C.T. MALE ASSOCIATES, P.C.

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April 30, 2002

Mr. Michael McLean, P.E.
NYSDEC Region 5
Route 86, PO Box 296
Ray Brook, NY 12977-0296

Re: Supplemental Total Arsenic and Chromium & TCLP Analysis Plan
Risedorph Tannery Site
City of Gloversville, NY
C.T. Male Project No.: 00.6630

Dear Mr. McLean:

C.T. Male Associates, P.C. (C.T. Male) has completed the advancement of supplemental soil probes, which included collection and analysis of subsurface soil samples to define the vertical and horizontal extent of soil contamination beneath the Main Tannery Building. The work was performed in accordance with C.T. Male's January 30, 2002 Supplemental Work Plan. In general, the first two soil samples (0 to 4 feet and 4 to 8 feet) from each probe were separately homogenized and analyzed for TAL metals. The attached tables summarize the analytical results for these soil samples. Please note that some the analytical results were previously obtained during the first phase of monitoring well installations.

Additional Arsenic and Chromium Analysis

A preliminary review of the analytical data has been preformed so that a determination could be made as to the necessity for analyzing additional soil samples to define the vertical extent of contamination. The additional analysis would be performed on the next vertical interval of 8 to 12 feet below grade. The need for analyzing additional samples is due to concentrations of arsenic and chromium in the 4 to 8 feet sample interval at several soil probe locations is in excess of their NYSDEC TAGM 4046 recommended soil cleanup objective. The following table summarizes the proposed samples and the associated proposed analysis.

Sample ID (8 to 12 feet interval)	Arsenic Analysis	Chromium Analysis
SP-3	X	X
SP-4	X	No Analysis
SP-5	X	No Analysis
SP-6	X	No Analysis

Sample ID (8 to 12 feet interval)	Arsenic Analysis	Chromium Analysis
SP-7	X	X
SP-9	X	No Analysis
SP-10	X	No Analysis
SP-12	No Analysis	X
SP-13	X	No Analysis
SP-18	X	X
SP-19	X	X
SP-11A	X	No Analysis
SP-12A	X	No Analysis
SP-13A	X	No Analysis
SP-14A	X	No Analysis
SP-15A	X	X
SP-16A	X	No Analysis

The results of this next set of analytical data will be reviewed in the same manner to determine if the arsenic and/or chromium levels are below cleanup criteria. If the data is acceptable, no additional samples will be analyzed and the Department will be notified. If warranted, additional samples may be analyzed if the results are unacceptable, and the Department concurs.

Additional TCLP Analysis

Concurrently with the above, the analytical data was reviewed with respect to the potential that arsenic and chromium may be defined hazardous waste. To determine if arsenic and chromium exist at concentrations that could define the soils as hazardous, TCLP analysis is proposed to be completed on several samples. In selecting TCLP samples, various concentrations of arsenic and chromium were considered to cover the range of arsenic and chromium concentrations detected in the soils. The following sample intervals are recommended for TCLP analysis.

- SP-7, 0-4 ft. (Arsenic=1,720 mg/kg)
- SP-6, 0-4 ft. (Arsenic=820 mg/kg)
- SP-5, 4-8 ft. (Arsenic=145 mg/kg)
- SP-18, 0-4 ft.(Chromium=2,970 mg/kg)
- SP-4, 0-4 ft. (Chromium=1,430 mg/kg)
- SP-15, 0-4 ft. (Chromium=758 mg/kg)

There is one other sample location that may be beneficial to analyze at this time. The existing data for MW-13 (0-4 ft.) and MW-14 (0-4 ft.) show the highest concentrations of arsenic at 4,910 and 16,400 mg/kg, respectively. We no longer have these samples to analyze by TCLP, but we do have these intervals on hold from the soil probes most recently completed. It is proposed to analyze sample SP-14A, 0-4 ft. for TAL metals as well as TCLP arsenic analysis as this location exhibited the highest concentration of arsenic at 16,400 mg/kg.

It should be noted that the ASP Category B required hold time has expired for those existing samples that will be re-analyzed for TCLP arsenic and chromium. We don't feel this is an issue as the proposed TCLP analysis is being performed to gain a preliminary understanding as to the potentially hazardous nature of the soils with respect to evaluating remedial alternatives. Furthermore, this data will not be subjected to data validation.

The locations of the soil probes are shown on Figure 1 (attached). C.T. Male is requesting the Department's review and approval of this plan. Please contact me if you have any questions. I can be reached at 518.786.7548.

Respectfully submitted,

C.T. MALE ASSOCIATES, P.C.

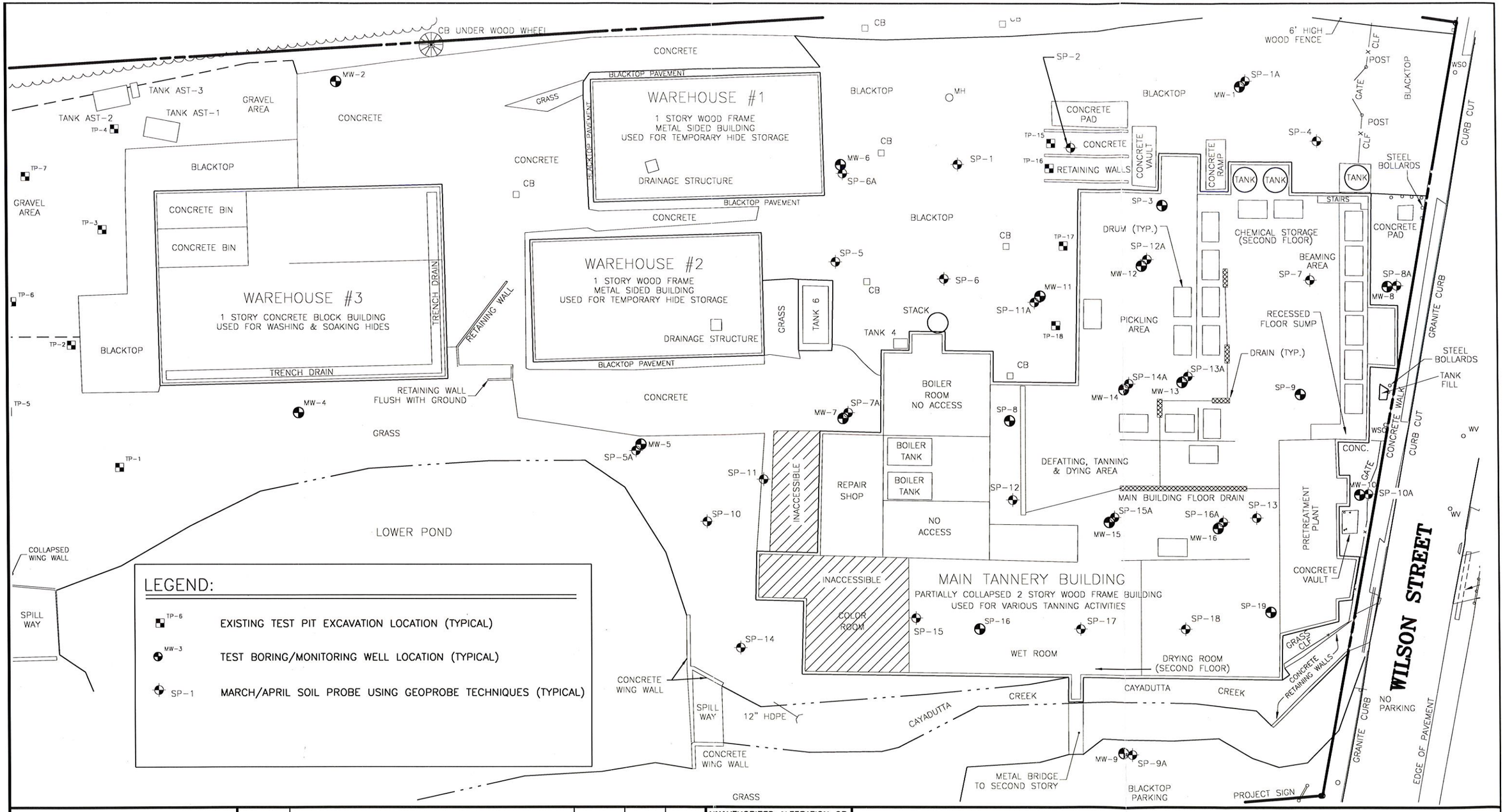
Jeffrey Marx
Project Engineer

Attachment: Figure 1 - Soil Probe and Monitoring Well Locations

c: Ronald Ellis, C/O Gloversville
Kirk Moline - C.T. Male

K:\Projects\006630\Admin\L-TCLP Sampling.doc

NO XREFS



LEGEND:

TP-6	EXISTING TEST PIT EXCAVATION LOCATION (TYPICAL)
MW-3	TEST BORING/MONITORING WELL LOCATION (TYPICAL)
SP-1	MARCH/APRIL SOIL PROBE USING GEOPROBE TECHNIQUES (TYPICAL)

NOTE:
THE LOCATIONS AND FEATURES DEPICTED ON THIS MAP ARE APPROXIMATE AND DO NOT REPRESENT AN ACTUAL FIELD SURVEY.

DATE		REVISIONS RECORD/DESCRIPTION	DRAFTED	CHECK	APPR.
	1				
	2				
	3				
	4				
	5				
	6				
	7				
	8				
	9				

APPROVED

DRAFTED : JAM

CHECKED : KM

PROJ. NO : 00.6630

SCALE : ±1"=40'

DATE : APRIL 2002

FIGURE 1
SOIL PROBE AND MONITORING WELL LOCATIONS
DEPICTED ON PARTIAL SITE PLAN MAP
RISEDORPH TANNERY

CITY OF GLOVERSVILLE — FULTON COUNTY, NEW YORK

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ENVIRONMENTAL SERVICES • SURVEY & LAND INFORMATION SERVICES

SHEET 1 OF 1

DWG. NO:

CAD DWG. FILE NAME: SOIL PROBES.DWG

Table XXX - Metal Analytes for Soil From Soil Probes
Risedorph Tannery - Project #00.6630
Unvalidated Analytical Results
Chemtech Nos. P1974, P1975, P1976, P1990, P1992, P2006, P2007, P2039, P2040, P2073, P2074 and P2075

Parameter	NYSDEC TAGM 4046 Values	Eastern USA Background	SP-1			SP-2		SP-3		SP-4		SP-5		SP-6		SP-7		SP-8	
			0-4'	4-8'	4-8' (FD#2)	0-4'	4-8'	0-4'	4-8'	0-4'	4-8'	0-4'	4-8'	0-4'	4-8'	0-4'	4-8'	0-4'	4-8'
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	SB	33,000	8,480	4,920	6,500	4,980	6,240	5,330	3,520	2,630	4,790	8,740	8,460	5,580	5,370	4,700	5,360	1,630	3,560
Antimony	SB	NA	< 0.60	< 0.63	< 0.72	< 0.61	< 0.62	8.5 B	2.7 B	< 0.58	< 0.61	< 0.60	< 0.69	17.9	12.2	12	8.6 B	< 0.60	< 0.60
Arsenic	7.5 or SB	3-12	49.6	1.1 B	68.6	31.5	2.1	558	374	176	65.9	233	145	820	77.9	1,720	1,280	19.3	11.5
Barium	300 or SB	15-600	54.2	28	43.8	44.1	24.1 B	53.2	32.9	29	25.9	55.8	40.4	133	42.5	64.5	41.2	14.6 B	19.7 B
Beryllium	0.16 or SB	0-1.75	0.46 B	0.29 B	0.36 B	0.35 B	0.32 B	0.36 B	0.31 B	0.27 B	0.32 B	0.4 B	0.49 B	0.46 B	0.35 B	0.33 B	0.34 B	0.15 B	0.23 B
Cadmium	10	0.1-1	< 0.2	< 0.22	< 0.25	< 0.21	< 0.21	< 0.09	0.36 B	< 0.20	0.64	< 0.20	0.24	< 0.22	< 0.25	0.19 B	0.12 B	< 0.20	< 0.20
Calcium	SB	130-35,000	22,900	8,660	7,770	13,900	4,540	13,200	19,200	27,000	3,110	9,780	14,500	25,600	10,200	46,400	21,000	14,600	9,030
Chromium	50	1.5-40	56.1	7.3	30.8	361	9.5	384	89.1	1430	7.5	40.7	13	296	31.4	427	420	391	17.7
Cobalt	30 or SB	2.5-60	5.4 B	3.8 B	3.3 B	4.6 B	3.6 B	2.8 B	2.9 B	3.1 B	3.5 B	4.4 B	5 B	4.3 B	3.5 B	2.9 B	3.0 B	1.9 B	2.3 B
Copper	25 or SB	1-50	9.8	7.3	34.4	26.4	7	11.6	8.7	16.3	14.5	7.9	8.2	42.7	36.9	18.7	13.9	5.1	4.1
Cyanide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	2,000 or SB	2,000-550,000	15,700	10,200	13,500	19,300	14,000	10,400	8,900	8,340	13,400	13,200	16,100	18,400	16,200	7,680	9,960	5,400	7,240
Lead	**	**	16.8	2.7	8.1	14.7	1.9	12.4	6	11.9	1.7	7.8	3.4	102.0	1280	59.6	35.3	2.6	1.8
Magnesium	SB	100-5,000	9,680	1,670	1,830	1,360	1,210	1,330	1,210	2,340	979	2,290	2,900	3,890	2,530	2,330	2,470	1,860	1,270
Manganese	SB	50-5,000	153	133	120	144	155	184	227	115	81.5	173	265	155	125	127	154	47.9	48.7
Mercury	0.1	0.001-0.2	0.04	< 0.01	0.04	0.02	< 0.01	0.19	0.04	0.04	< 0.01	0.03	0.03	0.23	0.04	0.11	0.42	< 0.01	< 0.01
Nickel	13 or SB	0.5-25	6.8	4.9 B	6.5	10	4.7 B	6.1	5.2 B	6.3	5	6.4	6.6	9.6	5.4 B	6	5.2 B	4.5 B	3.3 B
Potassium	SB	8,500-43,000	884	468 B	424 B	515 B	520 B	325	297 B	277 B	347 B	757	975	414 B	341 B	704	552 B	186 B	204 B
Selenium	2 or SB	0.1-3.9	< 0.48	< 0.51	< 0.58	< 0.49	< 0.50	< 0.49	< 0.46	< 0.47	< 0.49	< 0.48	< 0.56	0.65	< 0.58	0.82	0.57 B	< 0.48	<0.48
Silver	SB	NA	< 0.07	< 0.08	0.1 B	0.11 B	0.15 B	< 0.23	< 0.22	0.22 B	0.51 B	0.11 B	<0.08	< 0.08	0.32 B	< 0.22	< 0.23	0.18 B	<0.07
Sodium	SB	6,000-8,000	976	765	759	253 B	337 B	464 B	383 B	252 B	279 B	1,290	2,960	601 B	696 B	1,490	1,210	226 B	348 B
Thallium	SB	NA	< 0.60	< 0.63	< 0.72	< 0.61	< 0.62	< 0.82	< 0.78	< 0.58	< 0.61	< 0.60	< 0.69	< 0.65	< 0.72	< 0.78	< 0.82	< 0.60	< 0.60
Vanadium	150 or SB	1-300	31.6	19.3	15.6	21.4	30.1	17.2	13.6	14.8	20.2	26.8	30.3	20.5	17.2	11.9	16.7	6.6	10.7
Zinc	20 or SB	9-50	56.6	25.6	159	162	24.2	44.6	29.6	29.8	28.1	33.3	31.7	217	164	53	42.9	17.4	16.8
% Solids	NA	NA	84	79	67	82	80	69.3	73.4	83	81	82	72	76	69	73	69.1	84	84

** Background levels for lead vary widely. Average background levels in metropolitan areas near highways are much higher and typically range from 200-500 ppm. The USEPA's Interim Lead Hazard Guidance (7/14/94) establishes a residential screening level of 400 ppm.

Metals were analyzed using EPA Method 6010 and 7471 for Mercury

% Solids were analyzed using EPA Method 160.3

Cyanide was analyzed using EPA Method 335.2

SB is Site Background

B indicates value was obtained from a reading less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL)

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Table XXX - Metal Analytes for Soil From Soil Probes
Risedorph Tannery - Project #00.6630
Unvalidated Analytical Results
Chemtech Nos. P1974, P1975, P1976, P1990, P1992, P2006, P2007, P2039, P2040, P2073, P2074 and P2075

Parameter	NYSDEC TAGM 4046 Values	Eastern USA Background	SP-9		SP-10		SP-11		SP-12		SP-13			SP-14		SP-15		SP-16	
			0-4'	4-8'	0-4'	4-8'	0-4'	4-8'	0-4'	4-8'	0-4'	4-8'	4-8' (FD#3)	0-4'	4-8'	0-4'	4-8'	0-4'	4-8'
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	SB	33,000	4,390	4,480	4,530	7,380	7,300	4,150	2,930	5,550	5,100	5,760	4,560	5,900	4,640	6,210	8,430	4,930	5,430
Antimony	SB	NA	1.2 B	1.5 B	2.2 B	< 0.7	7.1 B	< 0.61	5.8 B	1.7 B	3.1 B	< 0.68	< 0.68	0.75 B	< 0.66	8.5	1.0 B	1.9 B	0.79 B
Arsenic	7.5 or SB	3-12	26	371	45	21.6	36.1	5.7	26.9	6.9	345	83.6	140	14	1.7	10	5.4	8.6	3.1
Barium	300 or SB	15-600	43.2	28	57.5	45.1	59.9	25.7	40.6	23.9 B	85.2	37.8	31.4	56.7	38	36.6	56.1	29.2	37
Beryllium	0.16 or SB	0-1.75	0.40 B	0.33 B	0.34 B	0.42 B	0.70 B	0.3 B	0.31 B	0.44 B	0.46 B	0.34 B	0.32 B	0.43 B	0.32 B	0.40 B	0.56 B	0.34 B	0.38 B
Cadmium	10	0.1-1	0.09 B	0.17 B	< 0.21	< 0.24	0.33 B	< 0.21	0.37 B	0.11 B	< 0.22	< 0.23	< 0.23	< 0.41	< 0.22	0.16 B	0.10 B	< 0.08	0.11 B
Calcium	SB	130-35,000	8,950	12,600	15,900	4,010	9,690	11,700	7,050	3,460	15,400	8,720	9,810	3,740	18,100	13,200	20,800	11,100	11,700
Chromium	50	1.5-40	55.5	13.3	162	48.1	107	8	221	137	315	32.7	58	13.7	7.5	758	14.1	99.7	9.3
Cobalt	30 or SB	2.5-60	3.4 B	3.5 B	3.3	3.9 B	3.4 B	3.6 B	2.5 B	3.3 B	3.6 B	3.4 B	2.6 B	3.7 B	3.2 B	3.3 B	6.4 B	4.1 B	3.4 B
Copper	25 or SB	1-50	11.5	8.8	31.8	12.3	28	9.7	25.9	8.6	52.6	7.6	9	9.7	6.9	11.8	11.5	14.4	6.9
Cyanide	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	2,000 or SB	2,000-550,000	8,310	9,010	13,000	12,800	10,100	10,400	8,190	9,030	7,880	13,600	8,510	11,300	9,860	13,900	17,700	9,490	9,980
Lead	**	**	20.5	12.4	35.2	17.5	68.5	2.7	63	101	52.7	5.6	6.7	12.5	4.2	20.5	5.4	55.3	5
Magnesium	SB	100-5,000	2,080	1,450	3,610	1490	1570	4,310	1,820	1,540	1,110	1,340	1,210	1,300	6,100	3,270	6,880	1,150	2,860
Manganese	SB	50-5,000	101	108	176	156	74.9	86.9	35.8	38.8	49.9	1310	102	288	160	149	212	64.3	156
Mercury	0.1	0.001-0.2	< 0.01	0.04	0.1	0.09	0.16	0.02	0.13	0.03	0.02	0.04	0.04	0.07	0.02	3.4	0.02	0.09	0.02
Nickel	13 or SB	0.5-25	4.7 B	6.3	9.1	6.2	46.3	4.3 B	5.9	5.2	8.1	4.1 B	4.3 B	5.4 B	4.3 B	5.3	8.6	9	4.4 B
Potassium	SB	8,500-43,000	639	477 B	345 B	288 B	233 B	543 B	261 B	217 B	606 B	371 B	339 B	263 B	670	312 B	1,460	463 B	407 B
Selenium	2 or SB	0.1-3.9	< 0.41	0.82	< 0.49	< 0.56	1.4	< 0.49	0.75	< 0.42	1.5	< 0.55	< 0.54	< 0.55	< 0.53	< 0.44	< 0.48	1.7	0.60 B
Silver	SB	NA	< 0.19	< 0.21	0.29 B	0.24 B	0.33 B	< 0.07	< 0.21	< 0.20	0.42 B	0.38 B	0.15 B	0.65 B	< 0.08	< 0.21	0.24 B	< 0.21	0.36 B
Sodium	SB	6,000-8,000	2,390	2,040	333 B	226 B	510 B	315 B	190 B	584 B	374 B	417 B	328 B	269 B	248 B	322 B	752	392 B	407 B
Thallium	SB	NA	< 0.69	< 0.73	< 0.61	< 0.7	< 0.77	< 0.61	< 0.73	< 0.70	< 0.66	< 0.68	< 0.68	< 0.68	< 0.66	< 0.73	< 0.80	< 0.76	< 0.76
Vanadium	150 or SB	1-300	9.3	17.7	28.8	25.7	48.3	19.4	9.4	15.8	19.2	17.2	14.2	19.1	18.5	16.6	29.3	14.7	18.9
Zinc	20 or SB	9-50	29	31.8	98.9	62.7	189	27.5	116	58	72.2	32.8	28.7	41.2	24.6	53.3	46.7	37.5	31.5
% Solids	NA	NA	82.8	77.8	81	71	64	81	77.8	81.4	75	71	73	71	75	77.9	70.9	75.3	75.4

** Background levels for lead vary widely. Average background levels in metropolitan areas near highways are much higher and typically range from 200-500 ppm. The USEPA's Interim Lead Hazard Guidance (7/14/94) establishes a residential screening level of 400 ppm.

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Parameter	NYSDEC TAGM 4046 Values	Eastern USA Background	SP-17		SP-18		SP-19		MW-1	SP-1A	MW-5	SP-5A	MW-6	SP-6A	MW-7	SP-7A	MW-8	SP-8A
			0-4'	4-8'	0-4'	4-8'	0-4'	4-8'	1-2'	4-8'	0-2'	4-8'	0.5-2'	4-8'	0.5-4'	4-8'	0-2'	4-8'
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	SB	33,000	5,070	4,210	4,300	4,860	2,810	5,450	2,970	5,120	2,340	3,500	4,740	5,400	8,050	6,130	3,240	6,680
Antimony	SB	NA	2.5 B	1.0 B	21.2	3.7 B	38	2.2 B	< 0.58	< 0.56	< 0.59	0.91 B	< 0.60	1.0 B	< 0.62	1.2 B	5.1 B	< 0.62
Arsenic	7.5 or SB	3-12	23.6	10.2	270	205	2,560	224	12.1	0.91 B	7.9	6.8	13.4	12.1	7.9	8.6	1,090	2.5
Barium	300 or SB	15-600	62.4	19.1 B	56.4	49.2	60.8	44	17 B	26	22.8	19.2 B	15.1 B	33.2	29.2	97.4	69.5	33
Beryllium	0.16 or SB	0-1.75	0.29 B	0.26 B	0.28 B	0.59 B	0.32 B	0.34 B	0.21 B	0.29 B	0.24 B	0.29 B	0.34 B	0.36 B	0.35 B	0.32 B	0.26 B	0.40 B
Cadmium	10	0.1-1	0.09 B	< 0.07	0.25 B	< 0.09	4.1	< 0.08	< 0.04	< 0.19	< 0.05	0.18 B	< 0.05	0.17 B	<0.05	0.34 B	< 0.05	< 0.21
Calcium	SB	130-35,000	39,500	7,000	6,650	4,130	45,400	12,100	35,100	9,120	56,000	6,260	19,100	16,200	2,690	6,240	23,000	3,650
Chromium	50	1.5-40	248	13.4	2,970	384	2,560	107	10.1	7	62.2	5.6	5.3	9.8	15.9	30.7	311	8.8
Cobalt	30 or SB	2.5-60	2.4 B	2.2 B	3.1 B	3.1 B	3.9 B	3.2 B	4.5 B	4 B	3.5 B	2.2 B	4.4 B	4.3 B	4.7 B	3.0 B	2.6 B	4.6 B
Copper	25 or SB	1-50	8	6.5	16.1	14.9	71.2	8	6.1 E	6.5	9.0 E	7.1	6.3	8.3	3.6	7.8	18.9	9
Cyanide	NA	NA	NA	NA	NA	NA	NA	NA	< 0.55	NA	< 0.56	NA	<0.56	NA	< 0.59	NA	< 0.62	NA
Iron	2,000 or SB	2,000-550,000	6,900	8,230	9,060	11,600	12,400	10,800	8,340	9,860	9,000	8,300	9,070	12,000	10,500	8,740	8,910	14,600
Lead	**	**	14.7	32.7	48.1	26.5	62.1	10	3.2	2.1	11.1	3.3	3.0	3.8	4.5	5.9	52.9	2.0
Magnesium	SB	100-5,000	3,160	1,210	1,090	1,140	2,470	2,950	6,010	1,780	11,200	1,840	2,100	3,330	1,540	2,560	1,420	1,590
Manganese	SB	50-5,000	94.5	83.5	53.8	65	115	164	126	148	178	74	173	199	102	66.2	107	123
Mercury	0.1	0.001-0.2	0.04	0.03	0.04	0.04	0.12	0.03	0.05	0.02	< 0.04	0.02	0.04 E	0.01	< 0.04	< 0.01	0.21 E	< 0.01
Nickel	13 or SB	0.5-25	4.9 B	3.4 B	7.3	5.3 B	8.3	5.2 B	6.8	5.1	7.1	5.0 B	6.4	6.2	4.7 B	7.5	4.5 B	6.0
Potassium	SB	8,500-43,000	668	384 B	347 B	305 B	390 B	490 B	493 B	501 B	584	231 B	340 BE	690	321 BE	495 B	235 BE	573 B
Selenium	2 or SB	0.1-3.9	0.57 B	< 0.41	0.75	< 0.51	< 0.59	< 0.46	< 0.42	< 0.45	0.62	< 0.45	< 0.43	< 0.43	< 0.44	< 0.44	< 0.46	< 0.50
Silver	SB	NA	< 0.20	< 0.19	0.37 B	< 0.24	0.46 B	< 0.22	< 0.07	< 0.07	< 0.07	< 0.21	< 0.07	< 0.20	< 0.07	< 0.21	< 0.07	0.28 B
Sodium	SB	6,000-8,000	270 B	193 B	340 B	342 B	925	940	131 B	319 B	237 B	257 B	400 B	639	593	672	135 B	314 B
Thallium	SB	NA	< 0.72	< 0.68	< 0.84	< 0.86	< 0.98	< 0.78	< 0.53	< 0.56	< 0.54	< 0.75	< 0.54	< 0.71	< 0.56	< 0.73	0.97 B	< 0.62
Vanadium	150 or SB	1-300	10.5	12.4	9.3	16.8	3.4 B	20	13.6	19.9	16.2	10.4	14.2	22.6	20.1	17.6	11.6	27.2
Zinc	20 or SB	9-50	26.8	23.7	66.2	72.3	1200	34.3	18.4	23.1	30.7	16.5	22.0	29.2	42.7	66.4	70.3	33.1
% Solids	NA	NA	79	83.9	68	66.5	58.1	73.2	90.5	82	89.6	75.7	88.6	79.9	84.1	77.6	80.7	80

** Background levels for lead vary widely. Average background levels in metropolitan areas near highways are much higher and typically range from 200-500 ppm. The USEPA's Interim Lead Hazard Guidance (7/14/94) establishes a residential screening level of 400 ppm.

Metals were analyzed using EPA Method 6010 and 7471 for Mercury

% Solids were analyzed using EPA Method 160.3

Cyanide was analyzed using EPA Method 335.2

SB is Site Background

B indicates value was obtained from a reading less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL)

E indicates value is estimated

NA is Not Applicable

Table XXX - Metal Analytes for Soil From Soil Probes
Risedorph Tannery - Project #00.6630
Unvalidated Analytical Results
Chemtech Nos. P1974, P1975, P1976, P1990, P1992, P2006, P2007, P2039, P2040, P2073, P2074 and P2075

Parameter	NYSDEC TAGM 4046 Values	Eastern USA Background	MW-9	SP-9A	MW-10	SP-10A	MW-11	SP-11A	MW-12	SP-12A	MW-13	SP-13A	MW-14	SP-14A	MW-15	SP-15A		MW-16	SP-16A
			0.5-4'	4-8'	4-8'	8-12'	0.5-4'	4-8'	0-4'	4-8'	2-4'	4-8'	0-4'	4-8'	0-4'	4-8'	4-8' (FD#1)	0-4'	4-8'
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	SB	33,000	2,140	4,510	6,170	4,560	2,920	6,970	1,930	4,110	2,420	4,850	2,990	6,100	5,100	7,250	5,120	3,220	5,990
Antimony	SB	NA	< 0.61	< 0.55	1.1 B	< 0.61	6.8 B	3.9 B	21.9	1.6 B	27.9	12.2	14.9	1.5 B	< 0.64	1.6 B	2.2 B	4.0 B	1.1 B
Arsenic	7.5 or SB	3-12	114	5.3	100	8.6	145	85	1,150	33.4	4,910	386	16,400	61.3	32.5	50.2	211	182	155
Barium	300 or SB	15-600	59.8	42.6	29.9	21.7 B	75.8	53.1	70.0	21.4 B	109	33.2	82.2	46.6	12.7 B	31.1	60.2	70.7	35.7
Beryllium	0.16 or SB	0-1.75	0.35 B	0.30 B	0.37 B	0.31 B	0.34 B	0.56 B	0.29 B	0.28 B	0.61 B	0.43 B	0.51 B	0.37 B	0.26 B	0.43 B	0.37 B	0.66 B	0.33 B
Cadmium	10	0.1-1	< 0.05	< 0.19	< 0.05	< 0.21	<0.05	1.4	0.07 B	0.24 B	< 0.11	0.31 B	< 0.08	< 0.09	< 0.049	< 0.08	< 0.09	< 0.06	< 0.09
Calcium	SB	130-35,000	36,700	7,930	5,680	21,100	14,400	12,600	37,900	6,770	72,300	13,400	74,600	5,650	6,660	10,600	4,520	3,210	8,650
Chromium	50	1.5-40	71.6	8.2	192	8.9	185	46.4	306	12.8	371	32.7	65.6	21.2	237	183	225	24	26.8
Cobalt	30 or SB	2.5-60	2.6 B	3 B	3.9 B	4 B	4.2 B	3.9 B	2.6 B	2.7 B	8.3 B	4.0 B	3.4 B	2.8 B	2.9 B	4.7 B	3.1 B	2.6 B	3.2 B
Copper	25 or SB	1-50	14.2	19.4	12.6	8.2	28.4	28.6	57.2 E	9	35.8 E	12.9	13.6 E	7.9	2.5 BE	8.5	13.2	17.3 E	8.1
Cyanide	NA	NA	< 0.57	NA	< 0.67	NA	< 0.64	NA	< 0.85	NA	< 1.4	NA	< 0.97	NA	< 0.61	NA	NA	< 0.71	NA
Iron	2,000 or SB	2,000-550,000	7,490	8,050	9,110	10,300	16,800	19,300	10,500	6,930	27,900	15,200	9,600	8,840	6,420	13,500	9,980	4,610	10,700
Lead	**	**	32.0	49.2	13.6	2.1	661	17.6	265	4.9	106	8.9	71.6	5.9	11.4	26.3	28.1	56	10.4
Magnesium	SB	100-5,000	11,000	1,110	1,100	6,300	2,050	3,570	1,150	1,570	716 B	2,540	3,080	1,410	2,870	3,820	1,130	288 B	1,370
Manganese	SB	50-5,000	98.7	132	76.9	159	128	264	245	62.3	309	109	124	66.6	35.2	115	64.9	18.4	95.3
Mercury	0.1	0.001-0.2	0.04 E	0.14	0.15 E	< 0.01	3.7	0.04	< 0.06	0.02	0.22	0.03	< 0.07	0.02	<0.04	< 0.01	0.14	< 0.05	0.02
Nickel	13 or SB	0.5-25	6.0	5.6	6.6	4.8 B	11.3	11.6	4.3 B	5.4 B	23.6	7.6	6.3 B	4.9 B	4.2 B	8	5.1 B	5.8	5.2 B
Potassium	SB	8,500-43,000	262 BE	355 B	357 BE	806	270 BE	324 B	245 B	243 B	603 B	375 B	270 B	296 B	208 B	572 B	410 B	403 B	453 B
Selenium	2 or SB	0.1-3.9	< 0.44	< 0.44	< 0.50	< 0.49	0.85	1.5	< 0.63	0.66 B	1.6	1.2	0.92 B	< 0.51	< 0.46	< 0.46	0.75 B	1.2	0.50 B
Silver	SB	NA	< 0.7	0.11 B	0.08 B	0.15 B	< 0.08	< 0.30	0.30 B	< 0.24	0.41 B	< 0.22	0.28 B	< 0.24	< 0.07	< 0.21	< 0.24	< 0.09	< 0.23
Sodium	SB	6,000-8,000	177 B	480 B	211 B	500 B	631 B	1520	475 B	1120	1,140 B	643 B	320 B	534 B	201 B	592 B	376 B	400 B	752
Thallium	SB	NA	0.72 B	< 0.55	< 0.63	< 0.61	< 0.61	< 1.1	< 0.79	< 0.84	< 1.3	< 0.80	1.5 B	< 0.86	< 0.58	< 0.76	< 0.86	< 0.68	< 0.81
Vanadium	150 or SB	1-300	8.2	13.1	21.0	21.4	11.6	19.9	8.7	13.8	13.5	13	12.6	14.5	16.5	25.6	13.4	11.4	18.4
Zinc	20 or SB	9-50	26.1	61	31.9	25.4	128	93.5	83.1	31.7	292	64.8	37.8	42.9	38	85.9	73.1	119	36.4
% Solids	NA	NA	87.3	89	75	80	77.6	53.6	58.9	67.5	36	71.3	51.5	66.4	82	74.7	66	70.2	70.6

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