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Project Site numbers will be proceeded by the following:

Municipal Brownfields - B
Superfund - HW
Spills - SP
ERP - E
VCP - V
BCP - C

6/92

NIAGARA MOHAWK
POWER CORP.

HYDE PARK LANDFILL

HYDE PARK BL'VD

4800

4801

4715

4708

TAM CERAMICS INC.

EQUIPMENT SCRAPYARD

GRAVEL ROADWAY

EXISTING GRAVEL ROADWAY

4'-0" HIGH DIKE

SUBSTATION

PLANT PARKING

4501

4425

4401

PENNSYLVANIA AVE.

DELAWARE AVE.

2998

2504

2564

LEGEND:

LIMITS OF CLAY / CONCRETE ASPHALT CAP

200' 0 200'

APPROXIMATE SCALE: 1" = 200'

BLASLAND & BOUCK ENGINEERS, P.C.
ENGINEERS & GEOSCIENTISTS

TAM CERAMICS, INC. • NIAGARA FALLS, NEW YORK
SITE CHARACTERIZATION PROGRAM
FINAL REPORT

SITE PLAN

FIGURE 2-2

5/93 S4-MRC
183C202R\SCP\1E3C2C01.DWG

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

Transmitted Via U.S. Mail

September 3, 1999

Mr. Michael J. Hinton, P.E.
Division of Hazardous Waste Remediation Region 9
New York State Department
of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: Annual Ground-Water Sampling Report of 1999
TAM Ceramics Site
Niagara Falls, New York
Project #: 0163-163.10

Dear Mr. Hinton:

This letter report, which has been prepared by Blasland, Bouck & Lee, Inc. (BBL) on behalf of TAM Ceramics Inc. (TAM) located in Niagara Falls, New York, presents the results of the 1999 annual ground-water sampling event conducted at the site. The semi-annual ground-water monitoring program, as presented in the Fourth Quarterly Ground-Water Sampling Report (BBL - August, 1996), was approved by the New York State Department of Environmental Conservation (NYSDEC) as stated in your October 7, 1996, correspondence to TAM. In a November 12, 1998, phone conversation, you agreed that it would be acceptable to reduce the program to monitoring once per year. The monitoring well network consists of four wells, MW-BBL1R, MW-BBL2R, NPW-H2U and MW-BBL3R. The ground-water samples were analyzed for the Target Analyte List of inorganics (total) by Columbia Analytical Services of Rochester, New York.

On July 21, 1999, BBL collected the 1999 round of ground-water samples from the above-referenced wells. The laboratory analytical results for this round, as well as the results from the previous rounds (January 1995, September 1995, December 1995, March 1996, June 1996, December 1997, July 1997, January 1998, and July 1, 1998) are presented in Tables 1-1, 1-2, 1-3, 1-4, which also includes the NYCRR Part 703 ground-water standards for inorganics. The laboratory report, which contains the practical quantitation limits (PQLs) and dilution factors, is attached. In addition, water level elevations collected during each sampling event are presented in Table 2.

In summary, the 1999 annual ground-water quality data are generally consistent with the results of the previous sampling events. There has been no significant increase or decrease in past trends observed with respect to the inorganic concentrations at the site. Ground-water elevations are also consistent with the previous data. As discussed above, the data has been consistent for 2 years. The next annual sampling event is scheduled for July 2000.

If you have any questions regarding this ground-water sampling event, please contact me at (716) 292-6740.

Very truly yours,

BLASLAND, BOUCK & LEE, INC.

William B. Popham
Vice President

MRA/mwc
Attachment
36091592 WPD

cc: Mr. Russell Steiger, TAM Ceramics, Inc.
Mr. Jerrold Brown, Esq., Hodgson, Russ, Andrews, Wood & Goodyear
Mr. Jay Young, NL Industries
Mr. Michael R. Arlauckas, Blasland, Bouck & Lee, Inc.
Mr. Mark R. Weider, Blasland, Bouck & Lee, Inc.

TABLE 1-1

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	NPW-H2U (upgradient)										PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	07/08/97	01/21/98	07/01/98	07/21/99	
Aluminum	2.96	4.78	3.99	2.81	2.83	2.32	2.59	0.985	0.306	7.28	N/A
Antimony	0.100 U	0.010 U	0.0100 U	0.0600 U	0.060 U	0.060 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	N/A
Arsenic	0.0094	0.0165	0.0050 U	0.0100 U	0.0113	0.010 U	0.0122	0.0173	0.0136	0.0100 U	0.025
Barium	0.0355	0.239	0.0348	0.0372	0.0316	0.0292	0.153	0.136	0.116	0.193	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	N/A
Cadmium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.01
Calcium	129	192	145	117	128	106	144	129	131	187	N/A
Chromium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.050 U	0.050 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.020 U	0.020 U	0.0209	0.0200 U	0.0200 U	0.0200 U	0.2
Iron	5.64	19.9	6.83	5.8	5.8	3.63	9.11	3.4	5.41	21.8	0.3
Lead	0.103	2.5	0.181	0.197	0.149	0.0378	0.915	0.423	0.907	1.66	0.025
Magnesium	57.3	80.1	61.2	49.4	48.5	41.5	59.7	50.4	46.2	88.2	N/A
Manganese	0.127	0.294	0.178	0.131	0.107	0.0826	0.161	0.0875	0.0764	0.43	0.3
Mercury	0.00020 U	0.00020 U	0.00020 U	0.000358	0.0002	0.00030	0.000300 U	0.000300 U	0.000300 U	0.000300 U	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.040 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	1.57	3.23	1.8	1.92	1.85	1.97	2.42	2.00 U	2.00 U	3.16	N/A
Selenium	0.0050 U	0.010 U	0.0050 U	0.00500 U	0.0050 U	0.00839	0.0100 U	0.0166	0.00500 U	0.0113	0.02
Silver	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.05
Sodium	12.1	155	8.72	8.72	9.24	4.97	88.1	107	84.4	101	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0111	0.0100 U	0.0100 U	N/A
Vanadium	0.0050 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.364	2.94	0.277	0.285	0.25	0.137	2.02	1.20	1.83	1.83	0.3

Note:

All results are reported in milligrams per liter (mg/L).

U - Not detected.

TABLE 1-2

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	MW-BBL1R (downgradient)										PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	07/08/97	01/21/98	07/01/98	07/21/99	
Aluminum	0.242	16.5	7.61	12.7	22.4	5.52	17.6	1.67	6.84	1.86	N/A
Antimony	0.100 U	0.0107	0.0100 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	N/A
Arsenic	0.0066	0.0501	0.0050 U	0.0267	0.0275	0.0122	0.0541	0.0155	0.0103	0.0100 U	0.025
Barium	0.0200 U	0.35	0.148	0.22	0.239	0.178	0.246	0.11	0.131	0.0728	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	N/A
Cadmium	0.0050 U	0.0173	0.0050 U	0.0071	0.0116	0.00565	0.0158	0.00500 U	0.00733	0.00500 U	0.01
Calcium	90.9	627	256	372	690	424	420	142	277	140	N/A
Chromium	0.010 U	0.0283	0.0292	0.021	0.0318	0.0118	0.0223	0.0100 U	0.0126	0.0100 U	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0216	0.0200 U	0.0251	0.0486	0.0203	0.0385	0.0200 U	0.0200 U	0.0200 U	0.2
Iron	0.316	25.5	10.4	19.9	35.6	10.6	26.8	2.46	14.4	3.89	0.3
Lead	0.0068	0.315	0.111	0.14	0.307	0.075	0.747	0.0125	0.32	0.104	0.025
Magnesium	35	572	244	355	495	428	474	195	210	98.8	N/A
Manganese	0.010 U	1.34	0.431	0.719	1.49	0.601	1.51	0.11	0.814	0.342	0.3
Mercury	0.00020 U	0.000332	0.000423	0.000546	0.00020 U	0.00030 U	0.000357	0.000300 U	0.000300 U	.000300	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	1.00 U	27.5	19.5	27.4	28.6	50.5	32	14.2	21	6.61	N/A
Selenium	0.0050 U	0.010 U	0.00500 U	0.00500 U	0.00500 U	0.0247	0.0100 U	0.0256	0.00500 U	0.00579	0.02
Silver	0.010 U	0.0218	0.0100 U	0.0110	0.013	0.0100 U	0.0115	0.0100 U	0.0100 U	0.0100 U	0.05
Sodium	7.83	890	392	625	558	885	771	393	238	93.4	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0252	0.0192	0.0100 U	0.0100 U	N/A
Vanadium	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.0634	3.17	1.40	2.18	2.99	1.49	2.73	0.709	1.50	0.642	0.3

Note:

All results are reported in milligrams per liter (mg/L).
U - Not detected.

TABLE 1-3

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	MW-BBL2R (downgradient)										PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	07/08/97	01/21/98	07/01/98	07/21/99	
Aluminum	0.118	28.4	7.78	4.71	11.3	0.528	13.1	0.512	6.64	0.288	N/A
Antimony	0.103	0.010 U	0.0100 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	N/A
Arsenic	0.03	0.0224	0.00500 U	0.0100 U	0.0117	0.0100 U	0.0194	0.0116	0.0169	0.0100 U	0.025
Barium	0.0812	0.151	0.0497	0.102	0.068	0.0200 U	0.086	0.0200 U	0.0618	0.0376	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	N/A
Cadmium	0.0050 U	0.0105	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.00655	0.00500 U	0.00587	0.00500 U	0.01
Calcium	192	280	129	102	103	88.1	181	98	184	111	N/A
Chromium	0.010 U	0.0388	0.0102	0.0100 U	0.0129	0.0100 U	0.0194	0.0100 U	0.0100 U	0.0100 U	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0295	0.0200 U	0.0205	0.0200 U	0.0200 U	0.037	0.0200 U	0.0200 U	0.0200 U	0.2
Iron	0.0973	27.8	5.76	3.94	9.44	0.398	12.1	0.527	7.01	0.305	0.3
Lead	0.0050 U	0.27	0.0997	0.0681	0.135	0.00814	0.197	0.00779	0.0626	0.00500 U	0.025
Magnesium	152	179	56.4	41.6	41.8	32.7	103	36.4	98.7	67.7	N/A
Manganese	0.010 U	0.705	0.120	0.0771	0.133	0.0100 U	0.313	0.0127	0.277	0.0159	0.3
Mercury	0.00020 U	0.00022	0.00020 U	0.000392	0.00020 u	0.00030 U	0.000300 U	0.000300 U	0.000300 U	.000300	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	6.3	36.5	4.33	1.84	3.94	1.00 U	8.96	2.00 U	17.8	17.2	N/A
Selenium	0.0050 U	0.010 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.0100 U	0.0112	0.00500 U	0.0069	0.02
Silver	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.05
Sodium	284	74.8	12.6	5.86	7.7	4.8	28.4	6.14	44.8	54	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0125	0.0100 U	N/A
Vanadium	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.703	3.12	0.337	0.231	0.308	0.0763	0.942	0.104	1.25	0.828	0.3

Note:

All results are reported in milligrams per liter (mg/L).

TABLE 1-4

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	MW-BBL3R			PART 703 GROUND WATER STANDARD
	01/21/98	07/01/98	07/21/99	
Aluminum	0.202	2.00	0.349	N/A
Antimony	0.0600 U	0.0600 U	0.0600 U	N/A
Arsenic	0.0142	0.0100 U	0.0100 U	0.025
Barium	0.0772	0.115	0.101	1
Beryllium	0.00500 U	0.00500 U	0.00500 U	N/A
Cadmium	0.00500 U	0.00500 U	0.00500 U	0.01
Calcium	85.6	237	180	N/A
Chromium	0.0100 U	0.0100 U	0.0100 U	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0200 U	0.0200 U	0.2
Iron	0.321	3.69	0.737	0.3
Lead	0.00500 U	0.100	0.0109	0.025
Magnesium	379	571	403	N/A
Manganese	0.131	0.319	0.03	0.3
Mercury	0.000300 U	0.000200 U	0.000300 U	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	26.8	66.7	47.2	N/A
Selenium	0.0337	0.00500 U	0.00500 U	0.02
Silver	0.0100 U	0.0100 U	0.0100 U	0.05
Sodium	740	1040	1320	20
Thallium	0.0100 U	0.0100 U	0.0100 U	N/A
Vanadium	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.0903	0.748	0.558	0.3

Note:

All results are reported in milligrams per liter (mg/L).
U - Not detected.

TABLE 2

GROUND-WATER ELEVATION DATA
TAM CERAMICS, NIAGARA FALLS, NEW YORK

DATES	MWBBL1R			MWBBL2R			MWBBL-3R			NPW-H2U		
	TOR Reference Elevation (Revised)	Depth to Water	Groundwater Elevation	TOR Reference Elevation (Revised)	Depth to Water	Groundwater Elevation	TOR Reference Elevation	Depth to Water	Groundwater Elevation	TOR Reference Elevation (Revised)	Depth to Water	Groundwater Elevation
January 6, 1995	612.66	12.86	599.80	620.59	13.85	606.74	--	--	--	621.66	11.76	609.90
September 27, 1995	612.66	20.74	591.92	620.59	21.95	598.64	--	--	--	621.66	17.02	604.64
December 13, 1995	612.66	13.40	599.26	620.59	14.05	606.54	--	--	--	621.66	11.10	610.56
March 22, 1996	612.66	14.38	598.28	620.59	13.22	607.37	--	--	--	621.66	9.88	611.78
June 24, 1996	612.66	14.82	597.84	620.59	13.90	606.69	--	--	--	621.66	11.28	610.38
December 26, 1996	612.66	14.59	598.07	620.59	13.38	607.21	--	--	--	621.66	11.04	610.62
July 8, 1997	612.66	16.35	596.31	620.59	16.24	604.35	--	--	--	621.66	12.95	608.71
January 21, 1998	612.66	13.35	599.31	620.59	12.35	608.24	615.82	10.42	605.40	621.66	9.75	611.91
July 1, 1998	612.66	16.41	596.25	620.59	16.29	604.30	615.82	14.36	601.46	621.66	13.02	608.64
July 21, 1999	612.66	16.21	596.45	620.59	16.03	604.56	615.82	14.15	601.67	621.66	12.89	608.77

Note:

TOR = Top of Riser
All data is expressed in feet.
Monitoring well MWBBL-3R was installed from December 30, 1997 to January 5, 1998.

M. Hinton
932028
Corres. file

MEMORANDUM

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

To: Michael J. Hinton, P.E. **Date:** 11/11/99

From: Mark F. Weider **cc:** William B. Popham

Re: Annual Ground-Water Sampling Report of 1999

As we discussed, this is the letter that was inadvertently misplaced during our move. We apologize for the delay in your receipt of this.

MFW/mwc

155 Corporate Woods, Suite 150 • Rochester, NY 14623 • Telephone (716) 292-6740 • Fax (716) 292-6715

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

Transmitted Via U.S. Mail

August 18, 1998

Mr. Michael J. Hinton, P.E.
Division of Hazardous Waste Remediation Region 9
New York State Department
of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: Fourth Semi-Annual Ground-Water
Sampling Report of 1998
TAM Ceramics Site
Niagara Falls, New York
Project #: 0163-163.09

Dear Mr. Hinton:

This letter report, which has been prepared by Blasland, Bouck & Lee, Inc. (BBL) on behalf of TAM Ceramics Inc. (TAM) located in Niagara Falls, New York, presents the results of the fourth semi-annual ground-water sampling event conducted at the site. The semi-annual ground-water monitoring program, as presented in the Fourth Quarterly Ground-Water Sampling Report (BBL - August, 1996), was approved by the New York State Department of Environmental Conservation (NYSDEC) as stated in your October 7, 1996, correspondence to TAM. The monitoring well network has been expanded to four wells, MW-BBL1R, MW-BBL2R, NPW-H2U and newly installed MW-BBL3R. The ground-water samples were analyzed for the Target Analyte List of inorganics (total) by Columbia Analytical Services of Rochester, New York.

On July 1, 1998, BBL collected the fourth semi-annual round of ground-water samples from the above-referenced wells. The laboratory analytical results for this round, as well as the results from the previous rounds (January 1995, September 1995, December 1995, March 1996, June 1996, December 1997, July, 1997, and January 1998) are presented in Tables 1-1, 1-2, 1-3, 1-4, which also includes the NYCRR Part 703 ground-water standards for inorganics. The laboratory report, which contains the practical quantitation limits (PQLs) and dilution factors, is attached. In addition, water level elevations collected during each sampling event are presented in Table 2.

In summary, the fourth semi-annual ground-water quality data are generally consistent with the results of the previous sampling events. There has been no significant increase or decrease in past trends observed with respect to the inorganic concentrations at the site. Ground-water elevations are also consistent with the previous data. As discussed above, the data has been consistent for 2 years. With this in mind, we

propose to discontinue semi-annual monitoring and initiate an annual monitoring program effective immediately with the next scheduled sampling event being in July 1999. Your approval to this request is appreciated.

If you have any questions regarding this ground-water sampling event, please contact me at (716) 292-6740.

Very truly yours,

BLASLAND, BOUCK & LEE, INC.

William B. Popham
Vice President

MRA/mwc
Attachment
27181592.WPD

cc: Mr. Russell Steiger, TAM Ceramics, Inc.
Mr. Jerrold Brown, Esq., Hodgson, Russ, Andrews, Wood & Goodyear
Mr. Jay Young, NL Industries
Mr. Michael R. Arlauckas, Blasland, Bouck & Lee, Inc.
Mr. Mark R. Weider, Blasland, Bouck & Lee, Inc.

TABLE 1-1

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	NPW-H2U (upgradient)									PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	07/08/97	01/21/98	07/01/98	
Aluminum	2.96	4.78	3.99	2.81	2.83	2.32	2.59	0.985	0.306	N/A
Antimony	0.100 U	0.010 U	0.0100 U	0.0600 U	0.060 U	0.060 U	0.0600 U	0.0600 U	0.0600 U	N/A
Arsenic	0.0094	0.0165	0.0050 U	0.0100 U	0.0113	0.010 U	0.0122	0.0173	0.0136	0.025
Barium	0.0355	0.239	0.0348	0.0372	0.0316	0.0292	0.153	0.136	0.116	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	N/A
Cadmium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.01
Calcium	129	192	145	117	128	106	144	129	131	N/A
Chromium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.050 U	0.050 U	0.0500 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.020 U	0.020 U	0.0209	0.0200 U	0.0200 U	0.2
Iron	5.64	19.9	6.83	5.8	5.8	3.63	9.11	3.4	5.41	0.3
Lead	0.103	2.5	0.181	0.197	0.149	0.0378	0.915	0.423	0.907	0.025
Magnesium	57.3	80.1	61.2	49.4	48.5	41.5	59.7	50.4	46.2	N/A
Manganese	0.127	0.294	0.178	0.131	0.107	0.0826	0.161	0.0875	0.0764	0.3
Mercury	0.00020 U	0.00020 U	0.00020 U	0.000358	0.0002	0.00030	0.000300 U	0.000300 U	0.000300 U	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.040 U	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	1.57	3.23	1.8	1.92	1.85	1.97	2.42	2.00 U	2.00 U	N/A
Selenium	0.0050 U	0.010 U	0.0050 U	0.00500 U	0.0050 U	0.00839	0.0100 U	0.0166	0.00500 U	0.02
Silver	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.05
Sodium	12.1	155	8.72	8.72	9.24	4.97	88.1	107	84.4	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0111	0.0100 U	N/A
Vanadium	0.0050 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.364	2.94	0.277	0.285	0.25	0.137	2.02	1.20	1.83	0.3

Note:

All results are reported in milligrams per liter (mg/L).

U - Not detected.

TABLE 1-2

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	MW-BBL1R (downgradient)									PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	07/08/97	01/21/98	07/01/98	
Aluminum	0.242	16.5	7.61	12.7	22.4	5.52	17.6	1.67	6.84	N/A
Antimony	0.100 U	0.0107	0.0100 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	N/A
Arsenic	0.0066	0.0501	0.0050 U	0.0267	0.0275	0.0122	0.0541	0.0155	0.0103	0.025
Barium	0.0200 U	0.35	0.148	0.22	0.239	0.178	0.246	0.11	0.131	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	N/A
Cadmium	0.0050 U	0.0173	0.0050 U	0.0071	0.0116	0.00565	0.0158	0.00500 U	0.00733	0.01
Calcium	90.9	627	256	372	690	424	420	142	277	N/A
Chromium	0.010 U	0.0283	0.0292	0.021	0.0318	0.0118	0.0223	0.0100 U	0.0126	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0216	0.0200 U	0.0251	0.0486	0.0203	0.0385	0.0200 U	0.0200 U	0.2
Iron	0.316	25.5	10.4	19.9	35.6	10.6	26.8	2.46	14.4	0.3
Lead	0.0068	0.315	0.111	0.14	0.307	0.075	0.747	0.0125	0.32	0.025
Magnesium	35	572	244	355	495	428	474	195	210	N/A
Manganese	0.010 U	1.34	0.431	0.719	1.49	0.601	1.51	0.11	0.814	0.3
Mercury	0.00020 U	0.000332	0.000423	0.000546	0.00020 U	0.00030 U	0.000357	0.000300 U	0.000300 U	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	1.00 U	27.5	19.5	27.4	28.6	50.5	32	14.2	21	N/A
Selenium	0.0050 U	0.010 U	0.00500 U	0.00500 U	0.00500 U	0.0247	0.0100 U	0.0256	0.00500 U	0.02
Silver	0.010 U	0.0218	0.0100 U	0.0110	0.013	0.0100 U	0.0115	0.0100 U	0.0100 U	0.05
Sodium	7.83	890	392	625	558	885	771	393	238	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0252	0.0192	0.0100 U	N/A
Vanadium	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.0634	3.17	1.40	2.18	2.99	1.49	2.73	0.709	1.50	0.3

Note:

All results are reported in milligrams per liter (mg/L).
U - Not detected.

TABLE 1-3

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	MW-BBL2R (downgradient)									PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	07/08/97	01/21/98	07/01/98	
Aluminum	0.118	28.4	7.78	4.71	11.3	0.528	13.1	0.512	6.64	N/A
Antimony	0.103	0.010 U	0.0100 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	N/A
Arsenic	0.03	0.0224	0.00500 U	0.0100 U	0.0117	0.0100 U	0.0194	0.0116	0.0169	0.025
Barium	0.0812	0.151	0.0497	0.102	0.068	0.0200 U	0.086	0.0200 U	0.0618	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	N/A
Cadmium	0.0050 U	0.0105	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.00655	0.00500 U	0.00587	0.01
Calcium	192	280	129	102	103	88.1	181	98	184	N/A
Chromium	0.010 U	0.0388	0.0102	0.0100 U	0.0129	0.0100 U	0.0194	0.0100 U	0.0100 U	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0295	0.0200 U	0.0205	0.0200 U	0.0200 U	0.037	0.0200 U	0.0200 U	0.2
Iron	0.0973	27.8	5.76	3.94	9.44	0.398	12.1	0.527	7.01	0.3
Lead	0.0050 U	0.27	0.0997	0.0681	0.135	0.00814	0.197	0.00779	0.0626	0.025
Magnesium	152	179	56.4	41.6	41.8	32.7	103	36.4	98.7	N/A
Manganese	0.010 U	0.705	0.120	0.0771	0.133	0.0100 U	0.313	0.0127	0.277	0.3
Mercury	0.00020 U	0.00022	0.00020 U	0.000392	0.00020 u	0.00030 U	0.000300 U	0.000300 U	0.000300 U	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	6.3	36.5	4.33	1.84	3.94	1.00 U	8.96	2.00 U	17.8	N/A
Selenium	0.0050 U	0.010 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.0100 U	0.0112	0.00500 U	0.02
Silver	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.05
Sodium	284	74.8	12.6	5.86	7.7	4.8	28.4	6.14	44.8	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0125	N/A
Vanadium	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.703	3.12	0.337	0.231	0.308	0.0763	0.942	0.104	1.25	0.3

Note:

All results are reported in milligrams per liter (mg/L).
U - Not detected.

TABLE 1-4

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	MW-BBL3R		PART 703 GROUND WATER STANDARD
	01/21/98	07/01/98	
Aluminum	0.202	2.00	N/A
Antimony	0.0600 U	0.0600 U	N/A
Arsenic	0.0142	0.0100 U	0.025
Barium	0.0772	0.115	1
Beryllium	0.00500 U	0.00500 U	N/A
Cadmium	0.00500 U	0.00500 U	0.01
Calcium	85.6	237	N/A
Chromium	0.0100 U	0.0100 U	0.05
Cobalt	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0200 U	0.2
Iron	0.321	3.69	0.3
Lead	0.00500 U	0.100	0.025
Magnesium	379	571	N/A
Manganese	0.131	0.319	0.3
Mercury	0.000300 U	0.000200 U	0.002
Nickel	0.0400 U	0.0400 U	N/A
Potassium	26.8	66.7	N/A
Selenium	0.0337	0.00500 U	0.02
Silver	0.0100 U	0.0100 U	0.05
Sodium	740	1040	20
Thallium	0.0100 U	0.0100 U	N/A
Vanadium	0.0500 U	0.0500 U	N/A
Zinc	0.0903	0.748	0.3

Note:

All results are reported in milligrams per liter (mg/L).
U - Not detected.

TABLE 2

GROUND-WATER ELEVATION DATA
TAM CERAMICS, NIAGARA FALLS, NEW YORK

DATES	MWBBL1R			MWBBL2R			MWBBL-3R			NPW-H2U		
	TOR Reference Elevation (Revised)	Depth to Water	Groundwater Elevation	TOR Reference Elevation (Revised)	Depth to Water	Groundwater Elevation	TOR Reference Elevation	Depth to Water	Groundwater Elevation	TOR Reference Elevation (Revised)	Depth to Water	Groundwater Elevation
January 6, 1995	612.66	12.86	599.80	620.59	13.85	606.74	--	--	--	621.66	11.76	609.90
September 27, 1995	612.66	20.74	591.92	620.59	21.95	598.64	--	--	--	621.66	17.02	604.64
December 13, 1995	612.66	13.40	599.26	620.59	14.05	606.54	--	--	--	621.66	11.10	610.56
March 22, 1996	612.66	14.38	598.28	620.59	13.22	607.37	--	--	--	621.66	9.88	611.78
June 24, 1996	612.66	14.82	597.84	620.59	13.90	606.69	--	--	--	621.66	11.28	610.38
December 26, 1996	612.66	14.59	598.07	620.59	13.38	607.21	--	--	--	621.66	11.04	610.62
July 8, 1997	612.66	16.35	596.31	620.59	16.24	604.35	--	--	--	621.66	12.95	608.71
January 21, 1998	612.66	13.35	599.31	620.59	12.35	608.24	615.82	10.42	605.40	621.66	9.75	611.91
July 1, 1998	612.66	16.41	596.25	620.59	16.29	604.30	615.82	14.36	601.46	621.66	13.02	608.64

Note:

TOR = Top of Riser
All data is expressed in feet.
Monitoring well MWBBL-3R was installed from December 30, 1997 to January 5, 1998.

File: 16309
MRA

Columbia Analytical Services Inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

July 23, 1998

Mr. Mark Weider
Blasland Bouck & Lee, Inc.
30 Corporate Woods
Suite 160
Rochester, NY 14623

PROJECT:TAM CERAMICS
Submission #:9807000019

Dear Mr. Weider:

Enclosed are the analytical results of the analyses requested. The analytical data was provided to you on 07/22/98 per a Facsimile transmittal. All data has been reviewed prior to report submission.

Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Janice Jaeger
Project Chemist

Enc.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director prior to report submittal.

1 Mustard St. • Suite 250 • Rochester, NY 14608 • Tele:(716)288-5380 • Fax:(716)288-8475
65 Rampo Vally Rd. • Suite 16 • Mahwah, NJ 07430 • Tele:(201)512-3292 • Fax:(201)512-3362

Columbia Analytical Services Inc.

Effective 04/01/96

CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits.
(Flag the entire batch - Inorganic analysis only)

* - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits.

D - Spike diluted out.

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

CAS Lab ID # for State Certifications

NY ID # in Rochester:	10145	NJ ID # in Rochester:	73004
CT ID # in Rochester:	PH0556	RI ID # in Rochester:	158
MA ID # in Rochester:	M-NY032		

COLUMBIA ANALYTICAL SERVICES

Reported: 07/23/98

Blasland Bouck & Lee, Inc.
Project Reference:TAM CERAMICS
Client Sample ID :NPW-H2U

Date Sampled :07/01/98 **Order #:**221585 **Sample Matrix:**WATER
Date Received:07/01/98 **Submission #:**9807000019

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	0.306	MG/L	07/09/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	07/09/98	1.0
ARSENIC	0.0100	0.0136	MG/L	07/09/98	1.0
BARIUM	0.0200	0.116	MG/L	07/09/98	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	07/09/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	07/09/98	1.0
CALCIUM	0.500	131	MG/L	07/22/98	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	07/09/98	1.0
COBALT	0.0500	0.0500 U	MG/L	07/09/98	1.0
COPPER	0.0200	0.0200 U	MG/L	07/09/98	1.0
IRON	0.100	5.41	MG/L	07/09/98	1.0
LEAD	0.00500	0.907	MG/L	07/09/98	1.0
MAGNESIUM	0.500	46.2	MG/L	07/09/98	1.0
MANGANESE	0.0100	0.0764	MG/L	07/09/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	07/09/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	07/09/98	1.0
POTASSIUM	2.00	2.00 U	MG/L	07/09/98	1.0
SELENIUM	0.00500	0.00500 U	MG/L	07/09/98	1.0
SILVER	0.0100	0.0100 U	MG/L	07/09/98	1.0
SODIUM	0.500	84.4	MG/L	07/22/98	1.0
THALLIUM	0.0100	0.0100 U	MG/L	07/09/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	07/09/98	1.0
ZINC	0.0100	1.83	MG/L	07/09/98	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 07/23/98

Blasland Bouck & Lee, Inc.
Project Reference:TAM CERAMICS
Client Sample ID :MW-BBL2R

Date Sampled :07/01/98 **Order #:**221586 **Sample Matrix:**WATER
Date Received:07/01/98 **Submission #:**9807000019

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	6.64	MG/L	07/09/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	07/09/98	1.0
ARSENIC	0.0100	0.0169	MG/L	07/09/98	1.0
BARIUM	0.0200	0.0618	MG/L	07/09/98	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	07/09/98	1.0
CADMIUM	0.00500	0.00587	MG/L	07/09/98	1.0
CALCIUM	0.500	184	MG/L	07/22/98	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	07/09/98	1.0
COBALT	0.0500	0.0500 U	MG/L	07/09/98	1.0
COPPER	0.0200	0.0200 U	MG/L	07/09/98	1.0
IRON	0.100	7.01	MG/L	07/09/98	1.0
LEAD	0.00500	0.0626	MG/L	07/09/98	1.0
MAGNESIUM	0.500	98.7	MG/L	07/09/98	1.0
MANGANESE	0.0100	0.227	MG/L	07/09/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	07/09/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	07/09/98	1.0
POTASSIUM	2.00	17.8	MG/L	07/09/98	1.0
SELENIUM	0.00500	0.00500 U	MG/L	07/09/98	1.0
SILVER	0.0100	0.0100 U	MG/L	07/09/98	1.0
SODIUM	0.500	44.8	MG/L	07/22/98	1.0
THALLIUM	0.0100	0.0125	MG/L	07/09/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	07/09/98	1.0
ZINC	0.0100	1.25	MG/L	07/09/98	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 07/23/98

Blasland Bouck & Lee, Inc.
Project Reference:TAM CERAMICS
Client Sample ID :MW-BBL3R

Date Sampled :07/01/98 **Order #:**221587 **Sample Matrix:**WATER
Date Received:07/01/98 **Submission #:**9807000019

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	2.00	MG/L	07/09/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	07/09/98	1.0
ARSENIC	0.0100	0.0100 U	MG/L	07/09/98	1.0
BARIUM	0.0200	0.115	MG/L	07/09/98	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	07/09/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	07/09/98	1.0
CALCIUM	0.500	237	MG/L	07/22/98	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	07/09/98	1.0
COBALT	0.0500	0.0500 U	MG/L	07/09/98	1.0
COPPER	0.0200	0.0200 U	MG/L	07/09/98	1.0
IRON	0.100	3.69	MG/L	07/09/98	1.0
LEAD	0.00500	0.100	MG/L	07/09/98	1.0
MAGNESIUM	0.500	571	MG/L	07/22/98	1.0
MANGANESE	0.0100	0.319	MG/L	07/09/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	07/09/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	07/09/98	1.0
POTASSIUM	2.00	66.7	MG/L	07/22/98	1.0
SELENIUM	0.00500	0.00500 U	MG/L	07/09/98	1.0
SILVER	0.0100	0.0100 U	MG/L	07/09/98	1.0
SODIUM	0.500	1040	MG/L	07/22/98	1.0
THALLIUM	0.0100	0.0100 U	MG/L	07/09/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	07/09/98	1.0
ZINC	0.0100	0.748	MG/L	07/09/98	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 07/23/98

Blasland Bouck & Lee, Inc.
Project Reference:TAM CERAMICS
Client Sample ID :MW-BBL1R

Date Sampled :07/01/98 **Order #:**221588 **Sample Matrix:**WATER
Date Received:07/01/98 **Submission #:**9807000019

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	6.84	MG/L	07/09/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	07/09/98	1.0
ARSENIC	0.0100	0.0103	MG/L	07/09/98	1.0
BARIUM	0.0200	0.131	MG/L	07/09/98	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	07/09/98	1.0
CADMIUM	0.00500	0.00733	MG/L	07/09/98	1.0
CALCIUM	0.500	277	MG/L	07/22/98	1.0
CHROMIUM	0.0100	0.0126	MG/L	07/09/98	1.0
COBALT	0.0500	0.0500 U	MG/L	07/09/98	1.0
COPPER	0.0200	0.0200 U	MG/L	07/09/98	1.0
IRON	0.100	14.4	MG/L	07/09/98	1.0
LEAD	0.00500	0.320	MG/L	07/09/98	1.0
MAGNESIUM	0.500	210	MG/L	07/09/98	1.0
MANGANESE	0.0100	0.814	MG/L	07/09/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	07/13/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	07/09/98	1.0
POTASSIUM	2.00	21.0	MG/L	07/09/98	1.0
SELENIUM	0.00500	0.00500 U	MG/L	07/09/98	1.0
SILVER	0.0100	0.0100 U	MG/L	07/09/98	1.0
SODIUM	0.500	238	MG/L	07/22/98	1.0
THALLIUM	0.0100	0.0100 U	MG/L	07/09/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	07/09/98	1.0
ZINC	0.0100	1.50	MG/L	07/09/98	1.0

COLUMBIA ANALYTICAL SERVICES, INC.
1 Mustard St., Suite 250, P.O. Box 90859, Rochester, NY 14609-0859
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

DATE 7/1/98 PAGE 1 OF 1

PROJECT NAME TRW CORAMICS
PROJECT MANAGER/CONTACT MARK WEINER
COMPANY/ADDRESS BLASLAND, BOUCK & LEE
30 CORPORATE WOODS #160 ROCHESTER N.Y.
TEL (716) 292-6790 FAX (716) 292-6715
SAMPLER'S SIGNATURE Michael R Ahmed

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	TAL METALS	PRESERVATION pH < 2.0	PRESERVATION pH > 12	PRESERVATION Other
NPW-H2U	7/1/98	0800	221585	WATER	1	✓			
MW-BBL2R	↓	0915	86	↓	1	✓			
MW-BBL3R	↓	1020	87	↓	1	✓			
MW-BBL1R	7/1/98	1195	88	WATER	1	✓			

GC/MS VOA's ☐ 8260 ☐ 624
GC/MS SVOA's ☐ 8270A ☐ 625
GC VOA's ☐ 8010/8020 ☐ 601/602
PESTICIDES/PCB's ☐ 8080 ☐ 608
STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP
STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP
TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P
WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.
METALS, TOTAL (LIST BELOW)
METALS, DISSOLVED (LIST BELOW)

RELINQUISHED BY:
Michael R. Ahmed
Signature
Michael R. Ahmed
Printed Name
Blasland, Bouck & Lee
Firm
7/1/98
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
7/1/98 @ 1350
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
X Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
X 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: client
Shipping #:
Temperature: 5.5°C
Submission No: 7-19

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

65 RAMAPO VALLEY ROAD
MAHWAH, NJ 07430
201-512-3292
FAX 201-512-3362

309 WEST RIDLEY AVE.
RIDLEY PARK, PA 19078
610-521-3083
FAX 610-521-4589

MJH

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MAY 8 1998

NYSDEC - REG. 9
FOIL
X REL ___ UNREL

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

Transmitted Via U.S. Mail

May 7, 1998

Mr. Michael J. Hinton, P.E.
Division of Hazardous Waste Remediation Region 9
New York State Department
Of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: Third Semi-Annual Ground-Water
Sampling Report of 1998
TAM Ceramics Site
Niagara Falls, New York
Project #: 0163-163.09

Dear Mr. Hinton:

This letter report, which has been prepared by Blasland, Bouck & Lee, Inc. (BBL) on behalf of TAM Ceramics Inc. (TAM) located in Niagara Falls, New York, presents the results of the third semi-annual ground-water sampling event conducted at the site. The semi-annual ground-water monitoring program, as presented in the Fourth Quarterly Ground-Water Sampling Report (BBL - August, 1996), was approved by the New York State Department of Environmental Conservation (NYSDEC) as stated in your October 7, 1996 correspondence to TAM. Since the last sampling round, a new well MW-BBL3R has been installed (12/30/97 - 1/5/98) to expand the network to four wells (MW-BBL1R, MW-BBL2R, NPW-H2U and newly installed MW-BBL3R). The ground-water samples were analyzed for the Target Analyte List of inorganics (total) by Columbia Analytical Services of Rochester, New York.

Bedrock Well Installation

On December 30, 1997, BBL provided oversight for the installation of one bedrock monitoring well (MW-BBL3R) in the upper Lockport Dolomite. As you recall, this well was to be part of the original monitoring program based on the NYSDEC review of the Site Characterization Final Report (BBL - March , 1995). The intent of MW-BBL3R is to monitor ground-water conditions downgradient of the former disposal area near previous soil boring SB-9. Since overburden soil samples were collected and characterized from overburden wells during previous investigations, soil samples were not obtained during this investigation.

Drilling was performed using a truck-mounted CME-75 rotary rig equipped with 4-1/4-inch inside diameter (I.D.) hollow stem augers and 3-inch diameter NX rock core barrel. The borehole was advanced to auger refusal, which was encountered approximately 6.0 feet below ground surface (bgs). A permanent six-inch diameter steel casing was installed to the depth of 7.0 feet (1.0 feet into the top of rock), and grouted in

place using a mixture of bentonite/Portland cement. After the grout was allowed sufficient time to cure (minimum 12 hours), the inside of the casing was flushed with water and any grout remaining inside the casing was reamed out with a tricone roller bit prior to coring. Bedrock coring was accomplished by means of an NX core barrel. The first bedrock interval that was cored consisted of a single 10-foot run from top of rock (6.0 feet) to the depth of 16.0 feet below grade. After retrieving the core sample from the interval 6.0 to 16.0 feet below grade, NX coring continued from 16.0 to the total depth of 26.0 feet below grade.

The monitoring well was constructed of 2-inch diameter, Scheduled 40 PVC screen (0.010-inch machine slotted) and riser. A graded quartz sandpack was placed in the annulus between the well casing and the borehole wall from the bottom of the borehole to a minimum of 2 feet above the top of the screen. A two-foot thick hydrated bentonite seal was placed above the sandpack, and the remainder of the annulus was filled with quartz sand to the surface. The well was completed with a six-inch diameter protective casing approximately 2.5 feet above ground surface. A concrete surface seal designed to prevent surface water from entering the well or borehole annulus was also installed.

Well Development

On January 8, 1998, monitoring well MW-BBL3R was developed to enhance the hydraulic connection between the well screen and the surrounding geologic formation and to remove fine sediment from the well screen and sand pack. Development entailed surging and bailing the well with a decontaminated 1.5-inch diameter, bottom-loading, stainless steel bailer equipped with a Teflon ball valve.

During surging, the bailer was repeatedly raised and lowered through the screened interval of the well to loosen sediment from the screen. The well was periodically bailed to draw formation water into the well. The well did not go dry during bailing. Development continued until the turbidity stabilized at slight to moderate levels and showed no further improvement.

Ground-Water Sampling

On January 20, 1998, BBL collected the third semi-annual round of ground-water samples from monitoring wells MW-BBL1R, MW-BBL2R, MW-BBL3R and NPW-H2U. The laboratory analytical results for this round, as well as the results from the previews rounds (January, 1995; September, 1995; December, 1995; March, 1996; June, 1996; December, 1997; and January 20, 1998), are presented in Tables 1-1, 1-2, 1-3, and 1-4 which includes the NYCRR Part 703 ground-water standards for inorganics. The laboratory report, which contains the practical quantitation limits (PQLs) and dilution factors, is attached. In addition, water level elevations collected during each sampling event are presented in Table 2. A ground-water contour map, based on the most recent round of water levels and including the new well MW-BBL3R, is presented on Figure 1.

In summary, the third semi-annual ground-water quality data are generally consistent with the results of the previous quarterly sampling events. There has been no significant increase or decrease in past trends observed, with respect to the inorganic concentrations, at the site. The new well, MW-BBL3R, located closest to the former disposal area, did not show any significantly elevated concentrations of inorganics in ground water when compared to the other upgradient and downgradient wells. Ground-water elevations are also consistent with the previous data. The fourth semi-annual sampling is scheduled for June, 1998.

If you have any questions regarding this ground-water sampling event, please contact me at (716) 292-6740.

Very truly yours,

BLASLAND, BOUCK & LEE, INC.

William B. Popham
Vice President

MRA/mwc
Attachment
15881592.WPD

cc. Mr. Russell Steiger, TAM Ceramics, Inc.
Mr. Jerrold Brown, Esq., Hodgson, Russ, Andrews, Wood & Goodyear
Mr. Jay Young, NL Industries
Mr. Michael R. Arlauckas, Blasland, Bouck & Lee, Inc.
Mr. Mark R. Weider, Blasland, Bouck & Lee, Inc.

TABLE 1-1

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	NPW-H2U (upgradient)								PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	07/08/97	01/21/98	
Aluminum	2.96	4.78	3.99	2.81	2.83	2.32	2.59	0.985	N/A
Antimony	0.100 U	0.010 U	0.0100 U	0.0600 U	0.060 U	0.060 U	0.0600 U	0.0600 U	N/A
Arsenic	0.0094	0.0165	0.0050 U	0.0100 U	0.0113	0.010 U	0.0122	0.0173	0.025
Barium	0.0355	0.239	0.0348	0.0372	0.0316	0.0292	0.153	0.136	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	N/A
Cadmium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	0.01
Calcium	129	192	145	117	128	106	144	129	N/A
Chromium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.010 U	0.010 U	0.0100 U	0.0100 U	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.050 U	0.050 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.020 U	0.020 U	0.0209	0.0200 U	0.2
Iron	5.64	19.9	6.83	5.8	5.8	3.63	9.11	3.4	0.3
Lead	0.103	2.5	0.181	0.197	0.149	0.0378	0.915	0.423	0.025
Magnesium	57.3	80.1	61.2	49.4	48.5	41.5	59.7	50.4	N/A
Manganese	0.127	0.294	0.178	0.131	0.107	0.0826	0.161	0.0875	0.3
Mercury	0.00020 U	0.00020 U	0.00020 U	0.000358	0.0002	0.00030	0.000300 U	0.000300 U	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.040 U	0.0400 U	0.0400 U	N/A
Potassium	1.57	3.23	1.8	1.92	1.85	1.97	2.42	2.00 U	N/A
Selenium	0.0050 U	0.010 U	0.0050 U	0.00500 U	0.0050 U	0.00839	0.0100 U	0.0166	0.02
Silver	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.05
Sodium	12.1	155	8.72	8.72	9.24	4.97	88.1	107	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0111	N/A
Vanadium	0.0050 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.364	2.94	0.277	0.285	0.25	0.137	2.02	1.2	0.3

Note:

All results are reported in milligrams per liter (mg/L).
U - Not detected.

TABLE 1-2

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	MW-BBL1R (downgradient)								PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	07/08/97	01/21/98	
Aluminum	0.242	16.5	7.61	12.7	22.4	5.52	17.6	1.67	N/A
Antimony	0.100 U	0.0107	0.0100 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	N/A
Arsenic	0.0066	(0.0501)	0.0050 U	(0.0267)	(0.0275)	0.0122	(0.0541)	0.0155	0.025
Barium	0.0200 U	0.35	0.148	0.22	0.239	0.178	0.246	0.11	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	N/A
Cadmium	0.0050 U	(0.0173)	0.0050 U	0.0071	(0.0116)	0.00565	(0.0158)	0.00500 U	0.01
Calcium	90.9	627	256	372	690	424	420	142	N/A
Chromium	0.010 U	0.0283	0.0292	0.021	0.0318	0.0118	0.0223	0.0100 U	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0216	0.0200 U	0.0251	0.0486	0.0203	0.0385	0.0200 U	0.2
Iron	0.316	25.5	10.4	19.9	35.6	10.6	26.8	2.46	0.3
Lead	0.0068	(0.315)	(0.111)	(0.14)	(0.307)	(0.075)	(0.747)	0.0125	0.025
Magnesium	35	572	244	355	495	428	474	195	N/A
Manganese	0.010 U	(1.34)	(0.431)	(0.719)	(1.49)	(0.601)	(1.51)	0.11	0.3
Mercury	0.00020 U	0.000332	0.000423	0.000546	0.00020 U	0.00030 U	0.000357	0.000300 U	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	1.00 U	27.5	19.5	27.4	28.6	50.5	32	14.2	N/A
Selenium	0.0050 U	0.010 U	0.00500 U	0.00500 U	0.00500 U	(0.0247)	0.0100 U	(0.0256)	0.02
Silver	0.010 U	0.0218	0.0100 U	0.0110	0.013	0.0100 U	0.0115	0.0100 U	0.05
Sodium	7.83	890	392	625	558	885	771	393	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0252	0.0192	N/A
Vanadium	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.0634	(3.17)	(1.40)	(2.18)	(2.99)	(1.49)	(2.73)	(0.709)	0.3

Note:

All results are reported in milligrams per liter (mg/L).
U - Not detected.

TABLE 1-3

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	MW-BBL2R (downgradient)								PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	07/08/97	01/21/98	
Aluminum	0.118	28.4	7.78	4.71	11.3	0.528	13.1	0.512	N/A
Antimony	0.103	0.010 U	0.0100 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	N/A
Arsenic	0.03·	0.0224	0.00500 U	0.0100 U	0.0117	0.0100 U	0.0194	0.0116	0.025
Barium	0.0812	0.151	0.0497	0.102	0.068	0.0200 U	0.086	0.0200 U	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	N/A
Cadmium	0.0050 U	0.0105·	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.00655	0.00500 U	0.01
Calcium	192	280	129	102	103	88.1	181	98	N/A
Chromium	0.010 U	0.0388	0.0102	0.0100 U	0.0129	0.0100 U	0.0194	0.0100 U	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0295	0.0200 U	0.0205	0.0200 U	0.0200 U	0.037	0.0200 U	0.2
Iron	0.0973	27.8	5.76	3.94	9.44	0.398	12.1	0.527	0.3
Lead	0.0050 U	0.27·	0.0997	0.0681	0.135	0.00814	0.197	0.00779	0.025
Magnesium	152	179	56.4	41.6	41.8	32.7	103	36.4	N/A
Manganese	0.010 U	0.705·	0.120	0.0771	0.133	0.0100 U	0.313	0.0127	0.3
Mercury	0.00020 U	0.00022	0.00020 U	0.000392	0.00020 u	0.00030 U	0.000300 U	0.000300 U	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	6.3	36.5	4.33	1.84	3.94	1.00 U	8.96	2.00 U	N/A
Selenium	0.0050 U	0.010 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.0100 U	0.0112	0.02
Silver	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.05
Sodium	284	74.8	12.6	5.86	7.7	4.8	28.4	6.14	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	N/A
Vanadium	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.703·	3.12·	0.337	0.231	0.308·	0.0763·	0.942	0.104·	0.3

Note:

All results are reported in milligrams per liter (mg/L).
U - Not detected.

TABLE 1-4

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	MW-BBL3R 01/21/98	PART 703 GROUND WATER STANDARD
Aluminum	0.202	N/A
Antimony	0.0600 U	N/A
Arsenic	0.0142	0.025
Barium	0.0772	1
Beryllium	0.00500 U	N/A
Cadmium	0.00500 U	0.01
Calcium	85.6	N/A
Chromium	0.0100 U	0.05
Cobalt	0.0500 U	N/A
Copper	0.0200 U	0.2
Iron	0.321	0.3
Lead	0.00500 U	0.025
Magnesium	379	N/A
Manganese	0.131	0.3
Mercury	0.000300 U	0.002
Nickel	0.0400 U	N/A
Potassium	26.8	N/A
Selenium	0.0337	0.02
Silver	0.0100 U	0.05
Sodium	740	20
Thallium	0.0100 U	N/A
Vanadium	0.0500 U	N/A
Zinc	0.0903	0.3

Note:

All results are reported in milligrams per liter (mg/L).
U - Not detected.

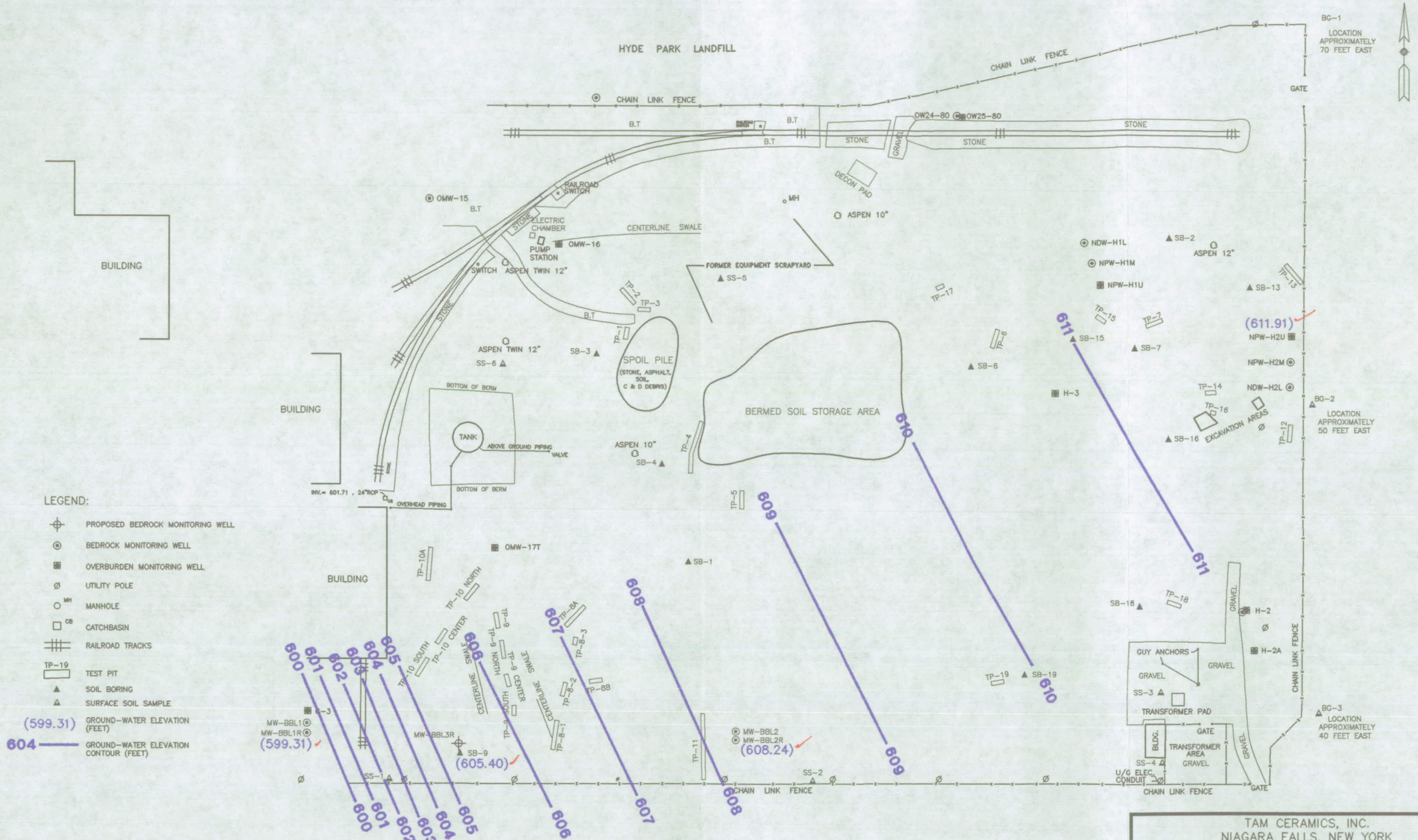
TABLE 2

GROUND-WATER ELEVATION DATA
TAM CERAMICS, NIAGARA FALLS, NEW YORK

DATES	MWBBL1R			MWBBL2R			MWBBL-3R			NPW-H2U		
	TOR Reference Elevation (Revised)	Depth to Water	Groundwater Elevation	TOR Reference Elevation (Revised)	Depth to Water	Groundwater Elevation	TOR Reference Elevation	Depth to Water	Groundwater Elevation	TOR Reference Elevation (Revised)	Depth to Water	Groundwater Elevation
January 6, 1995	612.66	12.86	599.80	620.59	13.85	606.74	--	--	--	621.66	11.76	609.90
September 27, 1995	612.66	20.74	591.92	620.59	21.95	598.64	--	--	--	621.66	17.02	604.64
December 13, 1995	612.66	13.40	599.26	620.59	14.05	606.54	--	--	--	621.66	11.10	610.56
March 22, 1996	612.66	14.38	598.28	620.59	13.22	607.37	--	--	--	621.66	9.88	611.78
June 24, 1996	612.66	14.82	597.84	620.59	13.90	606.69	--	--	--	621.66	11.28	610.38
December 26, 1996	612.66	14.59	598.07	620.59	13.38	607.21	--	--	--	621.66	11.04	610.62
July 8, 1997	612.66	16.35	596.31	620.59	16.24	604.35	--	--	--	621.66	12.95	608.71
January 21, 1998	612.66	13.35	599.31	620.59	12.35	608.24	615.82	10.42	605.40	621.66	9.75	611.91

Note:

TOR = Top of Riser
All data is expressed in feet.
Monitoring well MWBBL-3R was installed from December 30, 1997 to January 5, 1998.



LEGEND:

- PROPOSED BEDROCK MONITORING WELL
- BEDROCK MONITORING WELL
- OVERBURDEN MONITORING WELL
- UTILITY POLE
- MH MANHOLE
- CB CATCHBASIN
- RAILROAD TRACKS
- TP-19 TEST PIT
- SOIL BORING
- SURFACE SOIL SAMPLE
- (599.31) GROUND-WATER ELEVATION (FEET)
- 604 GROUND-WATER ELEVATION CONTOUR (FEET)

NOTES:

ELEVATIONS ARE BASED ON INFORMATION SUPPLIED BY CONESTOGA-ROVERS & ASSOCIATES LIMITED.
COORDINATES BASED ON PLANT GRID.

P: BLX
4/27/98 SYR-54-PGL
16309010/16309SM1.DWG

TAM CERAMICS, INC.
NIAGARA FALLS, NEW YORK
SUPPLEMENTAL GROUND-WATER INVESTIGATION

GROUND-WATER ELEVATION CONTOUR MAP JANUARY 21, 1998

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

FIGURE 1

Columbia Analytical Services Inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

January 29, 1998

Mr. Bill Popham
Blasland Bouck & Lee, Inc.
30 Corporate Woods
Suite 160
Rochester, NY 14623

PROJECT:TAM CERAMICS
Submission #:9801000272

Dear Mr. Popham

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Janice Jaeger
Project Chemist

Enc.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director prior to report submittal.

1 Mustard St.• Suite 250 • Rochester, NY 14609 • Tele:(716)288-5380 • Fax:(716)288-8475
65 Ramapo Valley Rd. • Suite 16 • Mahwah, NJ 07430 • Tele:(201)512-3292 • Fax:(201)512-3362
12699 Roll Rd. • Akron, NY 14001 • Tele:(716)542-1264 • Fax:(716)542-3353

Columbia Analytical Services Inc.

Effective 04/01/96

CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits.
(Flag the entire batch - Inorganic analysis only)

* - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits.

D - Spike diluted out.

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

CAS Lab ID # for State Certifications

NY ID # in Rochester:	10145	NJ ID # in Rochester:	73004
CT ID # in Rochester:	PH0556	RI ID # in Rochester:	158
MA ID # in Rochester:	M-NY032		

COLUMBIA ANALYTICAL SERVICES

Reported: 01/29/98

Blasland Bouck & Lee, Inc.
Project Reference:TAM CERAMICS
Client Sample ID :NPW-H2U

Date Sampled :01/21/98 **Order #:189799** **Sample Matrix:WATER**
Date Received:01/22/98 **Submission #:9801000272**

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	0.985	MG/L	01/27/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	01/27/98	1.0
ARSENIC	0.0100	0.0173	MG/L	01/27/98	1.0
BARIUM	0.0200	0.136	MG/L	01/27/98	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	01/27/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	01/27/98	1.0
CALCIUM	0.500	129	MG/L	01/28/98	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	01/27/98	1.0
COBALT	0.0500	0.0500 U	MG/L	01/27/98	1.0
COPPER	0.0200	0.0200 U	MG/L	01/27/98	1.0
IRON	0.100	3.40	MG/L	01/27/98	1.0
LEAD	0.00500	0.423	MG/L	01/27/98	1.0
MAGNESIUM	0.500	50.4	MG/L	01/27/98	1.0
MANGANESE	0.0100	0.0875	MG/L	01/27/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	01/27/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	01/27/98	1.0
POTASSIUM	2.00	2.00 U	MG/L	01/28/98	1.0
SELENIUM	0.00500	0.0166	MG/L	01/27/98	1.0
SILVER	0.0100	0.0100 U	MG/L	01/27/98	1.0
SODIUM	0.500	107	MG/L	01/28/98	1.0
THALLIUM	0.0100	0.0111	MG/L	01/27/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	01/27/98	1.0
ZINC	0.0100	1.20	MG/L	01/27/98	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 01/29/98

Blasland Bouck & Lee, Inc.
Project Reference:TAM CERAMICS
Client Sample ID :MWBBL1R

Date Sampled :01/21/98 **Order #:**189800 **Sample Matrix:**WATER
Date Received:01/22/98 **Submission #:**9801000272

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	1.67	MG/L	01/27/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	01/27/98	1.0
ARSENIC	0.0100	0.0155	MG/L	01/27/98	1.0
BARIUM	0.0200	0.110	MG/L	01/27/98	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	01/27/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	01/27/98	1.0
CALCIUM	0.500	142	MG/L	01/28/98	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	01/27/98	1.0
COBALT	0.0500	0.0500 U	MG/L	01/27/98	1.0
COPPER	0.0200	0.0200 U	MG/L	01/27/98	1.0
IRON	0.100	2.46	MG/L	01/27/98	1.0
LEAD	0.00500	0.0125	MG/L	01/27/98	1.0
MAGNESIUM	0.500	195	MG/L	01/27/98	1.0
MANGANESE	0.0100	0.110	MG/L	01/27/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	01/27/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	01/27/98	1.0
POTASSIUM	2.00	14.2	MG/L	01/28/98	1.0
SELENIUM	0.00500	0.0256	MG/L	01/27/98	1.0
SILVER	0.0100	0.0100 U	MG/L	01/27/98	1.0
SODIUM	0.500	393	MG/L	01/28/98	10.0
THALLIUM	0.0100	0.0192	MG/L	01/27/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	01/27/98	1.0
ZINC	0.0100	0.709	MG/L	01/27/98	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 01/29/98

Blasland Bouck & Lee, Inc.
Project Reference:TAM CERAMICS
Client Sample ID :MWBBL2R

Date Sampled :01/21/98 **Order #:**189801 **Sample Matrix:**WATER
Date Received:01/22/98 **Submission #:**9801000272

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	0.512	MG/L	01/27/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	01/27/98	1.0
ARSENIC	0.0100	0.0116	MG/L	01/27/98	1.0
BARIUM	0.0200	0.0200 U	MG/L	01/27/98	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	01/27/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	01/27/98	1.0
CALCIUM	0.500	98.0	MG/L	01/28/98	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	01/27/98	1.0
COBALT	0.0500	0.0500 U	MG/L	01/27/98	1.0
COPPER	0.0200	0.0200 U	MG/L	01/27/98	1.0
IRON	0.100	0.527	MG/L	01/27/98	1.0
LEAD	0.00500	0.00779	MG/L	01/27/98	1.0
MAGNESIUM	0.500	36.4	MG/L	01/27/98	1.0
MANGANESE	0.0100	0.0127	MG/L	01/27/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	01/27/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	01/27/98	1.0
POTASSIUM	2.00	2.00 U	MG/L	01/28/98	1.0
SELENIUM	0.00500	0.0112	MG/L	01/27/98	1.0
SILVER	0.0100	0.0100 U	MG/L	01/27/98	1.0
SODIUM	0.500	6.14	MG/L	01/28/98	1.0
THALLIUM	0.0100	0.0100 U	MG/L	01/27/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	01/27/98	1.0
ZINC	0.0100	0.104	MG/L	01/27/98	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 01/29/98

Blasland Bouck & Lee, Inc.
Project Reference:TAM CERAMICS
Client Sample ID :MWBBL3R

Date Sampled :01/21/98 **Order #:**189802 **Sample Matrix:**WATER
Date Received:01/22/98 **Submission #:**9801000272

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	0.202	MG/L	01/27/98	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	01/27/98	1.0
ARSENIC	0.0100	0.0142	MG/L	01/27/98	1.0
BARIUM	0.0200	0.0772	MG/L	01/27/98	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	01/27/98	1.0
CADMIUM	0.00500	0.00500 U	MG/L	01/27/98	1.0
CALCIUM	0.500	85.6	MG/L	01/28/98	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	01/27/98	1.0
COBALT	0.0500	0.0500 U	MG/L	01/27/98	1.0
COPPER	0.0200	0.0200 U	MG/L	01/27/98	1.0
IRON	0.100	0.321	MG/L	01/27/98	1.0
LEAD	0.00500	0.00500 U	MG/L	01/27/98	1.0
MAGNESIUM	0.500	379	MG/L	01/27/98	1.0
MANGANESE	0.0100	0.131	MG/L	01/27/98	1.0
MERCURY	0.000300	0.000300 U	MG/L	01/27/98	1.0
NICKEL	0.0400	0.0400 U	MG/L	01/27/98	1.0
POTASSIUM	2.00	26.8	MG/L	01/28/98	1.0
SELENIUM	0.00500	0.0337	MG/L	01/27/98	1.0
SILVER	0.0100	0.0100 U	MG/L	01/27/98	1.0
SODIUM	0.500	740	MG/L	01/28/98	10.0
THALLIUM	0.0100	0.0100 U	MG/L	01/27/98	1.0
VANADIUM	0.0500	0.0500 U	MG/L	01/27/98	1.0
ZINC	0.0100	0.0903	MG/L	01/27/98	1.0

COLUMBIA ANALYTICAL SERVICES, INC.
1 Mustard St., Suite 250, P.O. Box 90859, Rochester, NY 14609-0859
(716) 288-5380 • FAX (716) 288-847

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

DATE 1/21/98 PAGE 1 OF 1

PROJECT NAME TRM CERAMICS
PROJECT MANAGER/CONTACT BILL PORHAM
COMPANY/ADDRESS BLASLAND, BOUCK & LEE
30 CORPORATE WOODS SUITE 160 ROCH NY
TEL (716) 292-6790 FAX (716) 292-6715
SAMPLER'S SIGNATURE Michael R Adamczyk

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	LAB .D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624	GC/MS SVOA's ☐ 8270A ☐ 625	GC VOA's ☐ 8010/8020 ☐ 601/602	PESTICIDES/PCB's ☐ 8080 ☐ 608	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	TAL METALS							PRESERVATION pH < 2.0	PRESERVATION pH > 12	PRESERVATION Other HNO_3
NPW-H2O	1/21/98	1130	189-99	WATER												-								✓
MWBGL1R	1/21/98	1400	200													-								✓
MWBGL2R	1/21/98	1295	201													-								✓
MWBGL3R	1/21/98	1545	202	WATER												-								✓

RELINQUISHED BY:
Signature: Michael R Adamczyk
Printed Name: MICHAEL R ADAMCZYK
Firm: BLASLAND, BOUCK & LEE
Date/Time: 1/22/98 0920

RECEIVED BY:
Signature: Janice Jorgensen
Printed Name: Janice Jorgensen
Firm: CAS
Date/Time: 1/22/98 @ 920

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
X Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
X 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: Client
Shipping #:
Temperature: 4°C
Submission No: 1-272

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

65 RAMAPO VALLEY ROAD
MAHWAH, NJ 07430
201-512-3292
FAX 201-512-3362

309 WEST RIDLEY AVE.
RIDLEY PARK, PA 19078
610-521-3083
FAX 610-521-4589

Date Start/Finish: 12-30-97 / 1-5-98
Drilling Company: Nothnagle Drilling
Driller's Name: Kevin Busch
Drilling Method: HSA, NX Core
Bit Size: 3.88"-in. **Auger Size** : 4.25-in.
Rig Type: CME-75
Spoon Size: 2-in.

Northing:
Easting:
Well Casing Elev.: 615.82 ft.
Corehole Depth:
Borehole Depth: 26.5 ft.
Ground Surface Elev.: 613.00 ft.

Geologist: Michael R. Arlauckas

Well No. MWBBL-3R

Site:
TAM Ceramics

Client:
TAM Ceramics Inc.
Niagara Falls, New York

DEPTH / ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
gs elevation 613.00 ft.									**GROUND SURFACE**	4-inch diameter protective stick-up. Vented well cap.
610 / 5									See log OMWBBL-1 for subsurface soil conditions.	Concrete seal from 0.1 feet AGS to 0.5 feet BGS. 2-inch diameter schedule 40 PVC from 1.4 to 6.0 feet. Hydrated bentonite seal from 2.5 to 4.5 feet.
									Top of Bedrock.	
605 / 10										#1 Morie sandpack from 4.5 to 26.5 feet.
600 / 15										2-inch diameter schedule 40 PVC screen from 6.0 to 26.5 feet. (Screen size = 0.010)

BLASLAND, BOUCK & LEE
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

Project: 183.10
Script: BBL-well
Date: 03/25/98

Client:
TAM Ceramics Inc.
Niagara Falls, New York

Well No. MWBBL-3R

Total Depth = 28.5 ft.

Site:
TAM Ceramics

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Blows/6 In.	N	Recovery (ft.)	PID (ppm) Headspace	Geotechnical Test	Geologic Column	Stratigraphic Description	Well Construction
	595										
20											
	590										
25											
	585									Bottom of boring at 28.5 feet.	
30											
	580										
35											

BLASLAND, BOUCK & LEE
ENGINEERS & SCIENTISTS

Remarks:

Water Levels

Date / Time	Elevation	Depth

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

RECEIVED

AUG 2 6 1997

NYSDEC-REG. 9
FOIL
X REL ___UNREL

Transmitted Via U.S. Mail

August 22, 1997

Mr. Michael J. Hinton, P.E.
Division of Hazardous Waste Remediation Region 9
New York State Department
of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: Second Semi-Annual Ground-Water
Sampling Report
TAM Ceramics Site
Niagara Falls, New York
Project #: 0163-163.09

Dear Mr. Hinton:

This letter report, which has been prepared by Blasland, Bouck & Lee, Inc. (BBL) on behalf of TAM Ceramics Inc. (TAM) located in Niagara Falls, New York, presents the results of the second semi-annual ground-water sampling event conducted at the site. The semi-annual ground-water monitoring program, as presented in the Fourth Quarterly Ground-Water Sampling Report (BBL August 22, 1996), was approved by the New York State Department of Environmental Conservation (NYSDEC) as stated in your October 7, 1996 correspondence to TAM. The monitoring well network consists of wells MW-BBL1R, MW-BBL2R, and NPW-H2U. The ground-water samples were analyzed for the Target Analyte List of inorganics (total) by Columbia Analytical Services of Rochester, New York.

On July 8, 1997, BBL collected the second semi-annual round of ground-water samples from the above-referenced monitoring wells. The laboratory analytical results for this round, as well as the results from the previous rounds (January 1995, September 1995, December 1995, March 1996, June 1996, and December 26, 1997) are presented in Tables 1-1, 1-2, and 1-3 which includes the NYCRR Part 703 ground-water standards for inorganics. The laboratory report, which contains the practical quantitation limits (PQLs) and dilution factors, is attached. In addition, water level elevations collected during each sampling event are presented in Table 2.

In summary, the second semi-annual ground-water quality data are generally consistent with the results of the previous quarterly sampling events. There has been no significant increase or decrease in past trends

observed, with respect to the inorganic concentrations, at the site. Ground-water elevations are also consistent with the previous data. The third semi-annual sampling event is scheduled for December 1997.

If you have any questions regarding this ground-water sampling event, please contact me at (716) 292-6740.

Very truly yours,

BLASLAND, BOUCK & LEE, INC.

William B. Popham
Vice President

WBP/mwc
Attachment
TAMSEMI2.WPD/04571592.WPD

cc: Mr. Russ Steiger, TAM Ceramics, Inc.
Mr. Jerrold Brown, Esq., Hodgson, Russ, Andrews, Woods & Goodyear
Mr. Jay Young, NL Industries
Mr. Michael R. Arlauckas, Blasland, Bouck & Lee, Inc.

TABLE 1-1

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	NPW-H2U (upgradient)							PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	07/08/97	
Aluminum	2.96	4.78	3.99	2.81	2.83	2.32	2.59	N/A
Antimony	0.100 U	0.010 U	0.0100 U	0.0600 U	0.060 U	0.060 U	0.0600 U	N/A
Arsenic	0.0094	0.0165	0.0050 U	0.0100 U	0.0113	0.010 U	0.0122	0.025
Barium	0.0355	0.239	0.0348	0.0372	0.0316	0.0292	0.153	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.00500 U	N/A
Cadmium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.00500 U	0.01
Calcium	129	192	145	117	128	106	144	N/A
Chromium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.010 U	0.010 U	0.0100 U	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.050 U	0.050 U	0.0500 U	N/A
Copper	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.020 U	0.020 U	0.0209	0.2
Iron	5.64	19.9	6.83	5.8	5.8	3.63	9.11	0.3
Lead	0.103	2.5	0.181	0.197	0.149	0.0378	0.915	0.025
Magnesium	57.3	80.1	61.2	49.4	48.5	41.5	59.7	N/A
Manganese	0.127	0.294	0.178	0.131	0.107	0.0826	0.161	0.3
Mercury	0.00020 U	0.00020 U	0.00020 U	0.000358	0.0002	0.00030	0.000300	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.040 U	0.0400 U	N/A
Potassium	1.57	3.23	1.8	1.92	1.85	1.97	2.42	N/A
Selenium	0.0050 U	0.010 U	0.0050 U	0.00500 U	0.0050 U	0.00839	0.0100 U	0.02
Silver	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.05
Sodium	12.1	155	8.72	8.72	9.24	4.97	88.1	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	N/A
Vanadium	0.0050 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.364	2.94	0.277	0.285	0.25	0.137	2.02	0.3

Note:

All results are reported in milligrams per liter (mg/L).

U - Not detected.

TABLE 1-2

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	MW-BBL1R (downgradient)							PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	07/08/97	
Aluminum	0.242	16.5	7.61	12.7	22.4	5.52	17.6	N/A
Antimony	0.100 U	0.0107	0.0100 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	N/A
Arsenic	0.0066	0.0501	0.0050 U	0.0267	0.0275	0.0122	0.0541	0.025
Barium	0.0200 U	0.35	0.148	0.22	0.239	0.178	0.246	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.00500 U	N/A
Cadmium	0.0050 U	0.0173	0.0050 U	0.0071	0.0116	0.00565	0.0158	0.01
Calcium	90.9	627	256	372	690	424	420	N/A
Chromium	0.010 U	0.0283	0.0292	0.021	0.0318	0.0118	0.0223	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0216	0.0200 U	0.0251	0.0486	0.0203	0.0385	0.2
Iron	0.316	25.5	10.4	19.9	35.6	10.6	26.8	0.3
Lead	0.0068	0.315	0.111	0.14	0.307	0.075	0.747	0.025
Magnesium	35	572	244	355	495	428	474	N/A
Manganese	0.010 U	1.34	0.431	0.719	1.49	0.601	1.51	0.3
Mercury	0.00020 U	0.000332	0.000423	0.000546	0.00020 U	0.00030 U	0.000357	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	1.00 U	27.5	19.5	27.4	28.6	50.5	32	N/A
Selenium	0.0050 U	0.010 U	0.00500 U	0.00500 U	0.00500 U	0.0247	0.0100 U	0.02
Silver	0.010 U	0.0218	0.0100 U	0.0110	0.013	0.0100 U	0.0115	0.05
Sodium	7.83	890	392	625	558	885	771	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0252	N/A
Vanadium	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.0634	3.17	1.40	2.18	2.99	1.49	2.73	0.3

Note:

All results are reported in milligrams per liter (mg/L).
U - Not detected.

TABLE 1-3

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	MW-BBL2R (downgradient)							PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	07/08/97	
Aluminum	0.118	28.4	7.78	4.71	11.3	0.528	13.1	N/A
Antimony	0.103	0.010 U	0.0100 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	N/A
Arsenic	0.03	0.0224	0.00500 U	0.0100 U	0.0117	0.0100 U	0.0194	0.025
Barium	0.0812	0.151	0.0497	0.102	0.068	0.0200 U	0.086	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.00500 U	N/A
Cadmium	0.0050 U	0.0105	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.00655	0.01
Calcium	192	280	129	102	103	88.1	181	N/A
Chromium	0.010 U	0.0388	0.0102	0.0100 U	0.0129	0.0100 U	0.0194	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0295	0.0200 U	0.0205	0.0200 U	0.0200 U	0.037	0.2
Iron	0.0973	27.8	5.76	3.94	9.44	0.398	12.1	0.3
Lead	0.0050 U	0.27	0.0997	0.0681	0.135	0.00814	0.197	0.025
Magnesium	152	179	56.4	41.6	41.8	32.7	103	N/A
Manganese	0.010 U	0.705	0.120	0.0771	0.133	0.0100 U	0.313	0.3
Mercury	0.00020 U	0.00022	0.00020 U	0.000392	0.00020 u	0.00030 U	0.000300 U	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	6.3	36.5	4.33	1.84	3.94	1.00 U	8.96	N/A
Selenium	0.0050 U	0.010 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.0100 U	0.02
Silver	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.05
Sodium	284	74.8	12.6	5.86	7.7	4.8	28.4	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	N/A
Vanadium	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.703	3.12	0.337	0.231	0.308	0.0763	0.942	0.3

Note:

All results are reported in milligrams per liter (mg/L).
U - Not detected.

TABLE 2

GROUND-WATER ELEVATION DATA
TAM CERAMICS, NIAGARA FALLS, NEW YORK

DATES	MWBBL1R			MWBBL2R			NPW-H2U		
	TOR Reference Elevation (Revised)	Depth to Water	Groundwater Elevation	TOR Reference Elevation (Revised)	Depth to Water	Groundwater Elevation	TOR Reference Elevation (Revised)	Depth to Water	Groundwater Elevation
January 6, 1995	612.66	12.86	599.80	620.59	13.85	606.74	621.66	11.76	609.90
September 27, 1995	612.66	20.74	591.92	620.59	21.95	598.64	621.66	17.02	604.64
December 13, 1995	612.66	13.40	599.26	620.59	14.05	606.54	621.66	11.10	610.56
March 22, 1996	612.66	14.38	598.28	620.59	13.22	607.37	621.66	9.88	611.78
June 24, 1996	612.66	14.82	597.84	620.59	13.90	606.69	621.66	11.28	610.38
December 26, 1996	612.66	14.59	598.07	620.59	13.38	607.21	621.66	11.04	610.62
July 8, 1997	612.66	16.35	596.31	620.59	16.24	604.35	621.66	12.95	608.71

Note:

TOR = Top of Riser
All data is expressed in feet.

Columbia Analytical Services, Inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

July 21, 1997

Mr. Bill Popham
Blasland Bouck & Lee, Inc.
30 Corporate Woods
Suite 160
Rochester, NY 14623

PROJECT:TAM CERAMICS
Submission #:9707000128

Dear Mr. Popham

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 288-5380.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Janice Jaeger
Project Chemist

Enc.

RECEIVED
JUL 23 1997
BLASLAND, BOUCK & LEE, INC.
ROCHESTER, NY

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director prior to report submittal.

1 Mustard St.• Suite 250 • Rochester, NY 14609 • Tele:(716)288-5380 • Fax:(716)288-8475
65 Ramapo Valley Rd. • Suite 16 • Mahwah, NJ 07430 • Tele:(201)512-3292 • Fax:(201)512-3362
12699 Roll Rd. • Akron, NY 14001 • Tele:(716)542-1264 • Fax:(716)542-3353

Columbia Analytical Services Inc.

Effective 04/01/96

CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits.
(Flag the entire batch - Inorganic analysis only)

* - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits.

D - Spike diluted out.

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

CAS Lab ID # for State Certifications

NY ID # in Rochester:	10145	NJ ID # in Rochester:	73004
CT ID # in Rochester:	PH0556	RI ID # in Rochester:	158
MA ID # in Rochester:	M-NY032		

COLUMBIA ANALYTICAL SERVICES

Reported: 07/21/97

Blasland Bouck & Lee, Inc.
Project Reference:TAM CERAMICS
Client Sample ID :MWBBL1R

Date Sampled :07/08/97 Order #:156350 Sample Matrix:WATER
Date Received:07/08/97 Submission #:9707000128

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	17.6	MG/L	07/17/97	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	07/17/97	1.0
ARSENIC	0.0100	0.0541	MG/L	07/17/97	1.0
BARIUM	0.0200	0.246	MG/L	07/17/97	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	07/17/97	1.0
CADMIUM	0.00500	0.0158	MG/L	07/17/97	1.0
CALCIUM	0.500	420	MG/L	07/17/97	1.0
CHROMIUM	0.0100	0.0223	MG/L	07/17/97	1.0
COBALT	0.0500	0.0500 U	MG/L	07/17/97	1.0
COPPER	0.0200	0.0385	MG/L	07/17/97	1.0
IRON	0.100	26.8	MG/L	07/17/97	1.0
LEAD	0.00500	0.747	MG/L	07/17/97	1.0
MAGNESIUM	0.500	474	MG/L	07/17/97	1.0
MANGANESE	0.0100	1.51	MG/L	07/17/97	1.0
MERCURY	0.000300	0.000357	MG/L	07/15/97	1.0
NICKEL	0.0400	0.0400 U	MG/L	07/17/97	1.0
POTASSIUM	2.00	32.0	MG/L	07/18/97	1.0
SELENIUM	0.0100	0.0100 U	MG/L	07/17/97	1.0
SILVER	0.0100	0.0115	MG/L	07/17/97	1.0
SODIUM	2.00	771	MG/L	07/18/97	10.0
THALLIUM	0.0100	0.0252	MG/L	07/17/97	1.0
VANADIUM	0.0500	0.0500 U	MG/L	07/17/97	1.0
ZINC	0.0100	2.73	MG/L	07/18/97	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 07/21/97

Blasland Bouck & Lee, Inc.
Project Reference:TAM CERAMICS
Client Sample ID :MWBBL2R

Date Sampled :07/08/97 **Order #:**156351 **Sample Matrix:**WATER
Date Received:07/08/97 **Submission #:**9707000128

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	13.1	MG/L	07/17/97	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	07/17/97	1.0
ARSENIC	0.0100	0.0194	MG/L	07/17/97	1.0
BARIUM	0.0200	0.0860	MG/L	07/17/97	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	07/17/97	1.0
CADMIUM	0.00500	0.00655	MG/L	07/17/97	1.0
CALCIUM	0.500	181	MG/L	07/17/97	1.0
CHROMIUM	0.0100	0.0194	MG/L	07/17/97	1.0
COBALT	0.0500	0.0500 U	MG/L	07/17/97	1.0
COPPER	0.0200	0.0370	MG/L	07/17/97	1.0
IRON	0.100	12.1	MG/L	07/17/97	1.0
LEAD	0.00500	0.197	MG/L	07/17/97	1.0
MAGNESIUM	0.500	103	MG/L	07/17/97	1.0
MANGANESE	0.0100	0.313	MG/L	07/17/97	1.0
MERCURY	0.000300	0.000300 U	MG/L	07/15/97	1.0
NICKEL	0.0400	0.0400 U	MG/L	07/17/97	1.0
POTASSIUM	2.00	8.96	MG/L	07/18/97	1.0
SELENIUM	0.0100	0.0100 U	MG/L	07/17/97	1.0
SILVER	0.0100	0.0100 U	MG/L	07/17/97	1.0
SODIUM	2.00	28.4	MG/L	07/18/97	1.0
THALLIUM	0.0100	0.0100 U	MG/L	07/17/97	1.0
VANADIUM	0.0500	0.0500 U	MG/L	07/17/97	1.0
ZINC	0.0100	0.942	MG/L	07/18/97	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 07/21/97

Blasland Bouck & Lee, Inc.
Project Reference:TAM CERAMICS
Client Sample ID :NPW-H2U

Date Sampled :07/08/97 **Order #:**156352 **Sample Matrix:**WATER
Date Received:07/08/97 **Submission #:**9707000128

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	2.59	MG/L	07/17/97	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	07/17/97	1.0
ARSENIC	0.0100	0.0122	MG/L	07/17/97	1.0
BARIUM	0.0200	0.153	MG/L	07/17/97	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	07/17/97	1.0
CADMIUM	0.00500	0.00500 U	MG/L	07/17/97	1.0
CALCIUM	0.500	144	MG/L	07/17/97	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	07/17/97	1.0
COBALT	0.0500	0.0500 U	MG/L	07/17/97	1.0
COPPER	0.0200	0.0209	MG/L	07/17/97	1.0
IRON	0.100	9.11	MG/L	07/17/97	1.0
LEAD	0.00500	0.915	MG/L	07/17/97	1.0
MAGNESIUM	0.500	59.7	MG/L	07/17/97	1.0
MANGANESE	0.0100	0.161	MG/L	07/17/97	1.0
MERCURY	0.000300	0.000300 U	MG/L	07/15/97	1.0
NICKEL	0.0400	0.0400 U	MG/L	07/17/97	1.0
POTASSIUM	2.00	2.42	MG/L	07/18/97	1.0
SELENIUM	0.0100	0.0100 U	MG/L	07/17/97	1.0
SILVER	0.0100	0.0100 U	MG/L	07/17/97	1.0
SODIUM	2.00	88.1	MG/L	07/18/97	1.0
THALLIUM	0.0100	0.0100 U	MG/L	07/17/97	1.0
VANADIUM	0.0500	0.0500 U	MG/L	07/17/97	1.0
ZINC	0.0100	2.02	MG/L	07/18/97	1.0

COLUMBIA ANALYTICAL SERVICES, INC.
1 Mustard St., Suite 250, P.O. Box 90859, Rochester, NY 14609-0859
(716) 288-5380 • FAX (716) 288-8475

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

DATE 7/8/97 PAGE 1 OF 1

PROJECT NAME TAM CERAMICS
PROJECT MANAGER/CONTACT WILLIAM POPHAM
COMPANY/ADDRESS BLASLAND, BOUCK & LEE
30 CORPORATE WOODS SUITE 160 ROCH
TEL (716) 292-6740 FAX (716) 292-6715
SAMPLER'S SIGNATURE Michael R Arlauckas

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624	GC/MS SVOA's ☐ 8270A ☐ 625	GC VOA's ☐ 8010/8020 ☐ 601/602	PESTICIDES/PCB's ☐ 8080 ☐ 608	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	TAL METALS	PRESERVATION pH < 2.0	PRESERVATION pH > 12	PRESERVATION Other HNO3
MWBBLIR	7/8/97	1130	156350	WATER	1											1		●	✓
MWBBL2R	↓	1300	156351	↓	1											1			✓
NPW-H2U	7/8/97	1430	156352	WATER	1											1			✓

RELINQUISHED BY:
Signature: Michael R Arlauckas
Printed Name: MICHAEL R ARLAUCKAS
Firm: BLASLAND, BOUCK & LEE
Date/Time: 7/8/97 1630

RECEIVED BY:
Signature: Tom Hastings
Printed Name: Tom Hastings
Firm: CAL
Date/Time: 7/8/97 16:30

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
X Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
X 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via: Client ●
Shipping #:
Temperature: 3.6°C
Submission No: 7-128

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

65 RAMAPO VALLEY ROAD, MAHWAH, NJ 07430 — 201-512-3292, FAX 201-512-3362
309 WEST RIDLEY AVE., RIDLEY PARK, PA 19078 — 610-521-3083, FAX 610-521-4589

UPGRADIENT WELL #NPW-H2U (mg/l)

DATE COLLECTED PARAMETER	GW Std.	5/26/94	1/6/95	9/27/95	12/13/95	3/22/96	6/24/96	12/26/96	7/8/97
Aluminum	N/A	.99	2.96	4.78	3.99	2.81	2.83	2.32	2.59
Antimony	N/A	U(0.1)	U(0.1)	U(0.01)	U(0.01)	U(0.06)	U(0.06)	U(0.06)	U(0.06)
Arsenic	0.025	U(0.005)	0.0094	0.0165	U(0.005)	U(0.01)	0.0113	U(0.01)	0.0122
Barium	1	0.8876	0.0355	.239	0.038	0.0372	0.0316	0.0292	0.153
Berylium	N/A	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)
Cadmium	0.01	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)
Calcium	N/A	145	129	192	145	117	128	106	144
Chromium	0.05	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)
Cobalt	N/A	U(0.05)	U(0.05)	U(0.05)	U(0.05)	U(0.05)	U(0.05)	U(0.05)	U(0.05)
Copper	0.2	U(0.02)	U(0.02)	U(0.02)	U(0.02)	U(0.02)	U(0.02)	U(0.02)	**0.0209**
Iron	0.3	**3.48**	**5.64**	**19.9**	**6.83**	**5.8**	**5.8**	**3.63**	**9.11**
Lead	0.025	**0.0477**	**0.103**	**2.5**	**0.1810**	**0.197**	**0.149**	**0.0378**	**0.915**
Magnesium	N/A	57.2	57.3	80.1	61.2	49.4	48.5	41.5	59.7
Manganese	0.3	0.122	0.127	0.294	0.178	0.131	0.107	0.0826	0.161
Mercury	0.002	U(.0001)	U(.0002)	U(.0002)	U(.0002)	0.00036	0.0002	0.0003	0.0003
Nickel	N/A	U(0.04)	U(0.04)	U(0.04)	U(0.04)	U(0.04)	U(0.04)	U(0.04)	U(0.04)
Potassium	N/A	2.9	1.57	3.23	1.80	1.92	1.85	1.97	2.42
Selenium	0.01	U(0.005)	U(0.005)	U(0.01)	U(0.005)	U(0.005)	U(0.005)	0.00839	U(0.01)
Silver	0.05	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)
Sodium	20	**47.8**	12.1	**155**	8.72	8.72	9.24	4.97	**88.1**
Thallium	N/A	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)
Vanadium	N/A	U(0.005)	U(0.005)	U(0.05)	U(0.05)	U(0.05)	U(0.05)	U(0.05)	U(0.05)
Zinc	0.3	**0.847**	**0.364**	**2.94**	0.277	0.285	0.25	0.137	**2.02**

DOWN GRADIENT WELL #MW-BBL1R (mg/l)

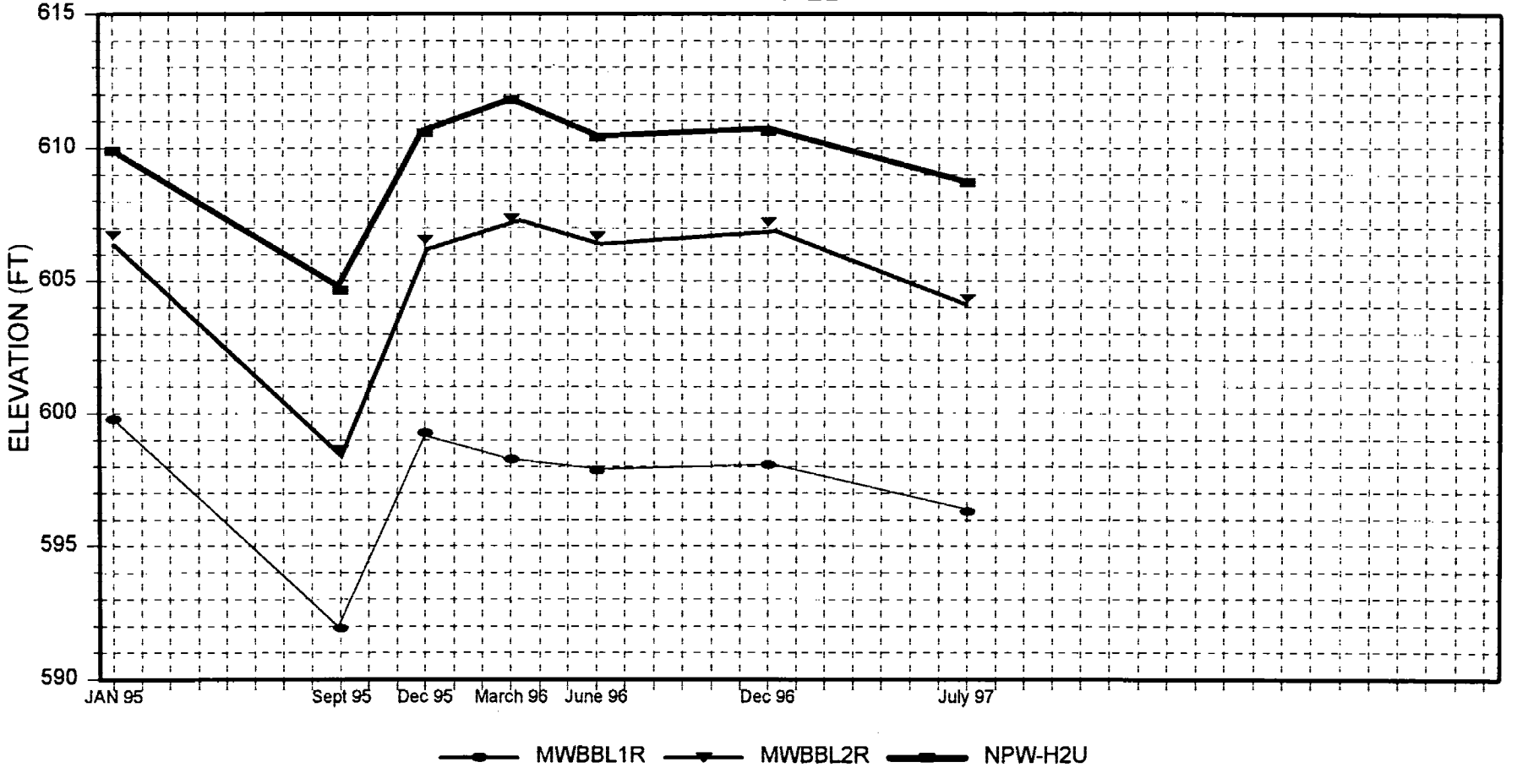
DATE COLLECFTED PARAMETER	GW Std.	1/6/95	9/27/95	12/13/95	3/22/96	6/24/96	12/26/96	7/8/97	
Aluminum	N/A	0.242	16.5	7.61	12.7	22.4	5.53	17.6	
Antimony	N/A	U(0.1)	0.0107	U(0.01)	U(0.06)	U(0.06)	U(0.06)	U(0.06)	
Arsenic	0.025	0.0066	**0.0501**	U(0.005)	**0.0267**	**0.0275**	0.0122	0.0541	
Barium	1	U(0.02)	0 35	0.148	0.22	0.239	0.178	0.246	
Berylium	N/A	U(0.005)	U(0.005)	U(0.005)	U(.0005)	U(.0005)	U(0.005)	U(0.005)	
Cadmium	0.01	U(0.005)	**0.0173**	U(0.005)	0 00710	**0.0116**	0.00565	**0.0158**	
Calcium	N/A	90.9	627	256	372	690	424	420	
Chromium	0.05	U(0.01)	0.0283	0.0292	0.021	0.0318	0.0118	0.0223	
Cobalt	N/A	U(0.05)	U(0.05)	0.05	U(0.05)	U(0.05)	U(0.05)	U(0.05)	
Copper	0.2	U(0.02)	0.0216	U(0.02)	0.0251	0.0486	0.0203	0.0385	
Iron	0.3	0.316	**25.5**	**10.4**	**19.9**	**35.6**	**10.6**	**26.8**	
Lead	0.025	0.0068	**0.315**	**0.111**	**0.14**	**0.307**	**0.075**	**0.747**	
Magnesium	N/A	35	572	244	355	495	428	474	
Manganese	0.3	U(0.01)	**1.34**	**0.431**	**0.719**	**1.49**	**0.601**	**1.51**	
Mercury	0.002	U(.0002)	0.00033	0.00042	.000546	U(.0002)	U(.0003)	.000357	
Nickel	N/A	U(0.04)	U(0.04)	U(0.04)	U(0.04)	U(0.04)	U(0.04)	U(0.04)	
Potassium	N/A	U(1.0)	27 5	19.5	27.4	28.6	50.5	32	
Selenium	0.01	U(0.005)	U(0.01)	U(0.005)	U(0.005)	U(0.005)	**0.0247**	U(0.01)	
Silver	0.05	U(0.01)	0.0218	U(0.01)	0.011	0.013	U(0.01)	0.0115	
Sodium	20	7.83	**890**	**392**	**625**	**558**	**885**	**771**	
Thallium	N/A	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	0.0252	
Vanadium	N/A	U(0.05)	U(0.05)	U(0.005)	U(0.05)	U(0.05)	U(0.05)	U(0.05)	
Zinc	0.3	0.0634	**3.17**	**1.4**	**2.18**	**2.99**	**1.49**	**2.73**	

DOWN GRADIENT WELL #MW-BBL2R (mg/l)

DATE COLLECFTED PARAMETER	GW Std.	1/6/95	9/27/95	12/12/95	3/22/96	6/24/96	12/26/96	7/8/97	
Aluminum	N/A	0.118	28.4	7.78	4.71	11.3	0.528	13.1	
Antimony	N/A	0.103	U(0.01)	U(0.01)	U(0.06)	U(0.06)	U(0.06)	U(0.06)	
Arsenic	0.025	**0.03**	0.0224	U(0.005)	U(0.01)	0.0117	U(0.01)	0.0194	
Barium	1	0.0812	0.151	0.0497	0.102	0.068	U(0.02)	0.086	
Berylium	N/A	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)	
Cadmium	0.01	U(0.005)	**0.0105**	U(0.005)	U(0.005)	U(0.005)	U(0.005)	0.00655	
Calcium	N/A	192	280	129	102	103	88.1	181	
Chromium	0.05	U(0.01)	0.0388	0.0102	U(0.01)	0.0129	U(0.01)	0.0194	
Cobalt	N/A	U(0.05)	U(0.05)	U(0.02)	U(0.05)	U(0.05)	U(0.05)	U(0.05)	
Copper	0.2	U(0.02)	0.0295	U(0.02)	0.0205	U(0.02)	U(0.02)	0.037	
Iron	0.3	0.0973	**27.8**	**5.76**	**3.94**	**9.44**	**0.398**	**12.1**	
Lead	0.025	U(0.005)	**0.27**	**0.0997**	**0.0681**	**0.135**	0.00814	**0.197**	
Magnesium	N/A	152	179	56 4	41.6	41.8	32.7	103	
Manganese	0.3	U(0.01)	**0.705**	0.120	0.0771	0.133	U(0.01)	**0.313**	
Mercury	0.002	U(.0002)	0.00022	U(.0002)	.000392	U(.0002)	U(.0003)	U(.0003)	
Nickel	N/A	U(0.04)	U(0.04)	U(0.04)	U(0.04)	U(0.04)	U(0.04)	U(0.04)	
Potassium	N/A	6.3	36.5	4.33	1.84	3.94	U(1.0)	8.96	
Selenium	0.01	U(0.005)	U(0.01)	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.01)	
Silver	0.05	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	
Sodium	20	**284**	**74.8**	12.6	5.86	7.7	4.8	**28.4**	
Thallium	N/A	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	
Vanadium	N/A	U(0.05)	U(0.05)	U(0.05)	U(0.05)	U(0.05)	U(0.05)	U(0.05)	
Zinc	0.3	**0.703**	**3.12**	**0.337**	0.231	**0.308**	0.0763	**0.942**	

TAM CERAMICS

WATER LEVEL



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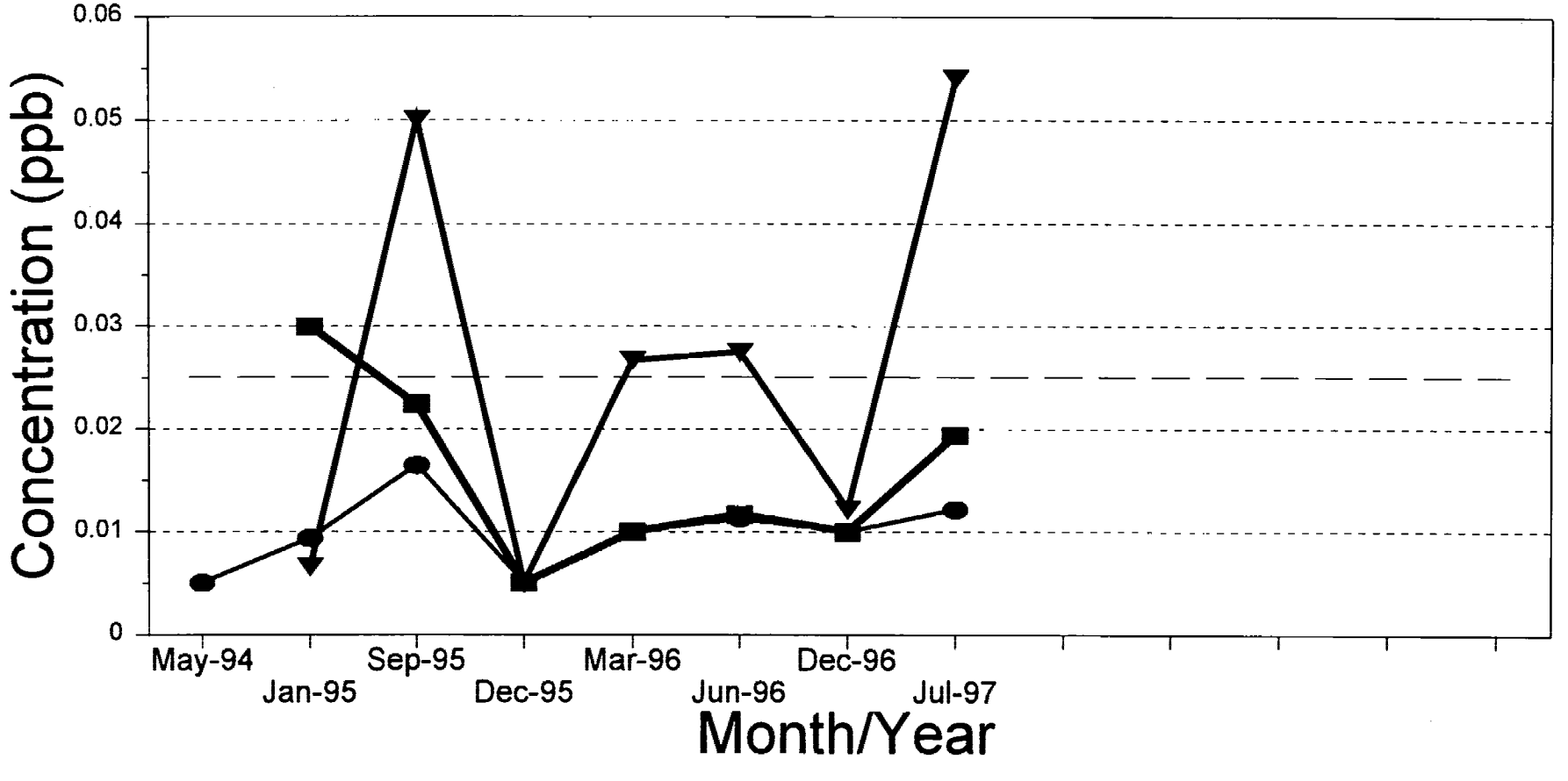
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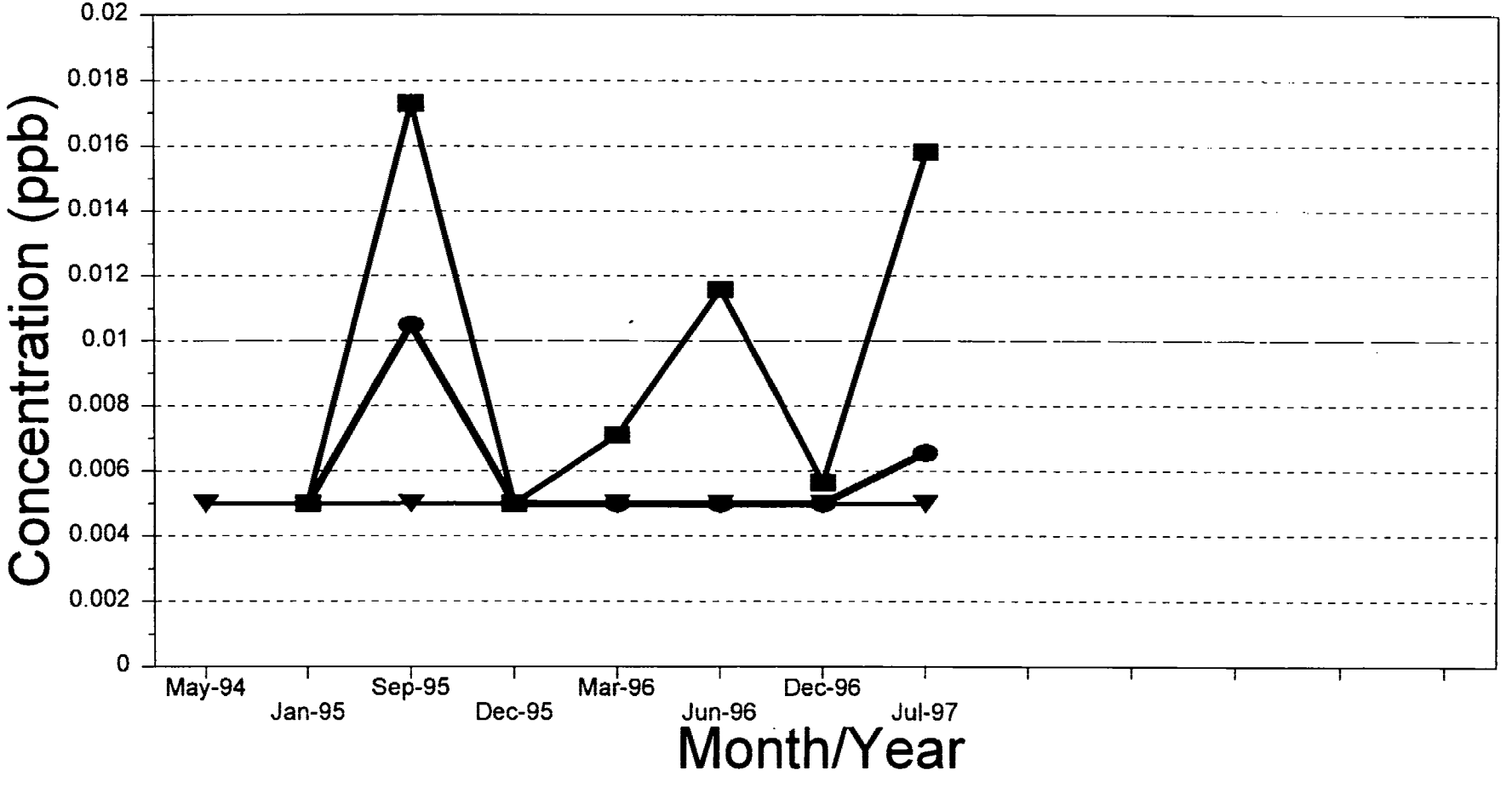
0.05
0.04
0.03
0.02
0.01
0
May-94
Jan-95
Sep-95
Dec-95
Mar-96
Jun-96
Dec-96
Jul-97
Month/Year
BBL-2R
NPW-H2U
BBL-1R
GW Std.

Cadmium


Concentration (ppb)
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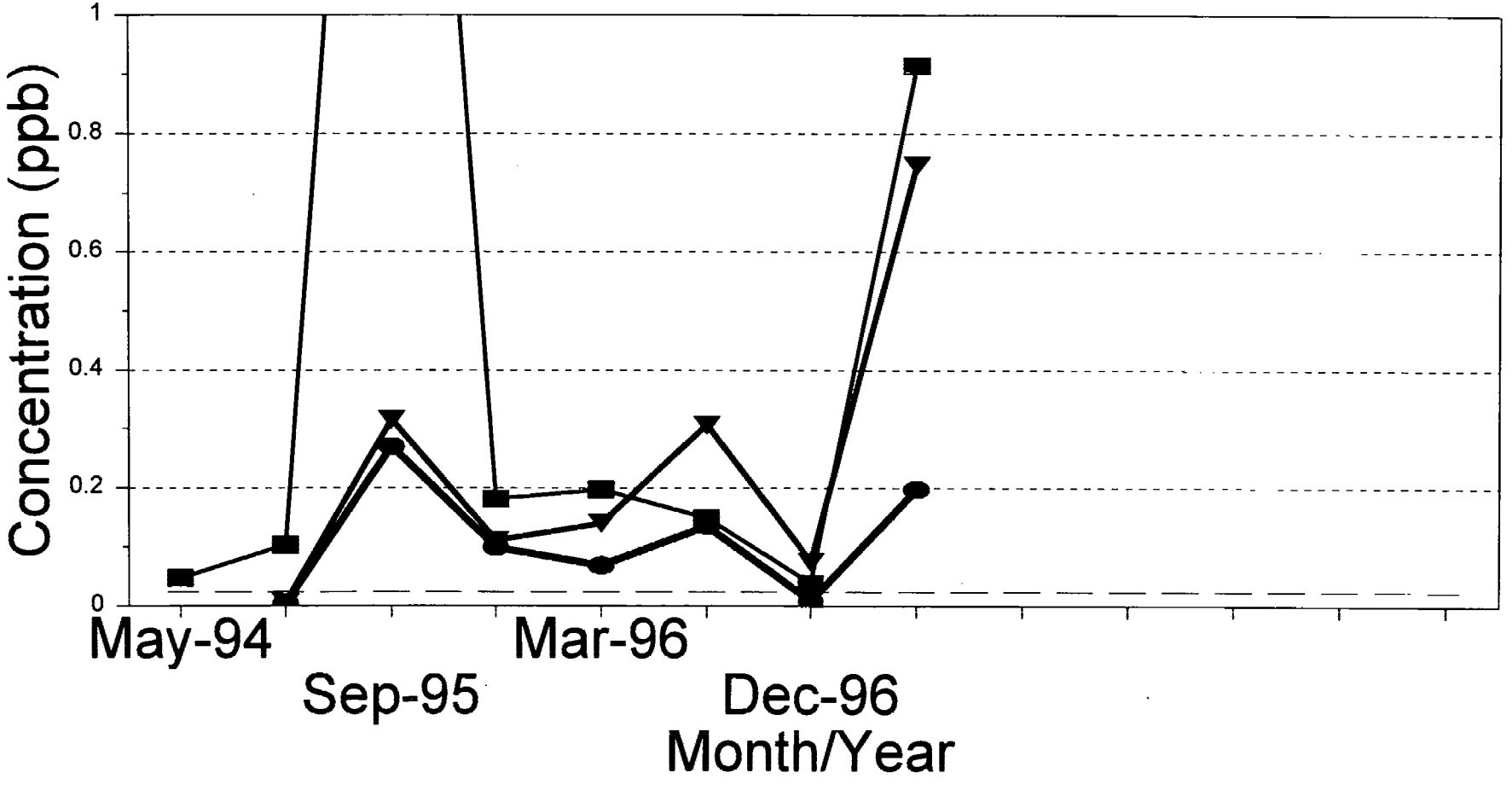
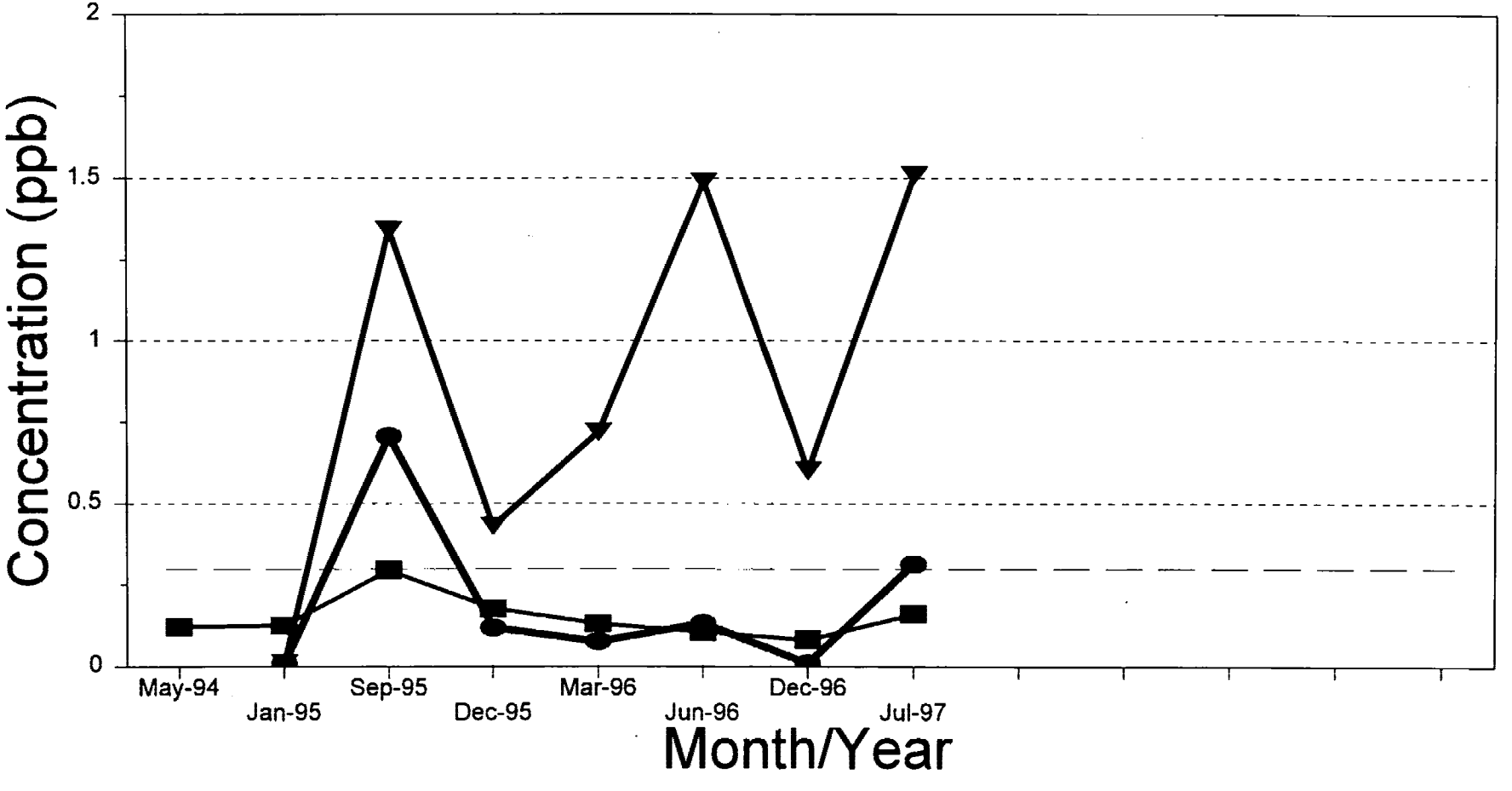
0.018
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
May-94
Jan-95
Sep-95
Dec-95
Mar-96
Jun-96
Dec-96
Jul-97
Month/Year
NPW-2U
BBL-1R
BBL-2R
GW Std.

Lead


Concentration (ppb)
1
0.8
0.6
0.4
0.2
0
May-94
Sep-95
Mar-96
Dec-96
Month/Year
NPW-H2U
BBL-1R
BBL-2R
GW Std.

Manganese


Concentration (ppb)
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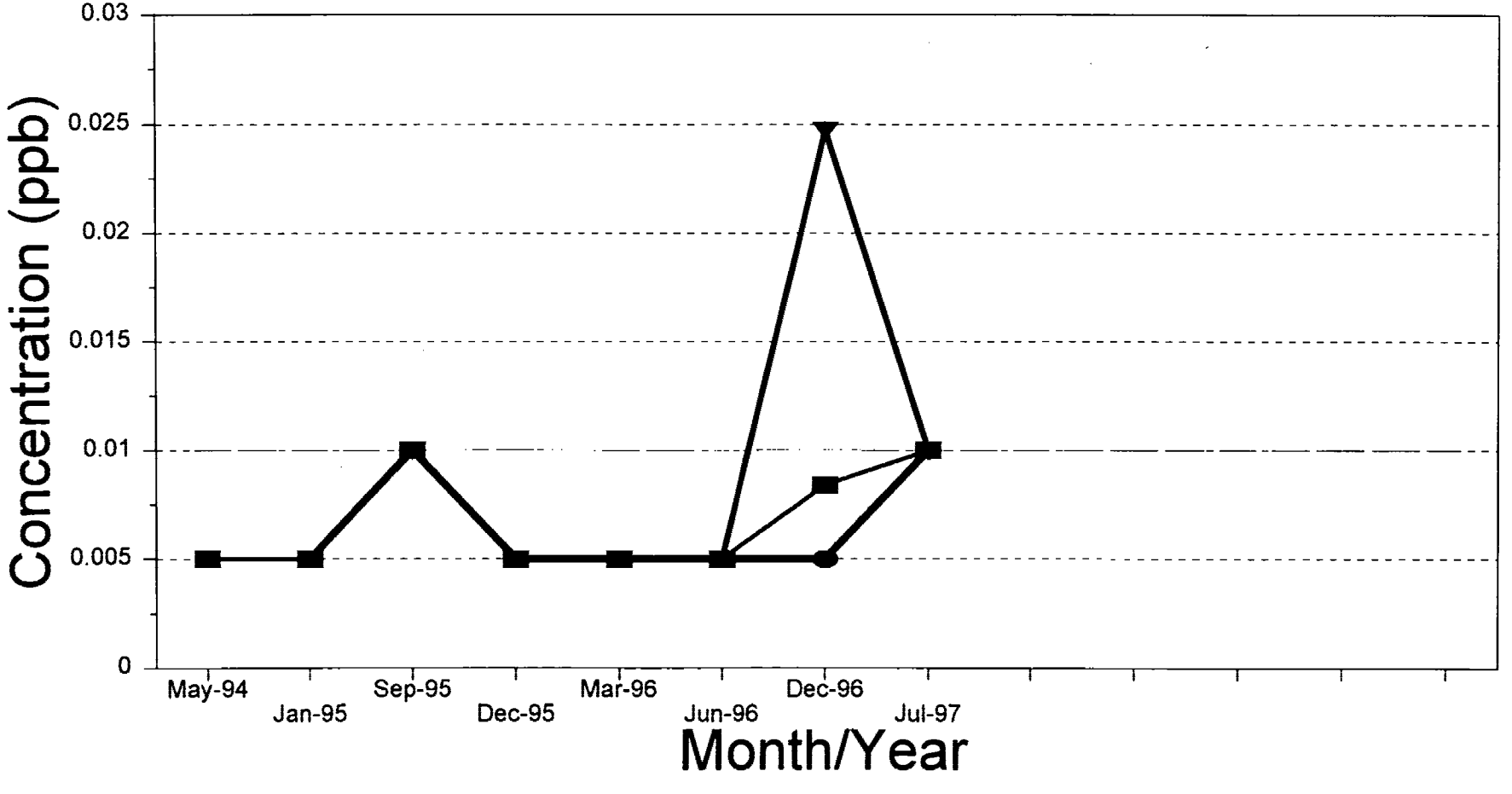
1
0.5
0
May-94
Jan-95
Sep-95
Dec-95
Mar-96
Jun-96
Dec-96
Jul-97
Month/Year
NPW-H2U
BBL-1R
BBL-2R
GW-Std.

Selinium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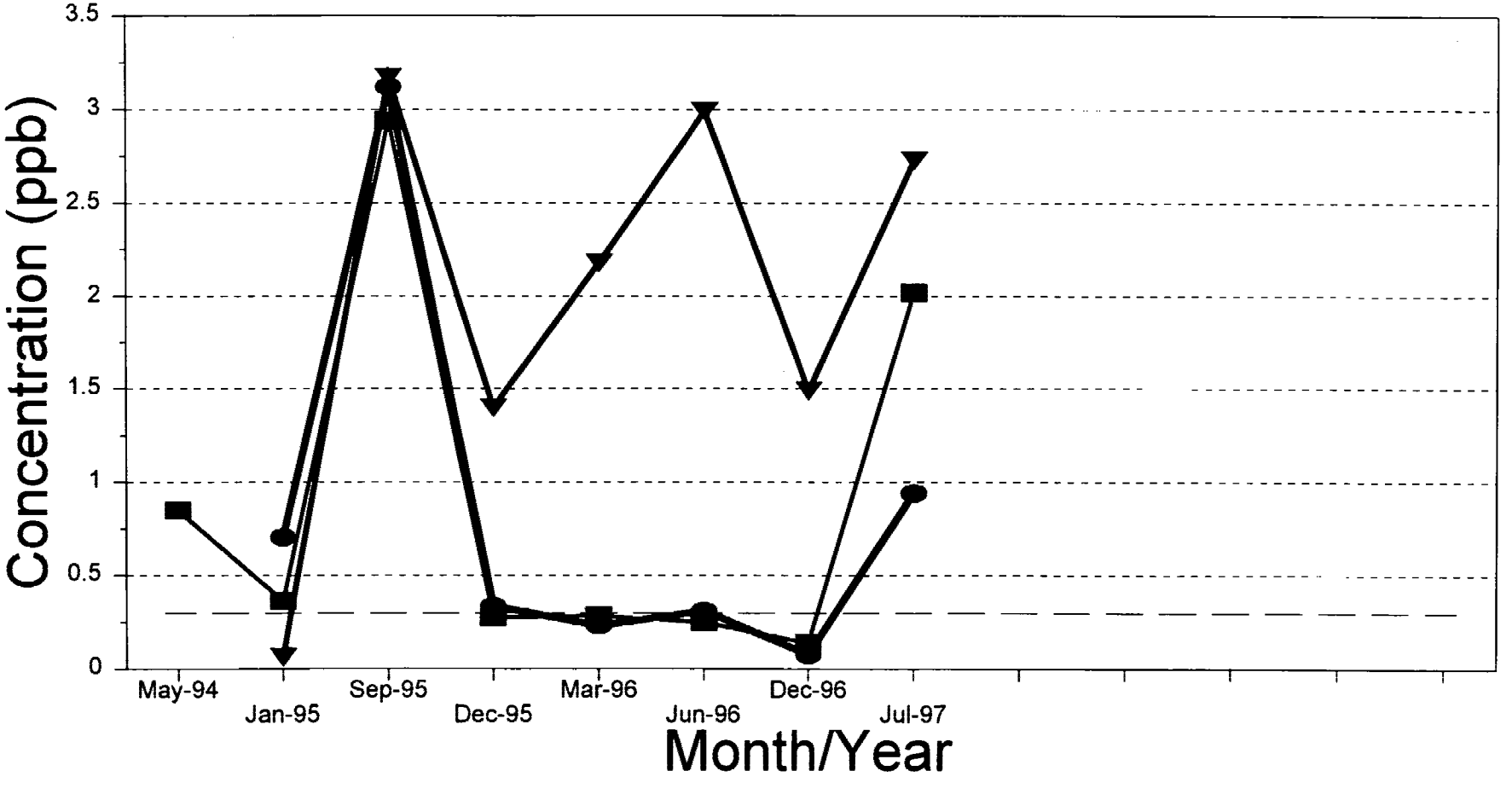
0.005
0
Concentration (ppb)
May-94
Jan-95
Sep-95
Dec-95
Mar-96
Jun-96
Dec-96
Jul-97
Month/Year
NPW-H2U
BBL-1R
BBL-2R
GW-Std.

Zinc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3
2.5
2
1.5
1
0.5
0
Concentration (ppb)
May-94
Jan-95
Sep-95
Dec-95
Mar-96
Jun-96
Dec-96
Jul-97
Month/Year
NPW-H2U
BBL-1R
BBL-2R
GW-Std.

UPGRADIENT WELL #NPW-H2U (mg/l)

DATE COLLECTED PARAMETER	GW Std.	5/26/94	1/6/95	9/27/95	12/13/95	3/22/96	6/24/96		
Aluminum	N/A	.99	2.96	4.78	3.99	2.81	2.83		
Antimony	N/A	U(0.1)	U(0.1)	U(0.01)	U(0.01)	U(0.06)	U(0.06)		
Arsenic	0.025	U(0.005)	0.0094	0.0165	U(0.005)	U(0.01)	0.0113		
Barium	1	0.8876	0.0355	.239	0.038	0.0372	0.0316		
Berylium	N/A	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)		
Cadmium	0.01	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)		
Calcium	N/A	145	129	192	145	117	128		
Chromium	N/A	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)		
Cobalt	N/A	U(0.05)	U(0.05)	U(0.05)	U(0.05)	U(0.05)	U(0.05)		
Copper	1	U(0.02)	U(0.02)	U(0.02)	U(0.02)	U(0.02)	U(0.02)		
Iron	1	**3.48**	**5.64**	**19.9**	**6.83**	**5.8**	**5.8**		
Lead	0.025	**0.0477**	**0.103**	**2.5**	**0.1810**	**0.197**	**0.149**		
Magnesium	N/A	57.2	57.3	80.1	61.2	49.4	48.5		
Manganese	0.3	0.122	0.127	0.294	0.178	0.131	0.107		
Mercury	0.002	U(.0001)	U(.0002)	U(.0002)	U(.0002)	0.00036	U(.0002)		
Nickel	N/A	U(0.04)	U(0.04)	U(0.04)	U(0.04)	U(0.04)	U(0.04)		
Potassium	N/A	2.9	1.57	3.23	1.80	1.92	1.85		
Selenium	0.02	U(0.005)	U(0.005)	U(0.01)	U(0.005)	U(0.005)	U(0.005)		
Silver	0.05	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)		
Sodium	N/A	47.8	12.1	155	8.72	8.72	9.24		
Thallium	N/A	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)		
Vanadium	N/A	U(0.005)	U(0.005)	U(0.05)	U(0.05)	U(0.05)	U(0.05)		
Zinc	5	0.847	0.364	2.94	0.277	0.285	0.25		

DOWN GRADIENT WELL #MW-BBL1R (mg/l)

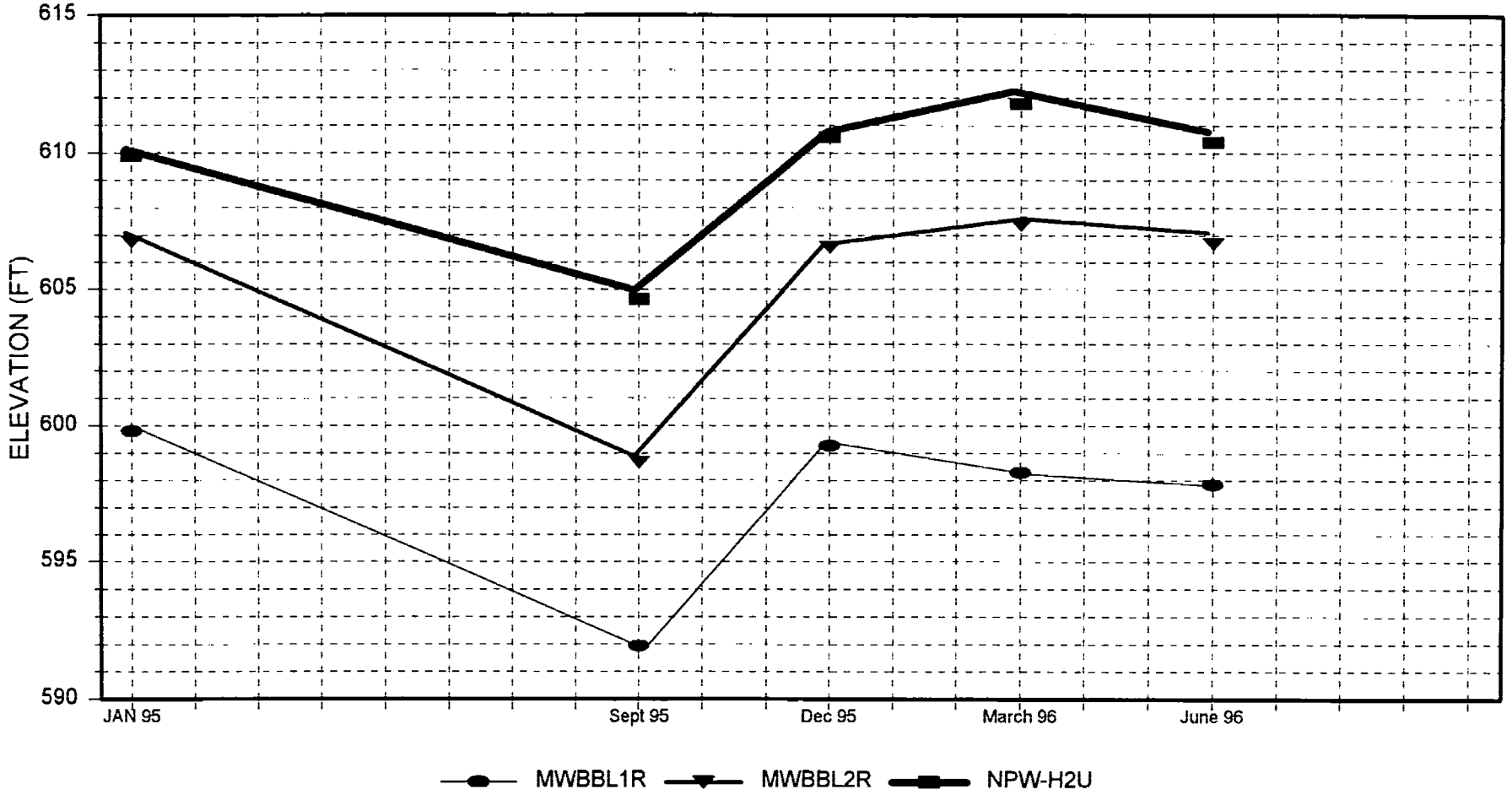
DATE COLLECFTED PARAMETER	GW Std.	1/6/95	9/27/95	12/13/95	3/22/96	6/24/96			
Aluminum	N/A	0.242	16.5	7.61	12.7	22.4			
Antimony	N/A	U(0.1)	0.0107	U(0.01)	U(0.06)	U(0.06)			
Arsenic	0.025	0.0066	**0.0501**	U(0.005)	**0.0267**	**0.0275**			
Barium	1	U(0.02)	0.35	0.148	0.22	0.239			
Berylium	N/A	U(0.005)	U(0.005)	U(0.005)	U(.0005)	U(.0005)			
Cadmium	0.01	U(0.005)	**0.0173**	U(0.005)	0.00710	0.0116			
Calcium	N/A	90.9	627	256	372	690			
Chromium	N/A	U(0.01)	0 0283	0.0292	0.021	0.0318			
Cobalt	N/A	U(0.05)	U(0.05)	0.05	U(0.05)	U(0.05)			
Copper	1	U(0.02)	0.0216	U(0.02)	0.0251	0.0486			
Iron	1	0.316	**25.5**	**10.4**	**19.9**	**35.6**			
Lead	0.025	0.0068	**0.315**	**0.111**	**0.14**	**0.307**			
Magnesium	N/A	35	572	244	355	495			
Manganese	0.3	U(0.01)	**1.34**	**0.431**	**0.719**	**1.49**			
Mercury	0.002	U(.0002)	0.00033	0.00042	.000546	U(.0002)			
Nickel	N/A	U(0.04)	U(0.04)	U(0.04)	U(0.04)	U(0.04)			
Potassium	N/A	U(1.0)	27.5	19.5	27.4	28.6			
Selenium	0.02	U(0.005)	U(0.01)	U(0.005)	U(0.005)	U(0.005)			
Silver	0.05	U(0.01)	0.0218	U(0.01)	0.011	0.013			
Sodium	N/A	7.83	890	392	625	558			
Thallium	N/A	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)			
Vanadium	N/A	U(0.05)	U(0.05)	U(0.005)	U(0.05)	U(0.05)			
Zinc	5	0.0634	3.17	1.4	2.18	2.99			

DOWN GRADIENT WELL #MW-BBL2R (mg/l)

DATE COLLECFTED PARAMETER	GW Std.	1/6/95	9/27/95	12/12/95	3/22/96	6/24/96			
Aluminum	N/A	0.118	28.4	7.78	4.71	11.3			
Antimony	N/A	0.103	U(0.01)	U(0.01)	U(0.06)	U(0.06)			
Arsenic	0.025	**0.03**	0.0224	U(0.005)	U(0.01)	0.0117			
Barium	1	0.0812	0.151	0.0497	0.102	0.068			
Berylium	N/A	U(0.005)	U(0.005)	U(0.005)	U(0.005)	U(0.005)			
Cadmium	0.01	U(0.005)	**0.0105**	U(0.005)	U(0.005)	U(0.005)			
Calcium	N/A	192	280	129	102	103			
Chromium	N/A	U(0.01)	0.0388	0.0102	U(0.01)	0.0129			
Cobalt	N/A	U(0.05)	U(0.05)	U(0.02)	U(0.05)	U(0.05)			
Copper	1	U(0.02)	0.0295	U(0.02)	0.0205	U(0.02)			
Iron	1	0.0973	**27.8**	**5.76**	**3.94**	**9.44**			
Lead	0.025	U(0.005)	**0.27**	**0.0997**	**0.0681**	**0.135**			
Magnesium	N/A	152	179	56.4	41.6	41.8			
Manganese	0.3	U(0.01)	**0.705**	0.120	0.0771	0.133			
Mercury	0.002	U(.0002)	0.00022	U(.0002)	.000392	U(.0002)			
Nickel	N/A	U(0.04)	U(0.04)	U(0.04)	U(0.04)	U(0.04)			
Potassium	N/A	6.3	36.5	4.33	1.84	3.94			
Selenium	0.02	U(0.005)	U(0.01)	U(0.005)	U(0.005)	U(0.005)			
Silver	0.05	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)			
Sodium	N/A	284	74.8	12.6	5.86	7.7			
Thallium	N/A	U(0.01)	U(0.01)	U(0.01)	U(0.01)	U(0.01)			
Vanadium	N/A	U(0.05)	U(0.05)	U(0.05)	U(0.05)	U(0.05)			
Zinc	5	0.703	3.12	0.337	0.231	0.308			

TAM CERAMICS

WATER LEVEL



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

Transmitted Via U.S. Mail

February 3, 1997

Mr. Michael J. Hinton, P.E.
Division of Hazardous Waste Remediation Region 9
New York State Department
of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: First Semi-Annual Ground-Water
Sampling Report
TAM Ceramics Site
Niagara Falls, New York
Project #: 0163-163.04 #2

Dear Mr. Hinton:

This letter report, which has been prepared by Blasland, Bouck & Lee, Inc. (BBL) on behalf of TAM Ceramics Inc. (TAM) located in Niagara Falls New York, presents the results of the first semi-annual ground-water sampling event conducted at the site. The semi-annual ground-water monitoring program, as presented in the Fourth Quarterly Ground-Water Sampling Report (BBL August 22, 1996), was approved by the New York State Department of Environmental Conservation (NYSDEC) as stated in your October 7, 1996 correspondence to TAM. The monitoring well network consists of wells MW-BBL1R, MW-BBL2R, and NPW-H2U. The ground-water samples were analyzed for the Target Analyte List of inorganics (total) by Columbia Analytical Services (formerly General Testing Corporation) of Rochester, New York.

On December 26, 1996, BBL collected the first semi-annual round of ground-water samples from the above-referenced monitoring wells. The laboratory analytical results for this round, as well as the results from the previous rounds (January 1995, September 1995, December 1995, March 1996, and June 1996) are presented in Table 1 which includes the NYCRR Part 703 ground-water standards for inorganics. The laboratory report, which contains the practical quantitation limits (PQLs) and dilution factors, is attached. In addition, water level elevations collected during each sampling event are presented in Table 2.

In summary, the first semi-annual ground-water quality data are generally consistent with the results of the previous quarterly sampling events. There has been no significant increase or decrease in past trends observed, with respect to the inorganic concentrations, at the site. Ground-water elevations are also consistent with the previous data. The second semi-annual sampling event is scheduled for June 1997.

If you have any questions regarding this ground-water sampling event, please contact me at (716) 292-6740.

Very truly yours,

BLASLAND, BOUCK & LEE, INC.

William B. Popham
Vice President

WBP/lap
Attachment
u:3097966.a

cc: Mr. Russel Steiger, TAM Ceramics, Inc.
Mr. Jerrold Brown, Esq., Hodgson, Russ, Andrews, Woods & Goodyear
Mr. Jay Young, NL Industries
Mr. David Greene, Blasland, Bouck & Lee, Inc.

TABLE 1

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	NPW-H2U (upgradient)						MW-BBL1R (downgradient)						MW-BBL2R (downgradient)						PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	12/26/96	
Aluminum	2.96	4.78	3.99	2.81	2.83	2.32	0.242	16.5	7.61	12.7	22.4	5.52	0.118	28.4	7.78	4.71	11.3	0.528	N/A
Antimony	0.100 U	0.010 U	0.0100 U	0.0600 U	0.060 U	0 060 U	0.100 U	0 0107	0.0100 U	0.0600 U	0.0600 U	0.0600 U	0.103	0.010 U	0.0100 U	0 0600 U	0.0600 U	0 0600 U	N/A
Arsenic	0.0094	0.0165	0.0050 U	0.0100 U	0.0113	0 010 U	0.0066	0 0501	0.0050 U	0 0267	0.0275	0.0122	0.03	0.0224	0.00500 U	0 0100 U	0.0117	0 0100 U	0.025
Barium	0.0355	0.239	0.0348	0.0372	0.0316	0.0292	0.0200 U	0.35	0.148	0.22	0.239	0.178	0.0812	0.151	0.0497	0.102	0.068	0 0200 U	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.0050 U	0 0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	N/A
Cadmium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.0050 U	0 0173	0.0050 U	0 0071	0.0116	0.00565	0.0050 U	0.0105	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.01
Calcium	129	192	145	117	128	106	90.9	627	256	372	690	424	192	280	129	102	103	88.1	N/A
Chromium	0.010 U	0.010 U	0 0100 U	0.0100 U	0.010 U	0 010 U	0.010 U	0.0283	0.0292	0 021	0.0318	0.0118	0.010 U	0.0388	0.0102	0.0100 U	0.0129	0.0100 U	0.05
Cobalt	0.0500 U	0 0500 U	0 0500 U	0.0500 U	0.050 U	0 050 U	0.0500 U	0 0500 U	0 0500 U	0.0500 U	0.0500 U	0.0500 U	0 0500 U	0.0500 U	0.0500 U	0.0500 U	0 0500 U	0.0500 U	N/A
Copper	0.0200 U	0 0200 U	0 0200 U	0.0200 U	0.020 U	0 020 U	0.0200 U	0 0216	0 0200 U	0 0251	0.0486	0.0203	0.0200 U	0.0295	0.0200 U	0.0205	0 0200 U	0.0200 U	0.2
Iron	5.64	19.9	6.83	5.8	5.8	3.63	0.316	25.5	10.4	19.9	35.6	10.6	0.0973	27.8	5.76	3.94	9.44	0.398	0.3
Lead	0.103	2.5	0.181	0.197	0.149	0.0378	0.0068	0.315	0.111	0.14	0.307	0.075	0.0050 U	0.27	0.0997	0.0681	0.135	0.00814	0.025
Magnesium	57.3	80.1	61.2	49.4	48.5	41.9	35	572	244	355	495	428	152	179	56.4	41.6	41.8	32.7	N/A
Manganese	0.127	0.294	0.178	0.131	0.107	0.0826	0.010 U	1.34	0.431	0.719	1.49	0.601	0.010 U	0.705	0.120	0.0771	0.133	0.0100 U	0.3
Mercury	0.00020 U	0.00020 U	0.00020 U	0.000358	0.00020	0.00030 U	0.00020 U	0 000332	0.000423	0.000546	0.00020 U	0.00030 U	0.00020 U	0.00022	0.00020 U	0 000392	0.00020 U	0.00030 U	0.002
Nickel	0.0400 U	0 0400 U	0 0400 U	0.0400 U	0.0400 U	0.040 U	0.0400 U	0 0400 U	0 0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	1.57	3.23	1.8	1.92	1.85	1.97	1.00 U	27.5	19.5	27.4	28.6	50.5	6.3	36.5	4.33	1.84	3.94	1.00 U	N/A
Selenium	0.0050 U	0.010 U	0 0050 U	0.00500 U	0.0050 U	0.00839	0.0050 U	0.010 U	0.00500 U	0.00500 U	0.00500 U	0.0247	0.0050 U	0.010 U	0.0050 U	0.00500 U	0.00500 U	0.00500 U	0.02
Silver	0.010 U	0.010 U	0 0100 U	0.0100 U	0.0100 U	0.0100 U	0.010 U	0 0218	0 0100 U	0 0110	0.013	0 0100 U	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.05
Sodium	12.1	155	8.72	8.72	9.24	4.97	7.83	890	392	625	558	885	284	74.8	12.6	5.86	7.7	4.8	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.010 U	0.010 U	0 0100 U	0.0100 U	0.0100 U	0 0100 U	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	N/A
Vanadium	0.0050 U	0 0500 U	0 0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0 0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.364	2.94	0.277	0.285	0.25	0.137	0.0634	3.17	1.40	2.18	2.99	1.49	0.703	3.12	0.337	0.231	0 308	0.0763	0.3

Note.

All results are reported in milligrams per liter (mg/L).
U - Not detected.

TABLE 2

GROUND-WATER ELEVATION DATA
TAM CERAMICS, NIAGARA FALLS, NEW YORK

Well I.D.	Top of Riser Reference Elevation (Revised)	January 6, 1995		September 27, 1995		December 13, 1995		March 22, 1996		June 24, 1996		December 26, 1996	
		Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	roundwate Elevation	Depth to Water	Groundwater Elevation
MWBBL1R	612.66	12.86	599.80	20 74	591.92	13.40	599.26	14.38	598.28	14.82	597.84	14.59	598.07
MWBBL2R	620.59	13.85	606.74	21.95	598.64	14.05	606.54	13.22	607.37	13.9	606.69	13.38	607.21
NPW-H2U	621.66	11.76	609.90	17.02	604.64	11.10	610.56	9.88	611.78	11.28	610.38	11.04	610.62

Note: All data is expressed in feet.

Columbia Analytical Services Inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

January 14, 1997

Mr. David Greene
Blasland, Bouck & Lee, Inc.
30 Corporate Woods
Suite 160
Rochester, NY 14623

PROJECT:TAM CERAMICS
Submission #:9612000358

Dear Mr. Greene

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 454-6810.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Janice Jaeger
Project Chemist

Enc.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director prior to report submittal.

700 Exchange Street • Rochester, NY 14608 • Tele:(716)454-6810 • Fax:(716)454-6825
65 Ramapo Valley Rd. • Suite 16 • Mahwah, NJ 07430 • Tele:(201)512-3292 • Fax:(201)512-3362
12699 Roll Rd. • Akron, NY 14001 • Tele:(716)542-1264 • Fax:(716)542-3353

Columbia Analytical Services Inc.

Effective 04/01/96

CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits.
(Flag the entire batch - Inorganic analysis only)

* - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits.

D - Spike diluted out.

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

CAS Lab ID # for State Certifications

NY ID # in Rochester:	10145	NJ ID # in Rochester:	73004
CT ID # in Rochester:	PH0556	RI ID # in Rochester:	158
MA ID # in Rochester:	M-NY032		

COLUMBIA ANALYTICAL SERVICES

Reported: 01/14/97

Blasland, Bouck & Lee, Inc.
Project Reference:TAM CERAMICS
Client Sample ID :MWBBL1R

Date Sampled :12/26/96 Order #:123110 Sample Matrix:WATER
Date Received:12/26/96 Submission #:9612000358

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	5.52	MG/L	01/07/97	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	01/07/97	1.0
ARSENIC	0.0100	0.0122	MG/L	01/07/97	1.0
BARIUM	0.0200	0.178	MG/L	01/07/97	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	01/07/97	1.0
CADMIUM	0.00500	0.00565	MG/L	01/07/97	1.0
CALCIUM	0.500	424	MG/L	01/07/97	1.0
CHROMIUM	0.0100	0.0118	MG/L	01/07/97	1.0
COBALT	0.0500	0.0500 U	MG/L	01/07/97	1.0
COPPER	0.0200	0.0203	MG/L	01/07/97	1.0
IRON	0.100	10.6	MG/L	01/07/97	1.0
LEAD	0.00500	0.0750	MG/L	01/07/97	1.0
MAGNESIUM	0.500	428	MG/L	01/07/97	1.0
MANGANESE	0.0100	0.601	MG/L	01/07/97	1.0
MERCURY	0.000300	0.000300 U	MG/L	01/02/97	1.0
NICKEL	0.0400	0.0400 U	MG/L	01/07/97	1.0
POTASSIUM	1.00	50.5	MG/L	01/07/97	1.0
SELENIUM	0.00500	0.0247	MG/L	01/07/97	1.0
SILVER	0.0100	0.0100 U	MG/L	01/07/97	1.0
SODIUM	0.500	885	MG/L	01/13/97	100.0
THALLIUM	0.0100	0.0100 U	MG/L	01/07/97	1.0
VANADIUM	0.0500	0.0500 U	MG/L	01/07/97	1.0
ZINC	0.0100	1.49	MG/L	01/07/97	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 01/14/97

Blasland, Bouck & Lee, Inc.
Project Reference:TAM CERAMICS
Client Sample ID :MWBBL2R

Date Sampled :12/26/96 **Order #:**123111 **Sample Matrix:**WATER
Date Received:12/26/96 **Submission #:**9612000358

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	0.528	MG/L	01/07/97	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	01/07/97	1.0
ARSENIC	0.0100	0.0100 U	MG/L	01/07/97	1.0
BARIUM	0.0200	0.0200 U	MG/L	01/07/97	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	01/07/97	1.0
CADMIUM	0.00500	0.00500 U	MG/L	01/07/97	1.0
CALCIUM	0.500	88.1	MG/L	01/07/97	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	01/07/97	1.0
COBALT	0.0500	0.0500 U	MG/L	01/07/97	1.0
COPPER	0.0200	0.0200 U	MG/L	01/07/97	1.0
IRON	0.100	0.398	MG/L	01/07/97	1.0
LEAD	0.00500	0.00814	MG/L	01/07/97	1.0
MAGNESIUM	0.500	32.7	MG/L	01/07/97	1.0
MANGANESE	0.0100	0.0100 U	MG/L	01/07/97	1.0
MERCURY	0.000300	0.000300 U	MG/L	01/02/97	1.0
NICKEL	0.0400	0.0400 U	MG/L	01/07/97	1.0
POTASSIUM	1.00	1.00 U	MG/L	01/07/97	1.0
SELENIUM	0.00500	0.00500 U	MG/L	01/07/97	1.0
SILVER	0.0100	0.0100 U	MG/L	01/07/97	1.0
SODIUM	0.500	4.80	MG/L	01/07/97	1.0
THALLIUM	0.0100	0.0100 U	MG/L	01/07/97	1.0
VANADIUM	0.0500	0.0500 U	MG/L	01/07/97	1.0
ZINC	0.0100	0.0763	MG/L	01/07/97	1.0

COLUMBIA ANALYTICAL SERVICES

Reported: 01/14/97

Blasland, Bouck & Lee, Inc.
Project Reference:TAM CERAMICS
Client Sample ID :NPW-H2U

Date Sampled :12/26/96 **Order #:**123112 **Sample Matrix:**WATER
Date Received:12/26/96 **Submission #:**9612000358

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	2.32	MG/L	01/07/97	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	01/07/97	1.0
ARSENIC	0.0100	0.0100 U	MG/L	01/07/97	1.0
BARIUM	0.0200	0.0292	MG/L	01/07/97	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	01/07/97	1.0
CADMIUM	0.00500	0.00500 U	MG/L	01/07/97	1.0
CALCIUM	0.500	106	MG/L	01/07/97	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	01/07/97	1.0
COBALT	0.0500	0.0500 U	MG/L	01/07/97	1.0
COPPER	0.0200	0.0200 U	MG/L	01/07/97	1.0
IRON	0.100	3.63	MG/L	01/07/97	1.0
LEAD	0.00500	0.0378	MG/L	01/07/97	1.0
MAGNESIUM	0.500	41.5	MG/L	01/07/97	1.0
MANGANESE	0.0100	0.0826	MG/L	01/07/97	1.0
MERCURY	0.000300	0.000300 U	MG/L	01/02/97	1.0
NICKEL	0.0400	0.0400 U	MG/L	01/07/97	1.0
POTASSIUM	1.00	1.97	MG/L	01/07/97	1.0
SELENIUM	0.00500	0.00839	MG/L	01/07/97	1.0
SILVER	0.0100	0.0100 U	MG/L	01/07/97	1.0
SODIUM	0.500	4.97	MG/L	01/07/97	1.0
THALLIUM	0.0100	0.0100 U	MG/L	01/07/97	1.0
VANADIUM	0.0500	0.0500 U	MG/L	01/07/97	1.0
ZINC	0.0100	0.137	MG/L	01/07/97	1.0

COLUMBIA ANALYTICAL SERVICES, INC.
700 Exchange Street, Rochester, New York 14608
(716) 454-6810 • FAX (716) 454-6825

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

DATE 12/26/96 PAGE 1 OF 1

PROJECT NAME TAM CERAMICS
PROJECT MANAGER/CONTACT DAVID GREEN
COMPANY/ADDRESS BLASLAND, BOUCK & LEE
30 CORPORATE WOODS SUITE 160 ROCH NY
TEL (716) 292-6740 FAX (716) 292-6715
SAMPLER'S SIGNATURE [signature]

ANALYSIS REQUESTED / **PRESERVATION**

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624	GC/MS SVOA's ☐ 8270A ☐ 625	GC VOA's ☐ 8010/8020 ☐ 601/602	PESTICIDES/PCB's ☐ 8080 ☐ 608	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ H/P ☐ VOA's ☐ SVOA's	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	TAL METALS							pH < 2.0	pH > 12	Other HNO3
MWBBL1R	12/26/96	1100	123110	WATER	1											1									X
MWBBL2R	↓	1215	123111	↓	1											1									X
NPW-H2O	12/26/96	1400	123112	WATER	1											1									X

RELINQUISHED BY:	RECEIVED BY:
Signature [signature]	Signature Tom Hastings
Printed Name MICHAEL R. ANDREKS	Printed Name Tom Hastings
Firm BLASLAND, BOUCK & LEE	Firm CAS
Date/Time 12/26/96 16:05	Date/Time 12/26/96 16:05

RELINQUISHED BY:	RECEIVED BY:
Signature	Signature
Printed Name	Printed Name
Firm	Firm
Date/Time	Date/Time

RELINQUISHED BY:	RECEIVED BY:
Signature	Signature
Printed Name	Printed Name
Firm	Firm
Date/Time	Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
X Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date ______

REPORT REQUIREMENTS
X 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via
Shipping #:
Temperature 4.5°C
Submission No: 12-358

SPECIAL INSTRUCTIONS/COMMENTS:
METALS
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

M. Hinton

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

Transmitted Via U.S. Mail

August 22, 1996

Mr. Michael J. Hinton, P.E.
Division of Hazardous Waste Remediation Region 9
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: Fourth Quarterly Ground-Water
Sampling Report
TAM Ceramics Site
Niagara Falls, New York
Project #: 0163-163.04 #2d

Dear Mr. Hinton:

This Fourth Quarterly Ground-Water Sampling Report has been prepared by Blasland, Bouck & Lee, Inc. (BBL), on behalf of TAM Ceramics Inc. (TAM), located in Niagara Falls, New York. As agreed upon with the New York State Department of Environmental Conservation (NYSDEC) at our June 15, 1995 meeting, the sampling program involves the collection and analysis of ground-water samples on a quarterly basis for a period of one year, after of which the monitoring schedule would be re-evaluated. The monitoring well network consists of wells MW-BBL1R, MW-BBL2R, and NPW-H2U. The samples were analyzed for the Target Analyte List inorganics (total) by Columbia Analytical Services (formerly General Testing Corporation) of Rochester, New York.

On June 24, 1996, BBL collected the fourth round of quarterly ground-water samples from the above-referenced wells. The sampling results for this round and previously collected January 1995, September 1995, December 1995, and March 1996 rounds are presented in Table 1, along with the 6 NYCRR Part 703 ground-water standards for inorganics. The laboratory report is also attached. In addition, water level elevations collected during each sampling event are presented in Table 2.

In summary, the fourth quarter data (ground-water quality) are generally consistent with the results of the previous sampling events. There have been no significant increasing or decreasing trends observed with respect to the inorganic concentrations. As stated in Section 8.4 of the Site Characterization Program Final Report

(BBL March 1995), after one year of monitoring, the sampling schedule will be re-evaluated. Therefore, BBL on behalf of TAM proposes that the ground-water monitoring schedule be modified to semi-annually, with samples collected from the existing well network during typical low water-table conditions (fall) and high water-table conditions (spring).

Should you concur with the semi-annual monitoring plan, the next sampling event will be scheduled for September 1996. If you have any questions regarding the ground-water sampling results or the proposed semi-annual sampling plan, please contact me at (716) 292-6740.

Very truly yours,

BLASLAND, BOUCK & LEE, INC.

William B. Popham
Vice President

WBP/brd
Attachment

cc: Mr. Russell Steiger, TAM Ceramics, Inc.
Mr. Jerrold S. Brown, Esq., Hodgson, Russ, Andrews, Woods & Goodyear
Mr. Jay Young, NL Industries
Mr. David L. Greene, Blasland, Bouck & Lee, Inc.

TABLE 1

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	NPW-H2U (upgradient)					MW-BBL1R (downgradient)					MW-BBL2R (downgradient)					PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	01/06/95	09/27/95	12/13/95	03/22/96	06/24/96	
Aluminum	2.96	4.78	3.99	2.81	2.83	0.242	16.5	7.61	12.7	22.4	0.118	28.4	7.78	4.71	11.3	N/A
Antimony	0.100 U	0.010 U	0.0100 U	0.0600 U	0.060 U	0.100 U	0.0107	0.0100 U	0.0600 U	0.0600 U	0.103	0.010 U	0.0100 U	0.0600 U	0.0600 U	N/A
Arsenic	0.0094	0.0165	0.0050 U	0.0100 U	0.0113	0.0066	0.0501	0.0050 U	0.0267	0.0275	0.03	0.0224	0.00500 U	0.0100 U	0.0117	0.025
Barium	0.0355	0.239	0.0348	0.0372	0.0316	0.0200 U	0.35	0.148	0.22	0.239	0.0812	0.151	0.0497	0.102	0.068	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.00500 U	N/A
Cadmium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.0173	0.0050 U	0.0071	0.0116	0.0050 U	0.0105	0.0050 U	0.00500 U	0.00500 U	0.01
Calcium	129	192	145	117	128	90.9	627	256	372	690	192	280	129	102	103	N/A
Chromium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.010 U	0.010 U	0.0283	0.0292	0.021	0.0318	0.010 U	0.0388	0.0102	0.0100 U	0.0129	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.050 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.020 U	0.0200 U	0.0216	0.0200 U	0.0251	0.0486	0.0200 U	0.0295	0.0200 U	0.0205	0.0200 U	0.2
Iron	5.64	19.9	6.83	5.8	5.8	0.316	25.5	10.4	19.9	35.6	0.0973	27.8	5.76	3.94	9.44	0.3
Lead	0.103	2.5	0.181	0.197	0.149	0.0068	0.315	0.111	0.14	0.307	0.0050 U	0.27	0.0997	0.0681	0.135	0.025
Magnesium	57.3	80.1	61.2	49.4	48.5	35	572	244	355	495	152	179	56.4	41.6	41.8	N/A
Manganese	0.127	0.294	0.178	0.131	0.107	0.010 U	1.34	0.431	0.719	1.49	0.010 U	0.705	0.120	0.0771	0.133	0.3
Mercury	0.00020 U	0.00020 U	0.00020 U	0.000358	0.00020 U	0.00020 U	0.000332	0.000423	0.000546	0.00020 U	0.00020 U	0.00022	0.00020 U	0.000392	0.00020 U	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	1.57	3.23	1.8	1.92	1.85	1.00 U	27.5	19.5	27.4	28.6	6.3	36.5	4.33	1.84	3.94	N/A
Selenium	0.0050 U	0.010 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.010 U	0.00500 U	0.00500 U	0.00500 U	0.0050 U	0.010 U	0.0050 U	0.00500 U	0.00500 U	0.02
Silver	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.010 U	0.0218	0.0100 U	0.0110	0.013	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.05
Sodium	12.1	155	8.72	8.72	9.24	7.83	890	392	625	558	284	74.8	12.6	5.86	7.7	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	0.010 U	0.010 U	0.0100 U	0.0100 U	0.0100 U	N/A
Vanadium	0.0050 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.364	2.94	0.277	0.285	0.25	0.0634	3.17	1.40	2.18	2.99	0.703	3.12	0.337	0.231	0.308	0.3

Note:

All results are reported in milligrams per liter (mg/L).

U - Not detected.

TABLE 2

GROUND-WATER ELEVATION DATA
TAM CERAMICS, NIAGARA FALLS, NEW YORK

Well I.D.	Top of Riser Reference Elevation (Revised)	January 6, 1995		September 27, 1995		December 13, 1995		March 22, 1996		June 24, 1996	
		Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
MWBBL1R	612.66	12.86	599.80	20.74	591.92	13.40	599.26	14.38	598.28	14.82	597.84
MWBBL2R	620.59	13.85	606.74	21.95	598.64	14.05	606.54	13.22	607.37	13.9	606.69
NPW-H2U	621.66	11.76	609.90	17.02	604.64	11.10	610.56	9.88	611.78	11.28	610.38

Note: All data is expressed in feet.

Columbia Analytical Services Inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

July 15, 1996

Mr. Bill Popham
Blasland, Bouck & Lee, Inc.
30 Corporate Woods
Suite 160
Rochester, NY 14623

PROJECT:TAM CERAMICS
Submission #:9606000301

Dear Mr. Popham

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at (716) 454-6810.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Janice Jaeger
Project Chemist

Enc.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director prior to report submittal.

710 Exchange Street • Rochester, NY 14608 • Tele:(716)454-6810 • Fax:(716)454-6825
85 Trinity Place • Hackensack, NJ 07601 • Tele:(201)512-3292 • Fax:(201)512-3362
435 Lawrence Bell Drive • Amherst, NY 14421 • Tele:(716)634-0454 • Fax:(716)634-9019

Columbia Analytical Services Inc.

Effective 04/01/96

CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits.
(Flag the entire batch - Inorganic analysis only)

* - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits.

D - Spike diluted out.

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

CAS Lab ID # for State Certifications

NY ID # in Rochester:	10145	NJ ID # in Rochester:	73004
CT ID # in Rochester:	PH0556	RI ID # in Rochester:	158
MA ID # in Rochester:	M-NY032		

Columbia Analytical Services, Inc.

Reported: 07/15/96

Blasland, Bouck & Lee, Inc.
Project Reference: TAM CERAMICS
Client Sample ID : WPU-H2U

Date Sampled : 06/24/96
Date Received: 06/24/96

Order #: 84931
Submission #: 9606000301

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	2.83	MG/L	07/02/96	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	07/02/96	1.0
ARSENIC	0.0100	0.0113	MG/L	07/02/96	1.0
BARIUM	0.0200	0.0316	MG/L	07/02/96	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	07/02/96	1.0
CADMIUM	0.00500	0.00500 U	MG/L	07/02/96	1.0
CALCIUM	0.500	128	MG/L	07/02/96	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	07/02/96	1.0
COBALT	0.0500	0.0500 U	MG/L	07/02/96	1.0
COPPER	0.0200	0.0200 U	MG/L	07/02/96	1.0
IRON	0.100	5.80	MG/L	07/02/96	1.0
LEAD	0.0500	0.149	MG/L	07/03/96	1.0
MAGNESIUM	0.500	48.5	MG/L	07/02/96	1.0
MANGANESE	0.0100	0.107	MG/L	07/02/96	1.0
MERCURY	0.000200	0.000200 U	MG/L	06/28/96	1.0
NICKEL	0.0400	0.0400 U	MG/L	07/02/96	1.0
POTASSIUM	1.00	1.85	MG/L	07/03/96	1.0
SELENIUM	0.00500	0.00500 U	MG/L	07/09/96	1.0
SILVER	0.0100	0.0100 U	MG/L	07/02/96	1.0
SODIUM	0.500	9.24	MG/L	07/02/96	1.0
THALLIUM	0.0100	0.0100 U	MG/L	07/02/96	1.0
VANADIUM	0.0500	0.0500 U	MG/L	07/02/96	1.0
ZINC	0.0100	0.250	MG/L	07/02/96	1.0

Columbia Analytical Services Inc

Reported: 07/15/96

Blasland, Bouck & Lee, Inc.
Project Reference: TAM CERAMICS
Client Sample ID : MWBBL2R

Date Sampled : 06/24/96
Date Received: 06/24/96

Order #: 84932
Submission #: 9606000301

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	11.3	MG/L	07/02/96	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	07/02/96	1.0
ARSENIC	0.0100	0.0117	MG/L	07/02/96	1.0
BARIUM	0.0200	0.0680	MG/L	07/02/96	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	07/02/96	1.0
CADMIUM	0.00500	0.00500 U	MG/L	07/02/96	1.0
CALCIUM	0.500	103	MG/L	07/02/96	1.0
CHROMIUM	0.0100	0.0129	MG/L	07/02/96	1.0
COBALT	0.0500	0.0500 U	MG/L	07/02/96	1.0
COPPER	0.0200	0.0200 U	MG/L	07/02/96	1.0
IRON	0.100	9.44	MG/L	07/02/96	1.0
LEAD	0.0500	0.135	MG/L	07/03/96	1.0
MAGNESIUM	0.500	41.8	MG/L	07/02/96	1.0
MANGANESE	0.0100	0.133	MG/L	07/02/96	1.0
MERCURY	0.000200	0.000200 U	MG/L	06/28/96	1.0
NICKEL	0.0400	0.0400 U	MG/L	07/02/96	1.0
POTASSIUM	1.00	3.94	MG/L	07/03/96	1.0
SELENIUM	0.00500	0.00500 U	MG/L	07/09/96	1.0
SILVER	0.0100	0.0100 U	MG/L	07/02/96	1.0
SODIUM	0.500	7.70	MG/L	07/02/96	1.0
THALLIUM	0.0100	0.0100 U	MG/L	07/02/96	1.0
VANADIUM	0.0500	0.0500 U	MG/L	07/02/96	1.0
ZINC	0.0100	0.308	MG/L	07/02/96	1.0

Columbia Analytical Services Inc

Reported: 07/15/96

Blasland, Bouck & Lee, Inc.
Project Reference: TAM CERAMICS
Client Sample ID : MWBBL1R

Date Sampled : 06/24/96 | Order #: 84933 | Sample Matrix: WATER
Date Received: 06/24/96 | Submission #: 9606000301

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	22.4	MG/L	07/02/96	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	07/02/96	1.0
ARSENIC	0.0100	0.0275	MG/L	07/02/96	1.0
BARIUM	0.0200	0.239	MG/L	07/02/96	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	07/02/96	1.0
CADMIUM	0.00500	0.0116	MG/L	07/02/96	1.0
CALCIUM	0.500	690	MG/L	07/03/96	1.0
CHROMIUM	0.0100	0.0318	MG/L	07/02/96	1.0
COBALT	0.0500	0.0500 U	MG/L	07/02/96	1.0
COPPER	0.0200	0.0486	MG/L	07/02/96	1.0
IRON	0.100	35.6	MG/L	07/02/96	1.0
LEAD	0.0500	0.307	MG/L	07/03/96	1.0
MAGNESIUM	0.500	495	MG/L	07/02/96	1.0
MANGANESE	0.0100	1.49	MG/L	07/02/96	1.0
MERCURY	0.000200	0.000200 U	MG/L	06/28/96	1.0
NICKEL	0.0400	0.0400 U	MG/L	07/02/96	1.0
POTASSIUM	1.00	28.6	MG/L	07/03/96	1.0
SELENIUM	0.00500	0.00500 U	MG/L	07/09/96	1.0
SILVER	0.0100	0.0130	MG/L	07/02/96	1.0
SODIUM	1.00	558	MG/L	07/09/96	2.0
THALLIUM	0.0100	0.0100 U	MG/L	07/02/96	1.0
VANADIUM	0.0500	0.0500 U	MG/L	07/02/96	1.0
ZINC	0.0100	2.99	MG/L	07/02/96	1.0

COLUMBIA ANALYTICAL SERVICES, INC.
700 Exchange Street, Rochester, New York 14608
(716) 454-6810 • FAX (716) 454-6825

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

DATE 6/24/96 PAGE 1 OF 1

PROJECT NAME TAM CERAMICS
PROJECT MANAGER/CONTACT WILLIAM FORGHAM
COMPANY/ADDRESS BLASLAND, BOUCK & LEE
30 CORPORATE WOODS, ROCH. NY
TEL (716) 292-6740 FAX (716) 292-6715
SAMPLER'S SIGNATURE Michael R Ahmad

ANALYSIS REQUESTED

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	# OF CONTAINERS	TAL METALS	PRESERVATION: pH < 2.0	pH > 12	Other HNO3
NPU-H2U	6/24/96	1240	84931	WATER	1	✓			X
MWBBL 2R	↓	1330	84932	↓	1	✓			X
MWBBL 1R	6/24/96	1430	84933	WATER	1	✓			X

RELINQUISHED BY:
Signature: Michael R Ahmad
Printed Name: MICHAEL R AHMAD
Firm: BLASLAND, BOUCK & LEE
Date/Time: 6/24/96 1600

RECEIVED BY:
Signature: V. Gardner
Printed Name: V. GARDNER
Firm: CAS
Date/Time: 6/24/96 @ 1600

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature: Tom Hastings
Printed Name: TOM HASTINGS
Firm: CAS
Date/Time: 6/24/96 16:00

RELINQUISHED BY:
Signature
Printed Name
Firm
Date/Time

RECEIVED BY:
Signature
Printed Name
Firm
Date/Time

TURNAROUND REQUIREMENTS
__ 24 hr. __ 48 hr. __ 5 day
✓ Standard (10-15 working days)
__ Provide Verbal Preliminary Results
__ Provide FAX Preliminary Results
Requested Report Date _____

REPORT REQUIREMENTS
✓ 1. Routine Report
__ 2. Routine Rep. w/CASE Narrative
__ 3. EPA Level III Validatable Package
__ 4. N.J. Reduced Deliverables Level IV
__ 5. NY ASP/CLP Deliverables
__ 6. Site specific QC.

INVOICE INFORMATION:
P.O. #:
Bill To:

SAMPLE RECEIPT:
Shipping Via:
Shipping #:
Temperature: 5±5°C
Submission No: 6-301

SPECIAL INSTRUCTIONS/COMMENTS:
METALS = TAL List
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

65 RAMAPO VALLEY ROAD, MAHWAH, NJ 07430 201-512-3292 FAX 201-512-3362
435 LAWRENCE BELL DR., AMHERST, NY 14221 716-634-0454 FAX 716-634-9019

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

Transmitted Via U.S. Mail

April 23, 1996

Mr. Michael J. Hinton, P.E.
Division of Hazardous Waste Remediation
Region 9
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: Third Quarterly Ground-Water
Sampling Report
TAM Ceramics Site
Niagara Falls, New York
Project #: 0163-163.04 #2d

Dear Mr. Hinton:

This Third Quarterly Ground-Water Sampling Report has been prepared by Blasland, Bouk & Lee, Inc. (BBL), on behalf of TAM Ceramics Inc. (TAM), located in Niagara Falls, New York. As agreed upon with the New York State Department of Environmental Conservation (NYSDEC) at our June 15, 1995 meeting, the sampling program involves the collection and analysis of ground-water samples on a quarterly basis for a period of one year. The monitoring well network consists of wells MW-BBL1R, MW-BBL2R, and NPW-H2U. The samples were analyzed for the Target Analyte List inorganics (total) by General Testing Corporation of Rochester, New York.

On March 22, 1996, BBL collected the third round of quarterly ground-water samples from the above-referenced wells. The sampling results for this round and previously collected January, September, and December 1995 rounds are presented in Table 1, along with the 6 NYCRR Part 703 ground-water standards for inorganics. The laboratory report is also attached. In addition, water levels collected during the sampling rounds are presented in Table 2. The fourth quarterly sampling event is scheduled for June 1996.

30 Corporate Woods • Suite 160 • Rochester, NY 14623-1477 • Tel (716) 292-6740 • Fax (716) 292-6715 • Offices Nationwide

If you have any questions regarding the ground-water sampling results, please contact me at (716) 292-6740.

Very truly yours,

BLASLAND, BOUCK & LEE, INC.

William B. Popham
Vice President

WBP/brd
40961457.b
Attachment

cc: Mr. Russell Steiger, TAM Ceramics, Inc.
Mr. Jerrold S. Brown, Esq., Hodgson, Russ, Andrews, Woods & Goodyear
Mr. Jay Young, NL Industries
Mr. David L. Greene, Blasland, Bouck & Lee, Inc.

TABLE 1

GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

ANALYTE	NPW-H2U (upgradient)				MW-BBL1R (downgradient)				MW-BBL2R (downgradient)				PART 703 GROUND WATER STANDARD
	01/06/95	09/27/95	12/13/95	03/22/96	01/06/95	09/27/95	12/13/95	03/22/96	01/06/95	09/27/95	12/13/95	03/22/96	
Aluminum	2.96	4.78	3.99	2.81	0.242	16.5	7.61	12.7	0.118	28.4	7.78	4.71	N/A
Antimony	0.100 U	0.010 U	0.0100 U	0.0600 U	0.100 U	0.0107	0.0100 U	0.0600 U	0.103	0.010 U	0.0100 U	0.0600 U	N/A
Arsenic	0.0094	0.0165	0.0050 U	0.0100 U	0.0066	0.0501	0.0050 U	0.0267	0.03	0.0224	0.00500 U	0.0100 U	0.025
Barium	0.0355	0.239	0.0348	0.0372	0.0200 U	0.35	0.148	0.22	0.0812	0.151	0.0497	0.102	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0050 U	0.0050 U	0.00500 U	N/A
Cadmium	0.0050 U	0.0050 U	0.0050 U	0.00500 U	0.0050 U	0.0173	0.0050 U	0.0071	0.0050 U	0.0105	0.0050 U	0.00500 U	0.01
Calcium	129	192	145	117	90.9	627	256	372	192	280	129	102	N/A
Chromium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.010 U	0.0283	0.0292	0.021	0.010 U	0.0388	0.0102	0.0100 U	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0216	0.0200 U	0.0251	0.0200 U	0.0295	0.0200 U	0.0205	0.2
Iron	5.64	19.9	6.83	5.8	0.316	25.5	10.4	19.9	0.0973	27.8	5.76	3.94	0.3
Lead	0.103	2.5	0.181	0.197	0.0068	0.315	0.111	0.14	0.0050 U	0.27	0.0997	0.0681	0.025
Magnesium	57.3	80.1	61.2	49.4	35	572	244	355	152	179	56.4	41.6	N/A
Manganese	0.127	0.294	0.178	0.131	0.010 U	1.34	0.431	0.719	0.010 U	0.705	0.120	0.0771	0.3
Mercury	0.00020 U	0.00020 U	0.00020 U	0.000358	0.00020 U	0.000332	0.000423	0.000546	0.00020 U	0.00022	0.00020 U	0.000392	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	1.57	3.23	1.8	1.92	1.00 U	27.5	19.5	27.4	6.3	36.5	4.33	1.84	N/A
Selenium	0.0050 U	0.010 U	0.0050 U	0.00500 U	0.0050 U	0.010 U	0.00500 U	0.00500 U	0.0050 U	0.010 U	0.0050 U	0.00500 U	0.02
Silver	0.010 U	0.010 U	0.0100 U	0.0100 U	0.010 U	0.0218	0.0100 U	0.0110	0.010 U	0.010 U	0.0100 U	0.0100 U	0.05
Sodium	12.1	155	8.72	8.72	7.83	890	392	625	284	74.8	12.6	5.86	20
Thallium	0.010 U	0.010 U	0.0100 U	0.0100 U	0.010 U	0.010 U	0.0100 U	0.0100 U	0.010 U	0.010 U	0.0100 U	0.0100 U	N/A
Vanadium	0.0050 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.364	2.94	0.277	0.285	0.0634	3.17	1.40	2.18	0.703	3.12	0.337	0.231	0.3

Note:

All results are reported in milligrams per liter (mg/L).

U - Not detected.

TABLE 2

GROUND-WATER ELEVATION DATA
TAM CERAMICS, NIAGARA FALLS, NEW YORK

Well I.D.	Top of Riser Reference Elevation (Revised)	January 6, 1995		September 27, 1995		December 13, 1995		March 22, 1996	
		Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
MWBBL1R	612.66	12.86	599.80	20.74	591.92	13.40	599.26	14.38	598.28
MWBBL2R	620.59	13.85	606.74	21.95	598.64	14.05	606.54	13.22	607.37
NPW-H2U	621.66	11.76	609.90	17.02	604.64	11.10	610.56	9.88	611.78

Note: All data is expressed in feet.

General Testing Corporation

A FULL SERVICE ENVIRONMENTAL LABORATORY

April 8, 1996

Mr. Frank Kozak
Blasland, Bouck & Lee, Inc.
30 Corporate Woods, Suite 160
Rochester, NY 14623

PROJECT:TAM CERAMICS
Submission #:9603000309

Dear Mr. Kozak

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at 454-3760.

Thank you for letting us provide this service.

Sincerely,

GENERAL TESTING CORPORATION

Janice Jaeger
Project Chemist

Enc.

This package has been reviewed by General Testing Corporation's QA Department/Laboratory Director prior to report submittal.

710 Exchange Street • Rochester, NY 14608 • Tele:(716)454-3760 • Fax:(716)454-1245
85 Trinity Place • Hackensack, NJ 07601 • Tele:(201)488-5242 • Fax:(201)488-6386
435 Lawrence Bell Drive • Amherst, NY 14421 • Tele:(716)634-0454 • Fax:(716)634-9019

General Testing Corporation

A Full Service Environmental Laboratory

Effective 10/30/95

GTC LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits.
(Flag the entire batch - Inorganic analysis only)

* - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits.

D - Spike diluted out.

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

GTC Lab ID # for State Certifications

NY ID # in Rochester: 10145
NY ID # in Hackensack: 10801
NY ID # in Massachusetts: M-NY032

NJ ID # in Rochester: 73331
NJ ID # in Hackensack: 02317

General Testing Corporation

Reported: 04/08/96

Blasland, Bouck & Lee, Inc.
Project Reference: TAM CERAMICS
Client Sample ID : NPW-H2U

Date Sampled : 03/22/96 GTC Order # : 69571 Sample Matrix: WATER
Date Received: 03/22/96 Submission #: 9603000309

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	2.81	MG/L	03/29/96	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	03/29/96	1.0
ARSENIC	0.0100	0.0100 U	MG/L	03/29/96	1.0
BARIUM	0.0200	0.0372	MG/L	03/29/96	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	03/29/96	1.0
CADMIUM	0.00500	0.00500 U	MG/L	03/29/96	1.0
CALCIUM	0.500	117	MG/L	03/29/96	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	03/29/96	1.0
COBALT	0.0500	0.0500 U	MG/L	03/29/96	1.0
COPPER	0.0200	0.0200 U	MG/L	03/29/96	1.0
IRON	0.0500	5.80	MG/L	03/29/96	1.0
LEAD	0.00500	0.197	MG/L	03/29/96	1.0
MAGNESIUM	0.500	49.4	MG/L	03/29/96	1.0
MANGANESE	0.0100	0.131	MG/L	03/29/96	1.0
MERCURY	0.000300	0.000358	MG/L	04/01/96	1.0
NICKEL	0.0400	0.0400 U	MG/L	03/29/96	1.0
POTASSIUM	1.00	1.92	MG/L	03/29/96	1.0
SELENIUM	0.00500	0.00500 U	MG/L	03/29/96	1.0
SILVER	0.0100	0.0100 U	MG/L	03/29/96	1.0
SODIUM	0.500	8.72	MG/L	03/29/96	1.0
THALLIUM	0.0100	0.0100 U	MG/L	03/29/96	1.0
VANADIUM	0.0500	0.0500 U	MG/L	03/29/96	1.0
ZINC	0.0100	0.285	MG/L	03/29/96	1.0

General Testing Corporation

Reported: 04/08/96

Blasland, Bouck & Lee, Inc.
Project Reference: TAM CERAMICS
Client Sample ID : MWBBL2R

Date Sampled : 03/22/96 GTC Order # : 69572 Sample Matrix: WATER
Date Received: 03/22/96 Submission #: 9603000309

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	4.71	MG/L	03/29/96	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	03/29/96	1.0
ARSENIC	0.0100	0.0100 U	MG/L	03/29/96	1.0
BARIUM	0.0200	0.102	MG/L	03/29/96	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	03/29/96	1.0
CADMIUM	0.00500	0.00500 U	MG/L	03/29/96	1.0
CALCIUM	0.500	102	MG/L	03/29/96	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	03/29/96	1.0
COBALT	0.0500	0.0500 U	MG/L	03/29/96	1.0
COPPER	0.0200	0.0205	MG/L	03/29/96	1.0
IRON	0.0500	3.94	MG/L	03/29/96	1.0
LEAD	0.00500	0.0681	MG/L	03/29/96	1.0
MAGNESIUM	0.500	41.6	MG/L	03/29/96	1.0
MANGANESE	0.0100	0.0771	MG/L	03/29/96	1.0
MERCURY	0.000300	0.000392	MG/L	04/01/96	1.0
NICKEL	0.0400	0.0400 U	MG/L	03/29/96	1.0
POTASSIUM	1.00	1.84	MG/L	03/29/96	1.0
SELENIUM	0.00500	0.00500 U	MG/L	03/29/96	1.0
SILVER	0.0100	0.0100 U	MG/L	03/29/96	1.0
SODIUM	0.500	5.86	MG/L	03/29/96	1.0
THALLIUM	0.0100	0.0100 U	MG/L	03/29/96	1.0
VANADIUM	0.0500	0.0500 U	MG/L	03/29/96	1.0
ZINC	0.0100	0.231	MG/L	03/29/96	1.0

General Testing Corporation

Reported: 04/08/96

Blasland, Bouck & Lee, Inc.
Project Reference: TAM CERAMICS
Client Sample ID MWBBL1R

Date Sampled : 03/22/96
Date Received: 03/22/96

GTC Order # : 69573
Submission #: 9603000309

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	12.7	MG/L	03/29/96	1.0
ANTIMONY	0.0600	0.0600 U	MG/L	03/29/96	1.0
ARSENIC	0.0100	0.0267	MG/L	03/29/96	1.0
BARIUM	0.0200	0.220	MG/L	03/29/96	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	03/29/96	1.0
CADMIUM	0.00500	0.00710	MG/L	03/29/96	1.0
CALCIUM	0.500	372	MG/L	03/29/96	1.0
CHROMIUM	0.0100	0.0210	MG/L	03/29/96	1.0
COBALT	0.0500	0.0500 U	MG/L	03/29/96	1.0
COPPER	0.0200	0.0251	MG/L	03/29/96	1.0
IRON	0.0500	19.9	MG/L	03/29/96	1.0
LEAD	0.00500	0.140	MG/L	03/29/96	1.0
MAGNESIUM	0.500	355	MG/L	03/29/96	1.0
MANGANESE	0.0100	0.719	MG/L	03/29/96	1.0
MERCURY	0.000300	0.000546	MG/L	04/01/96	1.0
NICKEL	0.0400	0.0400 U	MG/L	03/29/96	1.0
POTASSIUM	1.00	27.4	MG/L	03/29/96	1.0
SELENIUM	0.00500	0.00500 U	MG/L	03/29/96	1.0
SILVER	0.0100	0.0110	MG/L	03/29/96	1.0
SODIUM	0.500	625	MG/L	04/03/96	10.0
THALLIUM	0.0100	0.0100 U	MG/L	03/29/96	1.0
VANADIUM	0.0500	0.0500 U	MG/L	03/29/96	1.0
ZINC	0.0100	2.18	MG/L	03/29/96	1.0

GENERAL TESTING CORPORATION / CHAIN-OF-CUSTODY RECORD

710 Exchange Street, Rochester, NY 14608 | 85 Trinity Place, Hackensack, NJ 07601 | 435 Lawrence Bell Drive, Amherst, NY 14221-7077

GTC Job. No. 3-309

Client Project No. _____

Sample Origination & Shipping Information

Collection Site TAM CERAMICS

Address NIAGARA FALLS (Street / City) NEW YORK (State) Zip

Collector MICHAEL R ARLAUCKAS (Print) Michael R Arlauckas (Signature)

Bottles Prepared by MBA (BBSL) Rec'd by _____

Bottles Shipped to Client via COOLER / ON ICE Seal/Shipping # _____

Samples Shipped via _____ Seal/Shipping # _____

Sample(s) Relinquished by:	Received by:	Date//Time
1. Sign Michael R Arlauckas	1. Sign Tom Hasting	3 22 96
for BLASLAND, BOUCK & LEE	for GTC	15:20
2. Sign	2. Sign	/ /
for	for	:
3. Sign	3. Sign	/ /
for	for	:

Sample(s) Received in Laboratory by DA/Gardner 3/22/96 @ 15:20

	Client I.D. # / Lab #	Sample Location / Date/Time	*	Analyte or Analyte Group(s) Required (see below for additional)	Sample Prep Preserved Y	Preserved N	Filtered Y	Filtered N	Bottle Set(s) (see below)
1		NPW - FIELD	I	TAL METALS	X				#7
	69571	3/22/96 : 1130							
2		MW BBL2R	I	TAL METALS	X				#7
	69572	3/22/96 : 1245							
3		MW BBL1R	I	TAL METALS	X				#7
	69573	3/22/96 : 0930							
4		/ / :							
5		/ / :							

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.		
# of each											

Additional Analytes _____

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

* Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H), River or Stream (R), Pond (P), Industrial Discharge (I), GROUND-WATER (X), _____ (Y).

MJH

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

Transmitted Via U.S. Mail

February 8, 1996

Mr. Michael J. Hinton, P.E.
Environmental Engineer II
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: TAM Ceramics, Inc.
Ground water Elevation Data
Project #: 0163-163.04 #2d

Dear Mr. Hinton:

Pursuant to your January 23, 1996 letter to Mr. Russ Steiger of TAM Ceramics, Inc., Blasland, Bouck & Lee, Inc. (BBL) has reevaluated the top of riser elevations for monitoring wells BBL1R and BBL2R. Specifically, on February 1, 1996, BBL resurveyed the top of riser elevations for the referenced wells and, in addition, collected ground water measurements for wells BBL1R, BBL2R, and NPW-H2U. The corrected top of riser elevations for wells BBL1R and BBL2R are included on the attached table, as well as the newly acquired ground water elevations. The difference between the previously reported top of riser elevations and the corrected top of riser elevations does not significantly affect the ground water elevation data for these wells.

Based on the results of the September 1995 sampling event, BBL recognizes that there was a significant drop in the ground water elevation for the three referenced wells. It is BBL's opinion at this time that the significant drop may be attributable to seasonal ground water fluctuations in this area. As a result, BBL will continue to collect additional ground water elevation data, on a quarterly basis (March 1996, June 1996, September 1996, and December 1996), to corroborate the data collected in September 1995. In addition, any ground water data that you may be able to obtain from the adjacent Hyde Park Landfill site will also be valuable to corroborate previously collected data.

Should you have any questions on the attached table, please feel free to call me at (716)292-6740.

Very truly yours,

BLASLAND, BOUCK & LEE, INC.

William B. Popham
Vice President

WBP/lap
Attachments

cc: Mr. Russ Steiger, TAM Ceramics, Inc.
Mr. Jay Young, NL Industries, Inc.
Jerrold S. Brown, Esq., Hodgson, Russ, Andrews, Woods, & Goodyear
Mr. Frank M. Kozak, Blasland, Bouck & Lee, Inc.

GROUNDWATER ELEVATION DATA
TAM CERAMICS, NIAGARA FALLS, NEW YORK

Well I.D.	Top of Riser Reference Elevation (Original)	Top of Riser Reference Elevation (Revised)	January 6, 1995		September 27, 1995		December 13, 1995		February 1, 1996	
			Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
MWBBL1R	611.30	612.66	12.86	599.80	20.74	591.92	13.40	599.26	15.40	597.26
MWBBL2R	619.00	620.59	13.85	606.74	21.95	598.64	14.05	606.54	12.42	608.17
NPW-H2U	621.66	621.66	11.76	609.90	17.02	604.64	11.10	610.56	9.73	611.93

Note: All data is expressed in feet.

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

Transmitted Via mail

January 5, 1996

Mr. Michael J. Hinton, P.E.
Division of Hazardous Waste Remediation
Region 9
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: Second Quarterly Ground-Water
Sampling Report
TAM Ceramics Site
Niagara Falls, New York
Project #: 0163-163.04 #2d

Dear Mr. Hinton:

This Second Quarterly Ground-Water Sampling Report has been prepared by Blasland, Bouk & Lee, Inc. (BBL), on behalf of TAM Ceramics Inc. (TAM), as agreed upon with the New York State Department of Environmental Conservation (NYSDEC) at our June 15, 1995 meeting. The sampling program involves the collection and analysis of ground-water samples on a quarterly basis for a period of one year, from monitoring wells MW-BBL1R, MW-BBL2R, and NPW-H2U. The samples are analyzed for the Target Analyte List inorganics (total) by General Testing Corporation.

On December 13, 1995, BBL collected the second round of quarterly ground-water samples from the above-reference wells. The sampling results for this round and previously collected January and September 1995 rounds are presented in Table 1, along with the 6 NYCRR Part 703 ground-water standards for inorganics. The laboratory report is also attached. In addition, water levels collected during the sampling rounds are presented in Table 2.

If you have any questions regarding the ground-water sampling results, please contact me at (716) 292-6740.

Very truly yours,

BLASLAND, BOUCK & LEE, INC.

William B. Popham
Vice President

WBP/lap
u:0996966.a
Attachment

cc: Mr. Russell Steiger, TAM Ceramics, Inc.
Mr. Jerrold S. Brown, Esq., Hodgson, Russ, Andrews, Woods & Goodyear
Mr. Jay Young, NL Industries
Mr. Frank M. Kozak, Blasland, Bouck & Lee, Inc.

TABLE 1
GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

LOCATION DATE COLLECTED ANALYTE	NPW-H2U 01/06/95 (upgradient)	NPW-H2U 09/27/95	NPW-H2U 12/13/95	MW-BBL1R 01/06/95 (downgradient)	MW-BBL1R 09/27/95	MW-BBL1R 12/13/95	MW-BBL2R 01/06/95 (downgradient)	MW-BBL2R 09/27/95	MW-BBL2R 12/13/95	PART 703 GROUND WATER STANDARD
Aluminum	2.96	4.78	3.99	0.242	16.5	7.61	0.118	28.4	7.78	N/A
Antimony	0.100 U	0.010 U	0.0100 U	0.100 U	0.0107	0.0100 U	0.103	0.010 U	0.0100 U	N/A
Arsenic	0.0094	0.0165	0.0050 U	0.0066	0.0501	0.0050 U	0.03	0.0224	0.00500 U	0.025
Barium	0.0355	0.239	0.0348	0.0200 U	0.35	0.148	0.0812	0.151	0.0497	1
Beryllium	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	N/A
Cadmium	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0173	0.0050 U	0.0050 U	0.0105	0.0050 U	0.01
Calcium	129	192	145	90.9	627	256	192	280	129	N/A
Chromium	0.010 U	0.010 U	0.0100 U	0.010 U	0.0283	0.0292	0.010 U	0.0388	0.0102	0.05
Cobalt	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500	0.0500 U	0.0500 U	0.0500 U	N/A
Copper	0.0200 U	0.0200 U	0.0200 U	0.0200 U	0.0216	0.0200 U	0.0200 U	0.0295	0.0200 U	0.2
Iron	5.64	19.9	6.83	0.316	25.5	10.4	0.0973	27.8	5.76	0.3
Lead	0.103	2.5	0.181	0.0068	0.315	0.111	0.0050 U	0.27	0.0997	0.025
Magnesium	57.3	80.1	61.2	35	572	244	152	179	56.4	N/A
Manganese	0.127	0.294	0.178	0.010 U	1.34	0.431	0.010 U	0.705	0.120	0.3
Mercury	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.000332	0.000423	0.00020 U	0.00022	0.00020 U	0.002
Nickel	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	N/A
Potassium	1.57	3.23	1.80	1.00 U	27.5	19.5	6.3	36.5	4.33	N/A
Selenium	0.0050 U	0.010 U	0.0050 U	0.0050 U	0.010 U	0.00500 U	0.0050 U	0.010 U	0.0050 U	0.02
Silver	0.010 U	0.010 U	0.0100 U	0.010 U	0.0218	0.0100 U	0.010 U	0.010 U	0.0100 U	0.05
Sodium	12.1	155	8.72	7.83	890	392	284	74.8	12.6	20
Thallium	0.010 U	0.010 U	0.0100 U	0.010 U	0.010 U	0.0100 U	0.010 U	0.010 U	0.0100 U	N/A
Vanadium	0.0050 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	N/A
Zinc	0.364	2.94	0.277	0.0634	3.17	1.40	0.703	3.12	0.337	0.3

NOTES:
All results are reported in milligrams per liter (mg/l)
Sample Results Qualifiers are as follows:
U - Not detected above the detection limit.

TABLE 2
GROUNDWATER ELEVATION DATA
TAM CERAMICS, NIAGARA FALLS, NEW YORK

Location I.D.	T.O.R. Reference Elevation	January 6, 1995		September 27, 1995		December 13, 1995	
		Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation	Depth to Water	Groundwater Elevation
MWBBL1R	611.30	12.86	598.44	20.74	590.56	13.40	598.90
MWBBL2R	619.00	13.85	605.15	21.95	597.05	14.05	604.95
NPW-H2U	621.66	11.76	609.90	17.02	604.64	11.10	610.56

Note: All data is expressed in feet.
T.O.R. - Top of PVC riser.

General Testing Corporation

A FULL SERVICE ENVIRONMENTAL LABORATORY

December 21, 1995

Mr. Frank Kozak
Blasland, Bouck & Lee, Inc.
30 Corporate Woods, Suite 160
Rochester, NY 14623

RE: TAM CERAMICS
Submission #:9512000199

Dear Mr. Kozak:

Enclosed are the analytical results of the analyses requested. The analytical data was provided to you on 12/20/95 per a Facsimile transmittal. All data has been reviewed prior to report submission.

Should you have any questions please contact me at 454-3760.

Thank you for letting us provide this service.

Sincerely,

GENERAL TESTING CORPORATION

Janice Jaeger
Project Chemist

Enc.

This package has been reviewed by General Testing Corporation's QA Department/Laboratory Director prior to report submittal. MKP 12/26/95

710 Exchange Street • Rochester, NY 14608 • Tele:(716)454-3760 • Fax:(716)454-1245
85 Trinity Place • Hackensack, NJ 07601 • Tele:(201)488-5242 • Fax:(201)488-6386
435 Lawrence Bell Drive • Amherst, NY 14421 • Tele:(716)634-0454 • Fax:(716)634-9019

General Testing Corporation

A Full Service Environmental Laboratory

Effective 10/30/95

GTC LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits.
(Flag the entire batch - Inorganic analysis only)

* - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits.

D - Spike diluted out.

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

GTC Lab ID # for State Certifications

NY ID # in Rochester:	10145	NJ ID # in Rochester:	73331
NY ID # in Hackensack:	10801	NJ ID # in Hackensack:	02317
NY ID # in Massachusetts:	M-NY032		

General Testing Corporation

Reported: 12/21/95

Blasland, Bouck & Lee, Inc.
Project Reference: TAM CERAMICS
Client Sample ID : MWBBL1R

Date Sampled : 12/13/95 GTC Order # : 56441 Sample Matrix: WATER
Date Received: 12/14/95 Submission #: 9512000199

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	7.61	MG/L	12/19/95	1.0
ANTIMONY	0.0100	0.0100 U	MG/L	12/19/95	1.0
ARSENIC	0.00500	0.00500 U	MG/L	12/20/95	1.0
BARIUM	0.0200	0.148	MG/L	12/19/95	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	12/19/95	1.0
CADMIUM	0.00500	0.00500 U	MG/L	12/19/95	1.0
CALCIUM	0.500	256	MG/L	12/19/95	1.0
CHROMIUM	0.0100	0.0292	MG/L	12/19/95	1.0
COBALT	0.0500	0.0500 U	MG/L	12/19/95	1.0
COPPER	0.0200	0.0200 U	MG/L	12/19/95	1.0
IRON	0.0500	10.4	MG/L	12/20/95	1.0
LEAD	0.00500	0.111	MG/L	12/19/95	1.0
MAGNESIUM	0.500	244	MG/L	12/19/95	1.0
MANGANESE	0.0100	0.431	MG/L	12/19/95	1.0
MERCURY	0.000200	0.000423	MG/L	12/15/95	1.0
NICKEL	0.0400	0.0400 U	MG/L	12/19/95	1.0
POTASSIUM	1.00	19.5	MG/L	12/20/95	1.0
SELENIUM	0.00500	0.00500 U	MG/L	12/19/95	1.0
SILVER	0.0100	0.0100 U	MG/L	12/19/95	1.0
SODIUM	0.500	392	MG/L	12/20/95	1.0
THALLIUM	0.0100	0.0100 U	MG/L	12/19/95	1.0
VANADIUM	0.0500	0.0500 U	MG/L	12/19/95	1.0
ZINC	0.0100	1.40	MG/L	12/19/95	1.0

General Testing Corporation

Reported: 12/21/95

Blasland, Bouck & Lee, Inc.
Project Reference: TAM CERAMICS
Client Sample ID : MWB8L2R

Date Sampled : 12/13/95 GIC Order # : 56442 Sample Matrix: WATER
Date Received: 12/14/95 Submission #: 9512000199

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	7.78	MG/L	12/19/95	1.0
ANTIMONY	0.0100	0.0100 U	MG/L	12/19/95	1.0
ARSENIC	0.00500	0.00500 U	MG/L	12/20/95	1.0
BARIUM	0.0200	0.0497	MG/L	12/19/95	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	12/19/95	1.0
CADMIUM	0.00500	0.00500 U	MG/L	12/19/95	1.0
CALCIUM	0.500	129	MG/L	12/19/95	1.0
CHROMIUM	0.0100	0.0102	MG/L	12/19/95	1.0
COBALT	0.0500	0.0500 U	MG/L	12/19/95	1.0
COPPER	0.0200	0.0200 U	MG/L	12/19/95	1.0
IRON	0.0500	5.76	MG/L	12/20/95	1.0
LEAD	0.00500	0.0997	MG/L	12/19/95	1.0
MAGNESIUM	0.500	56.4	MG/L	12/19/95	1.0
MANGANESE	0.0100	0.120	MG/L	12/19/95	1.0
MERCURY	0.000200	0.000200 U	MG/L	12/15/95	1.0
NICKEL	0.0400	0.0400 U	MG/L	12/19/95	1.0
POTASSIUM	1.00	4.33	MG/L	12/20/95	1.0
SELENIUM	0.00500	0.00500 U	MG/L	12/19/95	1.0
SILVER	0.0100	0.0100 U	MG/L	12/19/95	1.0
SODIUM	0.500	12.6	MG/L	12/20/95	1.0
THALLIUM	0.0100	0.0100 U	MG/L	12/19/95	1.0
VANADIUM	0.0500	0.0500 U	MG/L	12/19/95	1.0
ZINC	0.0100	0.337	MG/L	12/19/95	1.0

General Testing Corporation

Reported: 12/21/95

Blasland, Bouck & Lee, Inc.
Project Reference: TAM CERAMICS
Client Sample ID : NPW-H2V

Date Sampled : 12/13/95 GTC Order # : 56443 Sample Matrix: WATER
Date Received: 12/14/95 Submission #: 9512000199

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	3.99	MG/L	12/19/95	1.0
ANTIMONY	0.0100	0.0100 U	MG/L	12/19/95	1.0
ARSENIC	0.00500	0.00500 U	MG/L	12/20/95	1.0
BARIUM	0.0200	0.0348	MG/L	12/19/95	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	12/19/95	1.0
CADMIUM	0.00500	0.00500 U	MG/L	12/19/95	1.0
CALCIUM	0.500	145	MG/L	12/19/95	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	12/19/95	1.0
COBALT	0.0500	0.0500 U	MG/L	12/19/95	1.0
COPPER	0.0200	0.0200 U	MG/L	12/19/95	1.0
IRON	0.0500	6.83	MG/L	12/20/95	1.0
LEAD	0.00500	0.181	MG/L	12/19/95	1.0
MAGNESIUM	0.500	61.2	MG/L	12/19/95	1.0
MANGANESE	0.0100	0.178	MG/L	12/19/95	1.0
MERCURY	0.000200	0.000200 U	MG/L	12/15/95	1.0
NICKEL	0.0400	0.0400 U	MG/L	12/19/95	1.0
POTASSIUM	1.00	1.80	MG/L	12/20/95	1.0
SELENIUM	0.00500	0.00500 U	MG/L	12/19/95	1.0
SILVER	0.0100	0.0100 U	MG/L	12/19/95	1.0
SODIUM	0.500	8.72	MG/L	12/20/95	1.0
THALLIUM	0.0100	0.0100 U	MG/L	12/19/95	1.0
VANADIUM	0.0500	0.0500 U	MG/L	12/19/95	1.0
ZINC	0.0100	0.277	MG/L	12/19/95	1.0

GENERAL TESTING CORPORATION / CHAIN-OF-CUSTODY RECORD

710 Exchange Street, Rochester, NY 14608 | 85 Trinity Place, Hackensack, NJ 07601 | 435 Lawrence Bell Drive, Amherst, NY 14221-7077

GTC Job No. 12-199

Client Project No. _____

Sample Origination & Shipping Information

Collection Site TAM CERAMICS

Address _____ NIAGARA (Street) FALLS (City) NY (State) _____ (Zip)

Collector MICHAEL R ARLAUCKAS (Print) Michael R Arlauckas (Signature)

Bottles Prepared by ~~NRS~~ (BBL) Rec'd by _____

Bottles Shipped to Client via COOLER - 4°C. Seal/Shipping # _____

Samples Shipped via _____ Seal/Shipping # _____

Sample(s) Relinquished by: ~~BLASLAND~~, BOUCK & LEE	Received by:	Date//Time
1. Sign Michael R Arlauckas	1. Sign Cindy Feerney	12/14/95
for BLASLAND, BOUCK & LEE	for GTC	8:45
2. Sign	2. Sign	/ /
for	for	:
3. Sign	3. Sign	/ /
for	for	:

Sample(s) Received in Laboratory by Tom Hastings 12/14/95 @08:45

	Client I.D. # / Lab #	Sample Location / Date/Time	*	Analyte or Analyte Group(s) Required (see below for additional)	Sample Prep Preserved Y	Preserved N	Filtered Y	Filtered N	Bottle Set(s) (see below)
1		MW BBL1R	I	TAL METALS	X				#7
	56441	12/13/95 : 0940							
2		MW BBL2R	I	TAL METALS	X				#7
	56442	12/13/95 : 1400							
3		NPW - H2O	I	TAL METALS	X				#7
	56443	12/13/95 : 1545							
4									
		/ / :							
5									
		/ / :							

Use Bottle No. for indicating type bottles used in each bottle set and fill in box with # of bottles used for each type.

Bottle No.	1	2	3	4	5	6	7	8	9	10	11
Bottle Type	40 ml Vial	Pint Glass	Qt. Glass	4 oz. Plastic	8 oz. Plastic	16 oz. Plastic	Qt. Pl.	Gal. Pl.	Steril. Pl.		
# of each							1				

Additional Analytes 1 WEEK TURN AROUND TIME (TAT) AS PER FRANK KOZAK (BBL) REQUEST

Shaded area for Lab use only; bottom copy for client; maximum of 5 samples per page.

* Source Codes: Monitoring Well (W), Soil (S), Treatment Plant (T), Drinking Water (D), Leachate (L), Hazardous Waste (H), River or Stream (R), Pond (P), Industrial Discharge (I), GROUNDWATER (X), _____ (Y).

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

December 6, 1995

Mr. Michael J. Hinton, P.E.
Division of Hazardous Waste Remediation
Region 9
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, New York 14203-2999

Re: Quarterly Ground-Water Sampling Report
TAM Ceramics Site
Niagara Falls, New York

File: 0163-163.04 #2a

Dear Mr. Hinton:

This Quarterly Ground-Water Sampling Report has been prepared by Blasland, Bouck & Lee, Inc. (BBL), on behalf of TAM Ceramics Inc. (TAM), as agreed upon with the New York State Department of Environmental Conservation (NYSDEC) at our June 15, 1995 meeting. The sampling program involves the collection and analysis of ground-water samples, on a quarterly basis for a period of one year, from monitoring wells MW-BBL1R, MW-BBL2R, and NPW-H2U. The samples are analyzed for the Target Analyte List inorganics (total) by General Testing Corporation.

On September 27, 1995, BBL collected the first round of quarterly ground-water samples from the above-referenced wells. The sampling results for this round and the previously collected January 1995 round are presented in the attached table, along with the 6 NYCRR Part 703 ground-water standards for inorganics. The laboratory report is also attached.

If you have any questions regarding the ground-water sampling results, please contact me at (716) 292-6740.

Very truly yours,

BLASLAND, BOUCK & LEE, INC.

William B. Popham
Vice President
WBP/tah
u:83951391.b
Attachment
cc: Mr. Russell Steiger, TAM Ceramics, Inc.
Mr. Jerrold S. Brown, Esq., Hodgson, Russ, Andrews, Woods & Goodyear
Mr. Frank M. Kozak, Blasland, Bouck & Lee, Inc.

TABLE 1
GROUND-WATER SAMPLES
ANALYTICAL RESULTS - INORGANICS
TAM CERAMICS, NIAGARA FALLS, NEW YORK

LOCATION DATE COLLECTED ANALYTE	NPW-H2U 09/27/95	MW-BBL1R 09/27/95	MW-BBL2R 09/27/95
Aluminum	4.78	16.5	28.4
Antimony	0.010 U	0.0107	0.010 U
Arsenic	0.0165	0.0501	0.0224
Barium	0.239	0.35	0.151
Beryllium	0.0050 U	0.0050 U	0.0050 U
Cadmium	0.0050 U	0.0173	0.0105
Calcium	192	627	280
Chromium	0.010 U	0.0283	0.0388
Cobalt	0.0500 U	0.0500 U	0.0500 U
Copper	0.0200 U	0.0216	0.0295
Iron	19.9	25.5	27.8
Lead	2.5	0.315	0.27
Magnesium	80.1	572	179
Manganese	0.294	1.34	0.705
Mercury	0.00020 U	0.000332	0.00022
Nickel	0.0400 U	0.0400 U	0.0400 U
Potassium	3.23	27.5	36.5
Selenium	0.010 U	0.010 U	0.010 U
Silver	0.010 U	0.0218	0.010 U
Sodium	155	890	74.8
Thallium	0.010 U	0.010 U	0.010 U
Vanadium	0.0500 U	0.0500 U	0.0500 U
Zinc	2.94	3.17	3.12

NOTES:
All results are reported in milligrams per liter (mg/l)
Sample Results Qualifiers are as follows:
U - Not detected above the detection limit.

General Testing Corporation

Reported: 10/18/95

Blasland, Bouck & Lee, Inc.
Project Reference: TAM CERAMICS
Client Sample ID : NPW-M2U
H2U

Date Sampled : 09/27/95
Date Received: 09/27/95

GTC Order # : 40908
Submission #: 9509000289

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	4.78	MG/L	10/09/95	1.0
ANTIMONY	0.0100	0.0100 U	MG/L	10/16/95	1.0
ARSENIC	0.0100	0.0165	MG/L	10/16/95	1.0
BARIUM	0.0200	0.239	MG/L	10/09/95	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	10/09/95	1.0
CADMIUM	0.00500	0.00500 U	MG/L	10/09/95	1.0
CALCIUM	0.500	192	MG/L	10/09/95	1.0
CHROMIUM	0.0100	0.0100 U	MG/L	10/09/95	1.0
COBALT	0.0500	0.0500 U	MG/L	10/09/95	1.0
COPPER	0.0200	0.0200 U	MG/L	10/09/95	1.0
IRON	0.100	19.9	MG/L	10/09/95	1.0
LEAD	0.0500	2.50	MG/L	10/09/95	1.0
MAGNESIUM	0.500	80.1	MG/L	10/09/95	1.0
MANGANESE	0.0100	0.294	MG/L	10/09/95	1.0
MERCURY	0.000200	0.000200 U	MG/L	10/11/95	1.0
NICKEL	0.0400	0.0400 U	MG/L	10/09/95	1.0
POTASSIUM	1.00	3.23	MG/L	10/09/95	1.0
SELENIUM	0.0100	0.0100 U	MG/L	10/16/95	1.0
SILVER	0.0100	0.0100 U	MG/L	10/09/95	1.0
SODIUM	0.500	155	MG/L	10/09/95	1.0
THALLIUM	0.0100	0.0100 U	MG/L	10/16/95	1.0
VANADIUM	0.0500	0.0500 U	MG/L	10/09/95	1.0
ZINC	0.0100	2.94	MG/L	10/09/95	1.0

General Testing Corporation

Reported: 10/18/95

Blasland, Bouck & Lee, Inc.
Project Reference: TAM CERAMICS
Client Sample ID : MWBBL2R

Date Sampled : 09/27/95
Date Received: 09/27/95

GTC Order # : 40909
Submission #: 9509000289

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	28.4	MG/L	10/09/95	1.0
ANTIMONY	0.0100	0.0100 U	MG/L	10/16/95	1.0
ARSENIC	0.0100	0.0224	MG/L	10/16/95	1.0
BARIUM	0.0200	0.151	MG/L	10/09/95	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	10/09/95	1.0
CADMIUM	0.00500	0.0105	MG/L	10/09/95	1.0
CALCIUM	0.500	280	MG/L	10/09/95	1.0
CHROMIUM	0.0100	0.0388	MG/L	10/09/95	1.0
COBALT	0.0500	0.0500 U	MG/L	10/09/95	1.0
COPPER	0.0200	0.0295	MG/L	10/09/95	1.0
IRON	0.100	27.8	MG/L	10/09/95	1.0
LEAD	0.0500	0.270	MG/L	10/09/95	1.0
MAGNESIUM	0.500	179	MG/L	10/09/95	1.0
MANGANESE	0.0100	0.705	MG/L	10/09/95	1.0
MERCURY	0.000200	0.000220	MG/L	10/11/95	1.0
NICKEL	0.0400	0.0400 U	MG/L	10/09/95	1.0
POTASSIUM	1.00	36.5	MG/L	10/09/95	1.0
SELENIUM	0.0100	0.0100 U	MG/L	10/16/95	1.0
SILVER	0.0100	0.0100 U	MG/L	10/09/95	1.0
SODIUM	0.500	74.8	MG/L	10/09/95	1.0
THALLIUM	0.0100	0.0100 U	MG/L	10/16/95	1.0
VANADIUM	0.0500	0.0500 U	MG/L	10/09/95	1.0
ZINC	0.0100	3.12	MG/L	10/09/95	1.0

General Testing Corporation

Reported: 10/18/95

Blasland, Bouck & Lee, Inc.
Project Reference: TAM CERAMICS
Client Sample ID : MW8BL1R

Date Sampled : 09/27/95
Date Received: 09/27/95

GTC Order # : 40911
Submission #: 9509000289

Sample Matrix: WATER

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
ALUMINUM	0.100	16.5	MG/L	10/09/95	1.0
ANTIMONY	0.0100	0.0107	MG/L	10/16/95	1.0
ARSENIC	0.0100	0.0501	MG/L	10/16/95	1.0
BARIUM	0.0200	0.350	MG/L	10/09/95	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	10/09/95	1.0
CADMIUM	0.00500	0.0173	MG/L	10/09/95	1.0
CALCIUM	0.500	627	MG/L	10/09/95	1.0
CHROMIUM	0.0100	0.0283	MG/L	10/09/95	1.0
COBALT	0.0500	0.0500 U	MG/L	10/09/95	1.0
COPPER	0.0200	0.0216	MG/L	10/09/95	1.0
IRON	0.100	25.5	MG/L	10/09/95	1.0
LEAD	0.0500	0.315	MG/L	10/09/95	1.0
MAGNESIUM	0.500	572	MG/L	10/09/95	1.0
MANGANESE	0.0100	1.34	MG/L	10/09/95	1.0
MERCURY	0.000200	0.000332	MG/L	10/11/95	1.0
NICKEL	0.0400	0.0400 U	MG/L	10/09/95	1.0
POTASSIUM	1.00	27.5	MG/L	10/09/95	1.0
SELENIUM	0.0100	0.0100 U	MG/L	10/16/95	1.0
SILVER	0.0100	0.0218	MG/L	10/09/95	1.0
SODIUM	0.500	890	MG/L	10/13/95	10.0
THALLIUM	0.0100	0.0100 U	MG/L	10/16/95	1.0
VANADIUM	0.0500	0.0500 U	MG/L	10/09/95	1.0
ZINC	0.0100	3.17	MG/L	10/09/95	1.0