specified entries:

- D - Spike level under IDL with dilution
- E - The reported value is estimated due to the presence of interference(s)
- M - Duplicate injection precision not met
- N - Spike sample recovery not within control limits
- S - The reported value was determined by the Method of Standard Additions (MSA)
- W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.
- * - Duplicate analysis not within control limits
- — - Correlation coefficient for the MSA is less than 0.995

The use if "S", "W", or "+" is mutually exclusive. No combination of these qualifiers should appear in the same field for an analyte.

LCSW - Laboratory control water sample spike from a separate source as the sample spike

MBSW - Matrix blank spike water sample spiked form the same source as the sample spike

PBW - Prep blank water

LCSS - Laboratory control soil sample purchased from a separate source

PBS - Prep blank soil

Sample Results

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B-280

Lab Name: GALSON LABORATORIES Contract: Malcolm Pir

Lab Code: Case No.: 1 SAS No.: SDG No.: L43491

Matrix: (soil/water) WATER Lab Sample ID: L43491-31

Sample wt/vol: 1050 (g/mL) mL Lab File ID: HP9B\B611018

% Moisture: decanted: (Y/N) N Date Received: 06/04/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:06/09/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/11/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2------	Aroclor-1016	0.05	U
11104-28-2------	Aroclor-1221	0.05	U
11141-16-5------	Aroclor-1232	0.05	U
53469-21-9------	Aroclor-1242	0.05	U
12672-29-6------	Aroclor-1248	0.05	U
11097-69-1------	Aroclor-1254	0.05	U
11096-82-5------	Aroclor-1260	0.05	U

FORM I PEST

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B-402

Lab Name: GALSON LABORATORIES Contract: Malcolm Pir

Lab Code: Case No.: 1 SAS No.: SDG No.: L43491

Matrix: (soil/water) WATER Lab Sample ID: L43491-36

Sample wt/vol: 1000 (g/mL) mL Lab File ID: HP9B\B611021

% Moisture: decanted: (Y/N) N Date Received: 06/04/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:06/09/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/11/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	0.05	U
11104-28-2	Aroclor-1221	0.05	U
11141-16-5	Aroclor-1232	0.05	U
53469-21-9	Aroclor-1242	0.05	U
12672-29-6	Aroclor-1248	0.05	U
11097-69-1	Aroclor-1254	0.05	U
11096-82-5	Aroclor-1260	0.05	U

FORM I PEST

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B-403

Lab Name: GALSON LABORATORIES Contract: Malcolm Pir

Lab Code: Case No.: 1 SAS No.: SDG No.: L43491

Matrix: (soil/water) WATER Lab Sample ID: L43491-34

Sample wt/vol: 1000 (g/mL) mL Lab File ID: HP9B\B611019

% Moisture: decanted: (Y/N) N Date Received: 06/04/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/09/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/11/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2	Aroclor-1016	0.05	U
11104-28-2	Aroclor-1221	0.05	U
11141-16-5	Aroclor-1232	0.05	U
53469-21-9	Aroclor-1242	0.05	U
12672-29-6	Aroclor-1248	0.05	U
11097-69-1	Aroclor-1254	0.05	U
11096-82-5	Aroclor-1260	0.05	U

FORM I PEST

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

B-404

Lab Name: GALSON LABORATORIES Contract: Malcolm Pir

Lab Code: Case No.: 1 SAS No.: SDG No.: L43491

Matrix: (soil/water) WATER Lab Sample ID: L43491-35

Sample wt/vol: 1000 (g/mL) mL Lab File ID: HP9B\B611020

% Moisture: decanted: (Y/N) N Date Received: 06/04/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/09/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/11/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2------	Aroclor-1016	0.05	U
11104-28-2------	Aroclor-1221	0.05	U
11141-16-5------	Aroclor-1232	0.05	U
53469-21-9------	Aroclor-1242	0.05	U
12672-29-6------	Aroclor-1248	0.05	U
11097-69-1------	Aroclor-1254	0.05	U
11096-82-5------	Aroclor-1260	0.05	U

FORM I PEST

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

MW-W

Lab Name: GALSON LABORATORIES Contract: Malcolm Pir

Lab Code: Case No.: 1 SAS No.: SDG No.: L43491

Matrix: (soil/water) WATER Lab Sample ID: L43491-37

Sample wt/vol: 1000 (g/mL) mL Lab File ID: HP9B\B611022

% Moisture: decanted: (Y/N) N Date Received: 06/04/98

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:06/09/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/11/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2------	Aroclor-1016	0.05	U
11104-28-2------	Aroclor-1221	0.05	U
11141-16-5------	Aroclor-1232	0.05	U
53469-21-9------	Aroclor-1242	0.05	U
12672-29-6------	Aroclor-1248	0.05	U
11097-69-1------	Aroclor-1254	0.05	U
11096-82-5------	Aroclor-1260	0.05	U

FORM I PEST

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B107-D

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-2

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium	500			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B107-T

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-1

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium	393			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

10/95

FOIL207419

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B108-D

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-4

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium	1140			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium -				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B108-T

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-3

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium	1730			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: YELLOW Clarity Before: YELLOW Texture:

Color After: CLOUDY Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B280-D

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-14

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	3.6	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	2.0	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B280-T

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-13

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	3.6			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B281-D

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-20

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	276			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	2.0	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B281-T

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-17

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	5.9	B		P
7440-39-3	Barium	17.0	B		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	2.0	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B290-D

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-10

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	2.0	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B290-T

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-9

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	41.9			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium -				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B307-D

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-6

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium	436			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B307-T

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-5

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium	436			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B401-D

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-22

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	2.0	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B401-T

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-21

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	12.4			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B402-D

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-16

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	4.1			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: TAN Clarity Before: CLEAR Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B402-T

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-15

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	6.4			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: YELLOW Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B403-D

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-12

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	2.0	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B403-T

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-11

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	28.4			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: YELLOW Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B404-D

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-8

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	2.7	B		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: TAN Clarity Before: CLEAR Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

B404-T

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-7

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	7.1			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: YELLOW Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

FB060498-D

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-30

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	2.0	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium -				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

FB060498-T

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-29

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium	1.0	U		P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	2.0	U		P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

MW-X-D

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-24

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	4.9	B		P
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

MW-X-T

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-23

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic	3.0	U		P
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

10/95

FOIL207441

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

MW-Y-D

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-28

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	4.6			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: TAN Clarity Before: CLEAR Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

MW-Y-T

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-27

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead	5.0			P
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium -				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: YELLOW Clarity Before: CLOUDY Texture:

Color After: YELLOW Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

MW-Z-D

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-26

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium	532			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: Clarity After: Artifacts:

Comments:

FORM I - IN

10/95

NYSDEC ASP

1

INORGANIC ANALYSES DATA SHEET

NYSDEC SAMPLE NO.

MW-Z-T

Lab Name: Galson Laboratories Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: SAS No.: SDG No.: L43491

Matrix (soil/water): Water Lab Sample ID: L43491-25

Level (low/med): LOW Date Received: 06/04/98

% Solids: 0

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

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				NR
7440-36-0	Antimony				NR
7440-38-2	Arsenic				NR
7440-39-3	Barium	378			P
7440-41-7	Beryllium				NR
7440-43-9	Cadmium				NR
7440-70-2	Calcium				NR
7440-47-3	Chromium				NR
7440-48-4	Cobalt				NR
7440-50-8	Copper				NR
7439-89-6	Iron				NR
7439-92-1	Lead				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury				NR
7440-02-0	Nickel				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium				NR
7440-22-4	Silver				NR
7440-23-5	Sodium				NR
7440-28-0	Thallium				NR
7440-62-2	Vanadium				NR
7440-66-6	Zinc				NR
57-12-5	Cyanide				NR

Color Before: COLORLESS Clarity Before: CLOUDY Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments:

FORM I - IN

10/95

Surrogate Spike Results

2E
PESTICIDE SURROGATE RECOVERY

Lab Name: GALSON LABORATORIES Contract:

Lab Code: Case No.: 1 SAS No.: SDG No.: L43491

SAMPLE NO.	S1	#	S2	#
PBLK 5516	74		99	
B-280	143	*	86	
B-403	76		65	
B-404	87		88	
B-402	50	*	60	
MW-W	72		92	
PMBS 5516	74		94	

	ADVISORY QC LIMITS
S1 = Tetrachloro-m-xylene	(55-136)
S2 = Decachlorobiphenyl	(49-135)

Column used to flag recovery values

* Values outside of QC limits

D Surrogates diluted out

FORM II

Matrix Spike/Matrix Spike Duplicate
Blank Spike/Laboratory Control Sample Results

3E
WATER PESTICIDE BLANK SPIKE RECOVERY

Lab Name: GALSON LABORATORIES Contract:

Lab Code: Case No.: 1 SAS No.: SDG No.: L43491

Matrix Spike - NYSDEC Sample No.: PBLK 5516 (Q-5516)

COMPOUND	SPIKE ADDED (ug/L)	BLANK CONCENTRATION (ug/L)	BS CONCENTRATION (ug/L)	BS % REC #	QC. LIMITS REC.
Aroclor-1248	0.50	0.0	0.43	86	45-120

Column to be used to flag recovery values with an asterisk.
* Values outside of QC limits.

Spike Recovery: 0 out of 1 outside limits

COMMENTS: _____

_____

NYSDEC ASP

7

LABORATORY CONTROL SAMPLE

Lab Name: GALSON_LABORATORIES_____ Contract: MALCOLM_PIRNIE

Lab Code: 11626_ Case No.: _____ SAS No.: _____ SDG No.: L43491

Solid LCS Source: _____

Aqueous LCS Source: COMMERCIAL__

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum									
Antimony									
Arsenic	40.0	41.61	104.0						
Barium	2000.0	1935.58	96.8						
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	20.0	20.65	103.2						
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

FORM VII - IN

10/95

Duplicate Sample Results

NYSDEC ASP

6
DUPLICATES

NYSDEC SAMPLE NO.

B281-DMSD

Lab Name: GALSON_LABORATORIES_____ Contract: MALCOLM_PIRNIE

Lab Code: 11626_ Case No.: _____ SAS No.: _____ SDG No.: L43491

Matrix (soil/water): WATER Level (low/med): LOW__

% Solids for Sample: __0.0 % Solids for Duplicate: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic		3.0000	U	4.3200	B	200.0		P
Barium	200.0	276.3900		276.7700		0.1		P
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead		2.0000	U	2.0000	U			P
Magnesium								NR
Manganese								NR
Mercury								NR
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Cyanide								NR

FORM VI - IN

10/95

NYSDEC ASP

6
DUPLICATES

NYSDEC SAMPLE NO.

B281-TMSD

Lab Name: GALSON_LABORATORIES_____ Contract: MALCOLM_PIRNIE

Lab Code: 11626_ Case No.: _____ SAS No.: _____ SDG No.: L43491

Matrix (soil/water): WATER Level (low/med): LOW__

% Solids for Sample: __0.0 % Solids for Duplicate: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								NR
Antimony								NR
Arsenic		5.9200	B	5.1500	B	13.9		P
Barium		16.9700	B	16.9500	B	0.1		P
Beryllium								NR
Cadmium								NR
Calcium								NR
Chromium								NR
Cobalt								NR
Copper								NR
Iron								NR
Lead		2.0000	U	2.0000	U			P
Magnesium								NR
Manganese								NR
Mercury								NR
Nickel								NR
Potassium								NR
Selenium								NR
Silver								NR
Sodium								NR
Thallium								NR
Vanadium								NR
Zinc								NR
Cyanide								NR

FORM VI - IN

10/95

Spiked Sample Results

NYSDEC ASP

5A
SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

B281-DMS

Lab Name: GALSON_LABORATORIES_____ Contract: MALCOLM_PIRNIE

Lab Code: 11626_ Case No.: _____ SAS No.: _____ SDG No.: L43491

Matrix (soil/water): WATER_ Level (low/med): LOW___

% Solids for Sample: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic	75-125	46.9500		3.0000	U	40.000	117.4		P
Barium	75-125	1845.6400		276.3900		2000.000	78.5		P
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead	75-125	17.1100		2.0000	U	20.000	85.6		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

FORM V (Part 1) - IN

10/95

NYSDEC ASP

5A
SPIKE SAMPLE RECOVERY

NYSDEC SAMPLE NO.

B281-TMS

Lab Name: GALSON_LABORATORIES_____ Contract: MALCOLM_PIRNIE

Lab Code: 11626_ Case No.: _____ SAS No.: _____ SDG No.: L43491

Matrix (soil/water): WATER_ Level (low/med): LOW___

% Solids for Sample: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic	75-125	49.1500		5.9200	B	40.000	108.1		P
Barium	75-125	1928.3400		16.9700	B	2000.000	95.6		P
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead	75-125	21.5900		2.0000	U	20.000	108.0		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

FORM V (Part 1) - IN

10/95

Blank Data

4C
PESTICIDE METHOD BLANK SUMMARY

SAMPLE NO.

PBLK 5516

Lab Name: GALSON LABORATORIES Contract:

Lab Code: Case No.: 1 SAS No.: SDG No.: L43491

Lab Sample ID: Q-5516 Lab File ID:

Matrix: (soil/water) WATER Extraction: (SepF/Cont/Sonc) SEPF

Sulfur Cleanup: (Y/N) N Date Extracted: 09-JUN-98

Date Analyzed (1): 11-JUN-98 Date Analyzed (2): _____

Time Analyzed (1): 14:20 Time Analyzed (2): _____

Instrument ID (1): HP9B Instrument ID (2): _____

GC Column (1): DB-608 ID: .53 (mm) GC Column (2): _____ ID: ____(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
B-280	L43491-31	11-JUN-98	
B-403	L43491-34	11-JUN-98	
B-404	L43491-35	11-JUN-98	
B-402	L43491-36	11-JUN-98	
MW-W	L43491-37	11-JUN-98	
PMBS 5516	Q-5516BS	11-JUN-98	

COMMENTS: _____

FORM IV PEST

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

PBLK 5516

Lab Name: GALSON LABORATORIES Contract: Malcolm Pir

Lab Code: Case No.: 1 SAS No.: SDG No.: L43491

Matrix: (soil/water) WATER Lab Sample ID: Q-5516

Sample wt/vol: 1000 (g/mL) mL Lab File ID: HP9B\B611017

% Moisture: decanted: (Y/N) N Date Received: 00/00/00

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted:06/09/98

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 06/11/98

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 7.0 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
12674-11-2------	Aroclor-1016	0.05	U
11104-28-2------	Aroclor-1221	0.05	U
11141-16-5------	Aroclor-1232	0.05	U
53469-21-9------	Aroclor-1242	0.05	U
12672-29-6------	Aroclor-1248	0.05	U
11097-69-1------	Aroclor-1254	0.05	U
11096-82-5------	Aroclor-1260	0.05	U

FORM I PEST

NYSDEC ASP

3
BLANKS

Lab Name: GALSON_LABORATORIES_____ Contract: MALCOLM_PIRNIE

Lab Code: 11626_ Case No.: _____ SAS No.: _____ SDG No.: L43491

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	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic	3.0	U	3.0	U	3.0	U	3.0	U	3.000	U	P
Barium	1.0	U	1.0	U	1.0	U	1.0	U	1.000	U	P
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

FORM III - IN

10/95

NYSDEC ASP

3
BLANKS

Lab Name: GALSON LABORATORIES Contract: MALCOLM PIRNIE

Lab Code: 11626 Case No.: _____ SAS No.: _____ SDG No.: L43491

Preparation Blank Matrix (soil/water): _____

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

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											NR
Antimony											NR
Arsenic			3.0	U	3.0	U					P
Barium			1.0	U	1.0	U					P
Beryllium											NR
Cadmium											NR
Calcium											NR
Chromium											NR
Cobalt											NR
Copper											NR
Iron											NR
Lead			2.0	U	2.0	U					P
Magnesium											NR
Manganese											NR
Mercury											NR
Nickel											NR
Potassium											NR
Selenium											NR
Silver											NR
Sodium											NR
Thallium											NR
Vanadium											NR
Zinc											NR
Cyanide											NR

FORM III - IN

10/95

FOIL207461

Instrument Detection Limits (IDLs)

INSTRUMENT DETECTION LIMITS

INSTRUMENT: HP9B COLUMN: DB-608 DATE ANALYZED: Mar-98

	SPIKE	CONCENTRATION (ug/mL)									IDL
PARAMETER	ADDED	1	2	3	4	5	6	7	SD	Tf	(ug/mL)
AR 1016	0.1	0.095	0.1	0.099	0.101	0.11	0.11	0.11	0.0063	3.1430	0.020
AR 1221	0.1	0.116	0.116	0.125	0.117	0.12	0.129	0.126	0.0053	3.1430	0.017
AR 1232	0.1	0.145	0.12	0.12	0.118	0.132	0.125	0.131	0.0096	3.1430	0.030
AR 1242	0.1	0.127	0.116	0.128	0.13	0.125	0.128	0.127	0.0046	3.1430	0.014
AR 1248	0.1	0.124	0.125	0.117	0.114	0.116	0.129	0.115	0.0059	3.1430	0.019
AR 1254	0.1	0.111	0.114	0.116	0.133	0.115	0.112	0.111	0.0077	3.1430	0.024
AR 1260	0.1	0.112	0.112	0.112	0.115	0.114	0.115	0.115	0.0015	3.1430	0.005

NYSDEC ASP

10
INSTRUMENT DETECTION LIMITS (SEMIANNUALLY)

Lab Name: GALSON_LABORATORIES_____ Contract: MALCOLM_PIRNIE

Lab Code: 11626_ Case No.: _____ SAS No.: _____ SDG No.: L43491

ICP ID Number: ICP3_____ Date: 01/19/98

Flame AA ID Number : _____

Furnace AA ID Number : _____

Analyte	Wave-length (nm)	Back-ground	CRQL (ug/L)	IDL (ug/L)	M
Aluminum	308.22		200	40.0	P
Antimony			60		NR
Arsenic	189.04		10	3.0	P
Barium	493.41		200	1.0	P
Beryllium			5		NR
Cadmium			5		NR
Calcium	317.93		5000	23.0	P
Chromium			10		NR
Cobalt			50		NR
Copper			25		NR
Iron	271.44		100	50.0	P
Lead	220.35		3	2.0	P
Magnesium	279.08		5000	65.0	P
Manganese			15		NR
Mercury			0.2		NR
Nickel			40		NR
Potassium			5000		NR
Selenium			5		NR
Silver			10		NR
Sodium			5000		NR
Thallium			10		NR
Vanadium			50		NR
Zinc			20		NR

Comments:

FORM XI - IN

10/95

APPENDIX C

Water Level Data

Philip Services
(formerly Roth Bros. Smelting Corp.)

Static Water Levels/Groundwater Elevations

Well/Location	B107-OW		B108-OW		B307-OW		B280-OW		B281-OW		B286-OW		B287-OW	
H&A Elevs	*410.44*		*411.65*		*412.75*		*410.01*		*423.23*		*416.34*		*412.70*	
MP Elevation [1]	**410.44**		**411.90**		**412.70**		**410.00**		**423.22**		**416.36**		**412.70 [2]**	
Date	Static [3]	Elev[4]	Static [3]	Elev[4]	Static [3]	Elev[4]	Static [3]	Elev[4]	Static [3]	Elev[4]	Static [3]	Elev[4]	Static [3]	Elev[4]
9/27/96	2.71	407.73	3.50	408.40	2.42	410.28	-	-	-	-	-	-	-	-
9/30/96	2.34	408.10	3.39	408.51	1.94	410.76	-	-	-	-	-	-	-	-
10/15/96	2.87	407.57	3.65	408.25	2.91	409.79	-	-	-	-	-	-	-	-
11/8/96	2.15	408.29	3.17	408.73	2.34	410.36	-	-	-	-	-	-	-	-
12/20/96	2.31	408.13	3.19	408.71	2.57	410.13	-	-	-	-	-	-	-	-
1/23/97 [5]	*2.44*	*408.00*	*3.35*	*408.55*	*2.98*	*409.72*	-	-	*3.88*	*419.34*	*4.75*	*411.61*	*0.80 [6]*	*411.90*
2/20/97	2.03	408.41	3.02	408.88	2.44	410.26	-	-	3.62	419.60	4.64	411.72	-	-
3/12/97	-	-	-	-	-	-	4.07	405.93	4.12	419.10	4.46	411.90	-	-
5/6/97	-	-	-	-	-	-	4.49	405.51	4.41	418.81	-	-	-	-
5/7/97	-	-	-	-	-	-	4.55	405.45	4.57	418.65	-	-	-	-
5/8/97	2.31	408.13	3.06	408.84	2.52	410.18	4.63	405.37	4.62	418.60	-	-	-	-
7/31/97	3.12	407.32	3.94	407.96	3.85	408.85	7.32	402.68	6.04	417.18	5.60	410.76	NA	NA
6/4/98	1.98	408.46	2.95	408.95	3.05	409.65	4.92	405.08	4.93	418.29	3.56	412.80	NA	NA

Philip Services
(formerly Roth Bros. Smelting Corp.)

Static Water Levels/Groundwater Elevations

Well/Location	B290-OW		B291-OW		B293-OW[7]		B401-OW		B402-OW		B403-OW		B404-OW[7]	
H&A Elevs	*414.50*		*407.81*		*409.10*		*NA*		*NA*		*NA*		*NA*	
MP Elevation[1]	414.49		407.87		409.29		413.54		409.40		411.05		410.73	
Date	Static[3]	Elev[4]	Static[3]	Elev[4]	Static[3]	Elev[4]	Static[3]	Elev[4]	Static[3]	Elev[4]	Static[3]	Elev[4]	Static[3]	Elev[4]
9/27/96	-	-	-	-	-	-	NA	NA	NA	NA	NA			NA
9/30/96	-	-	-	-	-	-	NA	NA	NA	NA	NA			NA
10/15/96	-	-	-	-	-	-	NA	NA	NA	NA	NA			NA
11/8/96	-	-	-	-	-	-	NA	NA	NA	NA	NA			NA
12/20/96	-	-	-	-	-	-	NA	NA	NA	NA	NA			NA
1/23/97[5]	*5.38*	*409.11*	-	-	*4.57*	*404.72*	NA	NA	NA	NA	NA			NA
2/20/97	5.37	409.12	2.73	405.14	4.22	405.07	NA	NA	NA	NA	NA	NA		
3/12/97	5.38	409.11	2.86	405.01	3.92	405.37	NA	NA	NA	NA	NA	NA		
5/6/97	5.44	409.05	-	-	4.37	404.92	6.04	407.50	4.13	405.27	3.87	407.18		
5/7/97	5.56	408.93	-	-	-	-	6.06	407.48	4.61	404.79	3.98	407.07		
5/8/97	5.58	408.91	-	-	4.27	405.02	6.18	407.36	4.63	404.77	4.04	407.01		
7/31/97	5.78	408.71	5.88	401.99	6.72	402.57	9.70	403.84	5.98	403.42	5.23	405.82		
6/4/98	5.50	408.99	3.49	404.38	NA[7]	NA[7]	7.96	405.58	4.71	404.69	4.12	406.93	5.42	405.31

Notes: H&A Elevs = Elevations at the top of the PVC casing, reported by H&A of New York.

[1] Measuring Point (MP) or reference Elevation, in Feet Above Mean Sea Level; Ianuzi survey, March 1997.

[2] Elevation reported by H&A; not resurveyed due to scheduled decommissioning.

[3] Static Water Level, Feet Below Measuring Point.

[4] Groundwater Elevation, Feet Above Mean Sea Level.

[5] Water level DOES NOT represent accurate static groundwater level, due to malfunctioning water level probe.

[6] Well plug and manhole cover damaged, also potentially allowing surface water/sediment infiltration.

Water level NOT considered static, due to well redevelopment activities 5/6/97 and/or 5/7/97.

[7] Well B293-OW decommissioned 9/19/97; B404-OW installed 9/19/98 as replacement.

FOIL207467

APPENDIX D

Analytical Results
Reanalyses of Samples B107, MWZ, B281, B280, and MWX

Galson
Laboratories

6601 Kirkville Road
E. Syracuse, NY 13057-0369
Phone: (315) 432-5227
Fax: (315) 437-0571
www.galsonlabs.com

August 19, 1998

DOH ELAP# 11626

Ms. Marcia Cornell
Malcolm Pirnie
1342 Sky High Road
Tully, NY 13159

Re: Client Account# 10067 Login# L44751

Dear Ms. Cornell:

Enclosed is the revised report for the samples received by our laboratory August 7, 1998. We re-analyzed the samples to report down to our IDL as requested.

Please contact our Client Services Department at (315) 437-7252, extension 116, if you would like any additional information regarding this report.

Thank you for using Galson Laboratories.

Sincerely,

Galson Laboratories

F. Joseph Unangst
Laboratory Director

Enclosure(s)

METALS ANALYTICAL REPORT

Galson Laboratories

Client : Malcolm Pirnie, Incorporated
Account # : 10067
Site : ROTH BROS. SMELTING

Date Received : 07-AUG-98 Matrix : Water
Date Sampled : 04-JUN-98 Method : SW846 6010B

Galson ID:		L44751-1	L44751-2	L44751-3
Client ID:		B107-T	B107-D	B281-T
	Units			
Arsenic	mg/l	NR	NR	NR
Barium	mg/l	0.39	0.49	0.016

Approved by : Karen S. Becker
Date : 19-AUG-98
QC by :
Date : 8/19/98
NYS DOH # : 11626
Footnotes:

Galson Laboratories

METALS ANALYTICAL REPORT

Client : Malcolm Pirnie, Incorporated
Account # : 10067
Site : ROTH BROS. SMELTING

Date Received : 07-AUG-98 Matrix : Water
Date Sampled : 04-JUN-98 Method : SW846 6010B

Galson ID:		L44751-6	L44751-7	L44751-8
Client ID:		B281-D	MW-Z-T	MW-Z-D
	Units			
Arsenic	mg/l	NR	NR	NR
Barium	mg/l	0.15	0.37	0.53

Approved by : Karen S. Becker
Date : 19-AUG-98
QC by : [illegible]
Date : 8/19/98
NYS DOH # : 11626
Footnotes:

Galson Laboratories

METALS ANALYTICAL REPORT

Client : Malcolm Pirnie, Incorporated
Account # : 10067
Site : ROTH BROS. SMELTING

Date Received : 07-AUG-98 Matrix : Water
Date Sampled : 04-JUN-98 Method : SW846 6010B

Galson ID:		L44751-9	L44751-10	L44751-11
Client ID:		B280-T	B280-D	MW-X-T
	Units			
Arsenic	mg/l	0.0043	<0.003	<0.003
Barium	mg/l	NR	NR	NR

Approved by : Karen S. Becker
Date : 19-AUG-98
QC by : [illegible]
Date : 8/19/98
NYS DOH # : 11626
Footnotes:

Galson Laboratories

METALS ANALYTICAL REPORT

Client : Malcolm Pirnie, Incorporated
Account # : 10067
Site : ROTH BROS. SMELTING

Date Received : 07-AUG-98 Matrix : Water
Date Sampled : 04-JUN-98 Method : SW846 6010B

Galson ID:		L44751-12	QM980811-1
Client ID:		MW-X-D	BLANK
	Units		
Arsenic	mg/l	<0.003	<0.003
Barium	mg/l	NR	<0.001

Approved by : Karen S. Becker
Date : 19-AUG-98
QC by : [illegible]
Date : 8/19/98
NYS DOH # : 11626
Footnotes:

APPENDIX E

Decommissioning of Well B307
Correspondence and Decommissioning Log

MALCOLM PIRNIE

MALCOLM PIRNIE, INC.
ENVIRONMENTAL ENGINEERS, SCIENTISTS & PLANNERS

June 23, 1998

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: Decommissioning Monitoring Well B-307
Philip Services (Formerly Roth Bros. Smelting Corp.)

Dear Ms. Radtke:

As you discussed with Marcia Cornell, Philip Services (Philip) will be constructing a new baghouse where well B-307 is located. They plan to begin construction during the last week in July. Philip would like the Department's permission to decommission the well. The decommissioning will be conducted in accordance with the procedures in Appendix E of the Operations and Maintenance Plan. Please inform us if it is acceptable to decommission the well. Since we plan to decommission the well during the week of July 20th, we would appreciate a response from the Department early in July. If you have any questions, please call me at 315-635-4607 or Marcia Cornell at 315-696-6714. Thank you for your help in this matter.

Very truly yours,

MALCOLM PIRNIE, INC.

Kelley J. Roe

Kelley J. Roe
Project Hydrogeologist

c: Robert Hubbert - Philip Services
Marcia Cornell

1084-089

15 CORNELL ROAD LATHAM, NY 12110 518-786-7349 fax 518-786-8645

New York State Department of Environmental Conservation
Division of Solid & Hazardous Materials
Bureau of Hazardous Waste Facilities
50 Wolf Road, Albany, New York 12233-7252
518-457-9253 FAX 518-457-9240

John P. Cahill
Commissioner

July 20, 1998

Mr. Neal Schwartz
Philip Services
6223 Thompson Road
P.O. Box 639
East Syracuse, New York 13057

Dear Mr. Schwartz:

Re: Decommissioning Monitoring Well B-307

The New York State Department of Environmental Conservation has completed a review of Malcolm Pirnie's letter, dated June 23, 1998, which concerns a request to decommission well B-307, located at Plant I of the Philip Services facility (formerly Roth Brothers). This well is currently included in the facility's ongoing groundwater monitoring program.

A review of available data indicates that decommissioning of this well is acceptable. Replacement of this well will not be necessary since monitoring wells B-107-OW and B-108-OW will continue to monitor the Plant 1 area.

If you have questions concerning this letter, I may be contacted at (518) 457-9253.

Sincerely,

Denise M. Radtke

Denise M. Radtke
Senior Engineering Geologist

cc: J. Reidy

MALCOLM PIRNIE

INTEROFFICE CORRESPONDENCE

To: File 1084-088, SYR **Date:** August 12, 1998

Copy: M. Cornell, SYR

From: Kelley J. Roe, SYR

Re: Roth Bros. - B307-OW Well Decommissioning

Kelley Roe was on-site Wednesday, July 22, 1998 to oversee decommissioning of well B307-OW located in the Plant 1 area at Philip Services. Well B307-OW was decommissioned in anticipation of the construction of a new bag house. Weather conditions were sunny, 78-83° F, and WNW winds at 0-10 mph. Well decommissioning activities were performed by Parratt-Wolff, Inc., East Syracuse, NY.

Decommissioning of well B307-OW was performed in accordance with those procedures outlined in the Operations and Maintenance (O&M) Plan. The decommissioning method used was casing pulling; the bottom of the well was punctured and the well borehole was tremie-grouted as the well screen and casing were removed. The surface was completed with a concrete seal. The total depth of the well (DTB) and depth to water (DTW) were measured just prior to decommissioning activities. DTB 12.20 feet, DTW 3.04 feet. Attached are the well decommissioning record and the original boring log/well construction diagram for B307-OW.

kjr

Attachments

1084-088

WELL DECOMMISSIONING RECORD

PHILIP SERVICES (formerly Roth Bros. Smelting Corp.), East Syracuse, N.Y.

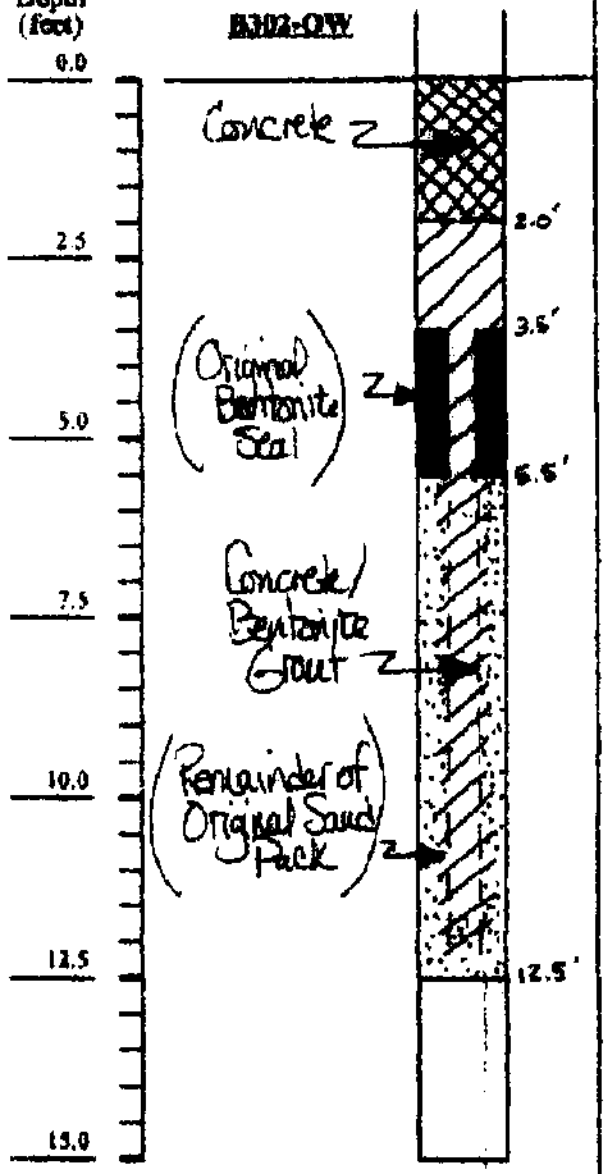
Site: Philip Services, East Syracuse, NY	Well I.D.: B307-OW
Date: July 22, 1998	Driller:
Drilling Co.: Parratt-Wolff, Inc.	Inspector: K. J. Roe

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	-
Drilling Method(s)	-
Borehole Dia. (in.)	-
Temporary Casing Installed? (y/n)	-
Depth temporary casing installed	-
Casing type/dia. (in.)	-
Method of installing	-
CASING PULLING	
Method employed	Drill Rig/Pull Tool
Casing retrieved (feet)	12.2'
Casing type/dia. (in)	2" PVC
CASING PERFORATING/PUNCTURE	
Equipment used	Drill Rods
Number of perforations/foot	One - bottom of well
Size of perforations	2" diameter
Interval perforated	Bottom of Well
GROUTING	
Interval grouted (FBLS)	12.5 - 2.0'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	12 gal
Quantity of cement used (lbs.)	140 lbs
Cement type	Type I Portland
Quantity of bentonite used (lbs.)	6 lbs
Quantity of calcium chloride(lbs.)	-
Volume of grout prepared (gal.)	25 gal
Volume of grout used (gal.)	17 gal

COMMENTS:

WELL SCHEMATIC*



*All relevant decommissioning data, including: overdrilled interval, grouted interval, casing left in borehole, surface completion, etc.

Malcolm Pirnie, Inc. Inspector

H&A OF NEW YORK CONSULTING GEOTECHNICAL ENGINEERS GEOLOGISTS AND HYDROGEOLOGISTS	OVERBURDEN GROUNDWATER MONITORING WELL REPORT

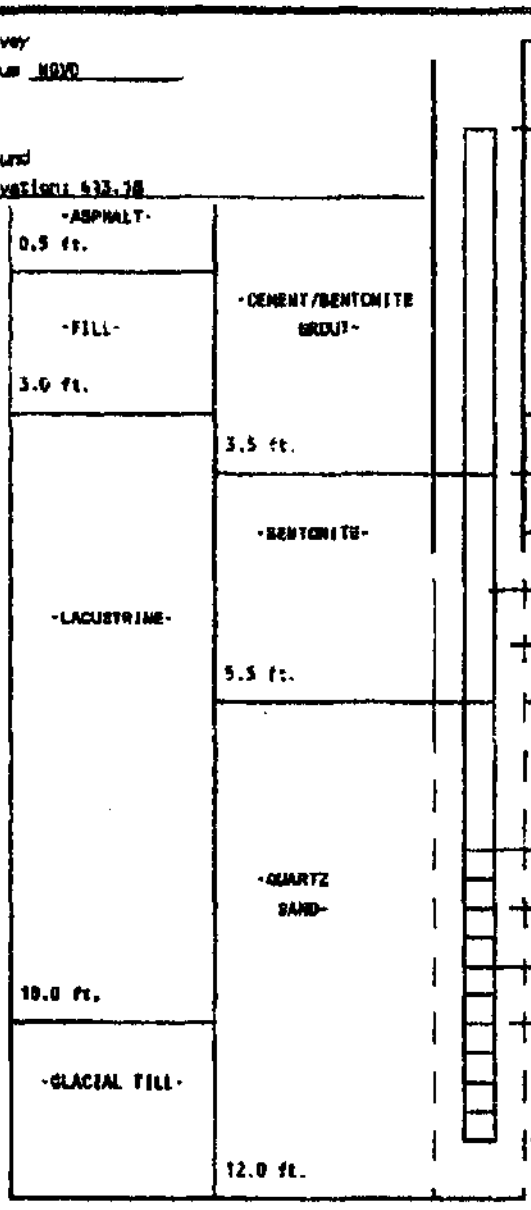
PROJECT: ROTH BROS. RPI REMAIN ACTIVITIES
LOCATION: EAST SYRACUSE, NEW YORK
CLIENT: NIXON, HARGRAVE, DEVANS & DOYLE
CONTRACTOR: PARRATT WOLFF, INC.
DRILLER: J. LANSING RIG TYPE: MOBILE B-56, TRUCK-MOUNTED
INSTALLATION DATE: 17 NOVEMBER 1992

FILE NO.: 70188-43
WELL NO.: B307-OW
LOCATION: SEE PLAN
SHEET: 1 OF 2
INSPECTOR: M. CORRIGAN

Survey Datum NGVD

Ground Elevation: 433.18

SUBSURFACE CONDITIONS



Depth above ground surface of protective casing.	0.0 ft.
Depth above ground surface of riser pipe.	0.4 ft.
Thickness of Surface Seal	5.5 ft.
Type of Surface Seal (indicated all seals showing depth, thickness and type)	Cement/Bentonite Grout
Type of Protective Casing	Roadway Box
Inside Diameter of Protective Casing	8.0 in.
Depth of Bottom of Protective Casing	1.0 ft.
Inside Diameter of Riser Pipe	2.0 in.
Type of Backfill Around Riser	Cement/Bentonite Grout
Diameter of Borehole	8.0 in.
Type of coupling (threaded, welded, etc.)	Threaded
Depth of Bottom of Riser	7.0 ft.
Type of Wellscreen	PVC
Screen Slot Size	0.010 in.
Diameter of Wellscreen	2.0 in.
Type of Backfill Around Wellscreen	Quartz Sand
Depth of Bottom of Wellscreen	12.0 ft.
Depth of Bottom of Borehole	12.0 ft.

Remarks:

Well No. B307-OW

MALCOLM PIRNIE

RECYLCED PAPER