TABLES

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TABLE 1-1
ANALYTICAL METHODS SUMMARY
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Analytical Parameter	Region I Method Code	Instrument	Title, Revision Date and/or Number	Modified for Project Work Y or N	Fixed Laboratory Performing Analysis
VOCs	5035/ OLM04.2VM	GC/MS	Sludge/Soil – Volatile Organic Compounds, USEPA Contract Laboratory Program Statement of Work for Organic Analysis, Multi-Media, Multi-Concentration, Modified May 1999. Laboratory SOP #045, 11/07/00	Y(1)	DAS/Ceimic Corporation
SVOCs	OLM04.2S	GC/MS	Sludge/Soil – Semivolatile Organic Compounds, USEPA Contract Laboratory Program Statement of Work for Organic Analysis, Multi-Media, Multi-Concentration, Modified May 1999. Laboratory SOP #045, 11/21/00	Y(1)	DAS/Ceimic Corporation
Pesticides/ PCBs	OLM04.2P	GC/ECD	Sludge/Soil – Pesticides/PCBs, USEPA Contract Laboratory Program Statement of Work for Organic Analysis, Multi-Media, Multi-Concentration, Modified May 1999. Laboratory SOP #023, 9/22/00	Y(1)	DAS/Ceimic Corporation
Metals	ILM04.1MT	ICP/CV	Sludge/Soil – Total Metals, USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis, Multi-Media, Multi-Concentration, Effective March 2000. Laboratory SOP #METICP4.1-1.0, 05/17/00	Y(2)	DAS/Chem Tech Consulting
Dioxins	8290	HRGC/HR MS	Sludge/Soil – Dioxins, USEPA SW-846 3rd Edition Method 8290, Low-Medium Concentration. Laboratory SOP # DSP105, 07/31/98 DHR182, 03/25/98	Y(2)	DAS/Triangle Laboratories
TCLP VOCs	13113.IV	GC/MS	Sludge/Soil – TCLP Volatile Organic Compounds, USEPA SW-846 3rd Edition Method 1311 and USEPA Contract Laboratory Program Statement of Work for Organic Analysis, Multi-Media, Multi-Concentration, Modified May 1999. Laboratory SOP #1311 (Draft), 5/15/01	N	DAS/Ceimic Corporation
TCLP SVOCs	13113.IS	GC/MS	Sludge/Soil – TCLP Semivolatile Organic Compounds, USEPA SW-846 3rd Edition Method 1311 and USEPA Contract Laboratory Program Statement of Work for Organic Analysis, Multi-Media, Multi-Concentration, Modified May 1999. Laboratory SOP #1311, 10/24/00	N	DAS/Ceimic Corporation
TCLP Pesticides	13113.IP	GC/ECD	Sludge/Soil – TCLP Pesticides, USEPA SW-846 3rd Edition Method 1311 and USEPA Contract Laboratory Program Statement of Work for Organic Analysis, Multi-Media, Multi-Concentration, Modified May 1999. Laboratory SOP #1311, 10/24/00	N	DAS/Ceimic Corporation
TCLP Metals	1311ILM04	ICP/CV	Sludge/Soil – TCLP Metals, USEPA SW-846 3rd Edition Method 1311 and USEPA Contract Laboratory Program Statement of Work for Inorganic Analysis, Multi-Media, Multi-Concentration, Effective March 2000. Laboratory SOP #6010B#4, 12/27/00 and TCLP 1311-001, 2/18/00	N	DAS/Chem Tech Consulting
Reactive Cyanide Reactive Sulfides	SW846 Chap7.3.3/ 7.3.4	AS T	Sludge/Soil – Reactive Cyanide/Reactive Sulfides, USEPA SW-846 3rd Edition Chapter 7, Revision 3, December 1996. Laboratory SOP #Rev7.3-001, 02/18/00	N	DAS/Chem Tech Consulting

TABLE 1-1 (cont.)
ANALYTICAL METHODS SUMMARY
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Analytical Parameter	Region I Method Code	Instrument	Title, Revision Date and/or Number	Modified for Project Work Y or N	Fixed Laboratory Performing Analysis
pH	9045	Meter	Sludge/Soil – Corrosivity, US EPA SW-846 3rd Edition Method 9045B, Revision 2, December 1996. Laboratory SOP #CORR904OB-001, 02/17/00	N	DAS/Chem Tech Consulting
Hexavalent Chromium	30607196	AS	Sludge/Soil – Hexavalent Chromium, USEPA SW-846 3rd Edition Methods 3060A and 7196A, Revision 2, December 1996. Laboratory SOP #CCG-HXCD-404, 03/12/99	N	DAS/Chem Tech Consulting
Sulfides	9030B	T	Sludge/Soil – Total Sulfides, USEPA SW-846 3rd Edition Methods 9030B and 9034, Revision 2, December 1996. Laboratory SOP #9030, 02/21/00	N	DAS/Chem Tech Consulting
VOC	TO-14	GC/MS	Air – Volatile Organic Compounds, Analysis of Volatile Organic Compounds by EPA Methods TO-14/TO-14A/TO-15, Laboratory SOP #37, 03/10/01	N	DAS/Air Toxics, Ltd.
Sulfur Compounds	D-5504	GC/SCD	Air – odorous sulfides, analysis of sulfur compounds by modified ASTM Method 5504, Rev. 3 Laboratory SOP # 13	N	DAS/Air Toxics, Ltd.
Free Liquid	9095A	--	Sludge/Soil – Paint Filter Test, USEPA SW843 3rd Ed. Method 9095A, SOP #FREELIQUID, 02/18/00	N	DAS/Chem Tech Consulting

NOTES:
VOCs = Volatile Organic Compounds
SVOCs = Semivolatile Organic Compounds
PCBs = Polychlorinated Biphenyls
TCLP = Toxicity Characteristic Leaching Procedure
GC = Gas Chromatograph
MS = Mass Spectrometer
ECD = Electron Capture Detector
ICP = Inductively-Coupled Plasma
CV = Cold Vapor
HRGC = High Resolution Gas Chromatograph
HRMS = High Resolution Mass Spectrometer
AS = Semi-Automated Spectrophotometric
T = Titrimetric
SCD = Sulfur Chemiluminescence Detector
DAS = Delivery of Analytical Services

(1) Modified according to Tetra Tech Technical Specification S01-RAC1-174 to account for high percent moisture of the samples.
(2) Modified according to Tetra Tech Technical Specification S01-RAC1-175 to account for high percent moisture of the samples.

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TABLE 2-1
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 1
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-101-0010		MT-SL-102-0012		MT-SL-103-0010		MT-SL-DUP-06		MT-SL-104-0010	
Sample Location			SL-101		SL-102		SL-103		SL-103		SL-104	
Date Sampled			9/11/2001		9/11/2001		9/17/2001		9/17/2001		9/17/2001	
Interval			0.0-10.0		0.0-12.0		0.0-10.0		0.0-10.0		0.0-10.0	
QC Identifier			None		None		Field Dup. MT-SL-103-0010		Field Dup. MT-SL-103-0010		Field Dup. MT-SL-104-0010	
Project Screening Criteria	EPA Region IX PRG	NH S-1										
Volatile Organic Analysis (UG/KG)												
1,2-Dichlorobenzene	37000	66000	820	J	960	J	3200	J	940	J	440	J
1,4-Dichlorobenzene	3400	6000	1200	U	150	J	370	J	130	J	1200	U
2-Butanone	730000	2000	2200		1300	U	1500		1700		2000	
Acetone	160000	9000	1700	EB	1900	EB	1100	EB	1500	EB	1700	EB
Carbon Disulfide	36000	400	1500		6100		1800		1800		2100	
Methyl Acetate	2200000		5700		8900		5800		4500		2800	
Semivolatile Organic Analysis (UG/KG)												
2,4,5-Trichlorophenol	610000	120000	5000	J	22000	J	24000	J	19000	J	85000	U
2-Methylnaphthalene	5600	150000	16000	U	21000	J	34000	U	34000	U	34000	U
4-Methylphenol	31000	5000	630000	*	1300000	*	530000	*	580000	*	700000	*
Pentachlorophenol	3000	3300	14000	J	160000	U	32000	J	32000	J	9100	J
Phenol	3700000	56000	9000	J	23000	J	7200	J	7300	J	6300	J
Pesticide/PCB Analysis (UG/KG)												
4,4'-DDD	2400	700	3.3	UJ	3.3	UJ	3.3	UJ	3.3	UJ	5.9	J
4,4'-DDE	1700	700	10	J	5.7	J	6.8	J	7.0	J	4.8	J
4,4'-DDT	1700	900	4.4	J	3.3	UJ	3.3	UJ	3.3	UJ	3.3	U
Aldrin	29	90	1.7	UJ	1.7	UJ	1.7	UJ	1.7	UJ	6.1	J
alpha-BHC	90	60	4.9	J	1.7	UJ	4.3	J	19	*J	24	J
alpha-Chlordane	1600		8.2	J	3.5	J	11	J	1.7	UJ	62	*J
beta-BHC	320	60	1.7	UJ	1.7	UJ	1.7	UJ	7.3	J	1.7	U
Dieldrin	30	60	3.3	UJ	3.3	UJ	3.3	UJ	3.3	UJ	7.0	J
gamma-Chlordane	1600		3.3	J	3.9	J	15	J	5.9	J	48	*J
Heptachlor	110	200	28	*J	1.7	UJ	1.7	UJ	1.7	UJ	56	*J

TABLE 2-1 (Cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 1
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-101-0010		MT-SL-102-0012		MT-SL-103-0010		MT-SL-DUP-06		MT-SL-104-0010	
Sample Location			SL-101		SL-102		SL-103		SL-103		SL-104	
Date Sampled			9/11/2001		9/11/2001		9/17/2001		9/17/2001		9/17/2001	
Interval			0.0-10.0		0.0-12.0		0.0-10.0		0.0-10.0		0.0-10.0	
QC Identifier			None		None		Field Dup. MT-SL-103-0010		Field Dup. MT-SL-103-0010		Field Dup. MT-SL-104-0010	
Project Screening Criteria	EPA Region IX PRG	NH S-1										
Dioxin Analysis (NG/KG)												
1,2,3,4,6,7,8-HpCDD			39200	JEB*	2580	JEB*	69400	JEB*	39900	JEB*	7970	JEB*
1,2,3,4,6,7,8-HpCDF			3820	JEB*	1130	JEB	6610	JEB*	2870	JEB*	1590	JEB
1,2,3,4,7,8,9-HpCDF			159	JEB	53.2	JEB	530	JEB	286	JEB	80.2	JEB
1,2,3,4,7,8-HxCDD			371	JEB	40.4	JEB	521	JEB	259	JEB	57.8	JEB
1,2,3,4,7,8-HxCDF			157	JEB	55.2	JEB	421	JEB	217	JEB	70.5	JEB
1,2,3,6,7,8-HxCDD			2150	JEB*	421	JEB	3200	JEB*	1720	JEB*	662	JEB
1,2,3,6,7,8-HxCDF			119	J	39.5	J	262	J	129	J	48.6	J
1,2,3,7,8,9-HxCDD			1530	JEB	135	JEB	1760	JEB	832	JEB	195	JEB
1,2,3,7,8-PeCDD			395	JEB	26.5	JEB	470	JEB	253	JEB	40.1	JEB
1,2,3,7,8-PeCDF			89.3	EMPC	0.8	UJ	0.2	UJ	295	EMPC	107	EMPC
2,3,4,6,7,8-HxCDF			205	JEB	48.4	JEB	305	JEB	152	JEB	61.4	JEB
2,3,4,7,8-PeCDF			24.3	JEB	5.8	JEB	29.9	JEB	14.1	JEB	5.7	JEB
2,3,7,8-TCDD	3.9		94.5	J	7.3	J	129	J	77.8	J	9	J
2,3,7,8-TCDF			13.9	J	4.3	J	18.5	J	7.6	J	3.7	J
OCDD			340000	JEB*	19200	JEB*	541000	JEB*	272000	JEB*	65200	JEB*
OCDF			3510	JEB*	870	JEB	6460	JEB*	3350	JEB	1580	JEB
Total HpCDD			73600	JEB*	4440	JEB*	138000	JEB*	77200	JEB*	14700	JEB*
Total HpCDF			8980	JEB*	2330	JEB	16000	JEB*	6910	JEB*	2010	JEB*
Total HxCDD			15000	JEB*	2110	JEB	19300	JEB*	10200	JEB*	3290	JEB
Total HxCDF			4120	JEB	651	JEB	5740	JEB*	3550	JEB	1470	JEB
Total PeCDD			5100	JEB	142	JEB	5320	JEB	2340	JEB	366	JEB
Total PeCDF			839	JEB	153	JEB	1060	JEB	1010	JEB	254	JEB
Total TCDD			1470	J*	50.7	J	1880	J	1220	J	87.5	J
Total TCDF			470	J	63.7	J	554	J	380	J	90	J
Toxicity Equivalency	1000#		1400	J	150	J	2100	J	1100	J	270	J

TABLE 2-1 (Cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 1
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-101-0010		MT-SL-102-0012		MT-SL-103-0010		MT-SL-DUP-06		MT-SL-104-0010	
Sample Location			SL-101		SL-102		SL-103		SL-103		SL-104	
Date Sampled			9/11/2001		9/11/2001		9/17/2001		9/17/2001		9/17/2001	
Interval			0.0-10.0		0.0-12.0		0.0-10.0		0.0-10.0		0.0-10.0	
QC Identifier			None		None		Field Dup. MT-SL-103-0010		Field Dup. MT-SL-103-0010		Field Dup. MT-SL-104-0010	
Project Screening Criteria	EPA Region IX PRG	NH S-1										
TAL Metal Analysis (MG/KG)												
Aluminum			5380		6510		4010		5060		8770	
Antimony	3.1	8	0.74	UJ	0.74	UJ	7.7	J	0.74	U		R
Arsenic	0.39	11	6.7	J	5.1	J	4.7	J	1.5	J	7.6	J
Barium	540	750	36.4		26.3		38.0		34.8		45.7	
Beryllium	15	0.95	0.080		0.090		0.050		0.12		0.24	
Calcium			151000	J	75000	J	208000	J	105000	J	114000	J
Chromium	12000	1000	20100		18300		16900		19500		25200	
Cobalt			5.2	J	5.3	J	4.3	J	5.5	J	7.4	J
Copper			23.7		24.6		27.2		29.0		34.7	
Iron			5570		10700		5810		8240		8350	
Lead	400	4003	43.5		45.3		60.0		60.9		60.2	
Magnesium			955		787		1010		906		1470	
Manganese	180		3990		13300		8750		9660		5380	
Nickel	160	580	5.1		6.2			R	6.8	J	10.1	J
Potassium			458	J	518	J	424	J	478	J	892	J
Selenium	39	260	1.0	U	1.0	U	1.0	U	2.1		1.0	U
Silver	39	45	1.8	J	6.2	J	1.0	U	1.0	U	1.0	U
Sodium			8160		11300		9410		10100		8990	
Vanadium	55		24.4		25.6		17.5		23.8		34.0	
Zinc	2300	1000	128		145		121		141		183	

TABLE 2-1 (Cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 1
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-101-0010		MT-SL-102-0012		MT-SL-103-0010		MT-SL-DUP-06		MT-SL-104-0010	
Sample Location			SL-101		SL-102		SL-103		SL-103		SL-104	
Date Sampled			9/11/2001		9/11/2001		9/17/2001		9/17/2001		9/17/2001	
Interval			0.0-10.0		0.0-12.0		0.0-10.0		0.0-10.0		0.0-10.0	
QC Identifier			None		None		Field Dup. MT-SL-103-0010		Field Dup. MT-SL-103-0010		Field Dup. MT-SL-104-0010	
Project Screening Criteria	EPA Region IX PRG	NH S-1										
Miscellaneous Analyses												
Chromium VI (MG/KG)	30		6.1	U	6.6	U	6.3	U	5.5	U	10.9	UJ
Corrosivity/pH (SU)			7.61		7.43		7.48		7.61		7.47	
Redox Potential (mV)			122.1		58.7		48.2		63.7		77.1	
Sulfide (MG/KG)			49.0	J	16.6	UJ	15.8	UJ	230	J	280	J
Paint Filter (ML/KG)	1 @			NA		NA		NA		NA	1.0	U

NOTES:
EPA Region IX PRG = US EPA Region IX Preliminary Remediation Goals for Residential Soil. PRG values for non-carcinogens have been multiplied by 0.1 to adjust to a hazard index of 0.1 for consistency with human health risk evaluation. (see text section 2.4 for details.)
NH S-1 = NHDES Risk Characterization and Management Policy Method 1 Standards for Category S-1 Soil; Section 7.5, Table 3; January 1998, revised April 2001.
Black background = Criteria exceeded
U = Analyte not detected above laboratory detection limits
J = Quantitation approximate
UJ = Detection limit approximate
NA = Not analyzed
* = From dilution analysis
EB = Analyte associated with equipment blank contamination
EMPC = Estimated maximum possible concentration
# = The EPA Region 9 PRG for dioxins is 3.9 ng/kg. However, current EPA policy recommends use of 1 ppb (1000 ng/kg) as a cleanup goal.
(EPA OSWER Directive 9200.4-26: Approach for addressing Dioxin in Soil at CERCLA and RCRA Sites (U.S. EPA, 1998))
@ = Paint filter test criteria: 40 CFR 264.314 and EPA SW-846. Detection of any liquid indicates presence of free liquid in the sample and failure of the paint filter test

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TABLE 2-2
RCRA ANALYSIS OF SLUDGE - AREA 1
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number		MT-SL-A1-SLCOMP		MT-SL-DUP-08	
Sample Location		SL-A1		SL-A1	
Date Sampled		9/17/2001		9/17/2001	
Interval		0.0-0.0		0.0-0.0	
QC Identifier		Field Dup. MT-SL-A1-SLCOMP		Field Dup. MT-SL-A1-SLCOMP	
Project Screening Criteria	TCLP				
TCLP Volatile Organic Analysis (UG/L)					
NOT ANALYZED					
TCLP Semivolatile Organic Analysis (UG/L)					
2,4,5-Trichlorophenol	400000	26	J	13	J
4-Methylphenol	200000	10000	*J	7200	*
TCLP Metal Analysis (UG/L)					
Barium	100000	1110		814	
Chromium	5000	117		113	
Miscellaneous Analyses					
Corrosivity/pH (SU)		7.7		7.51	
Reactive Cyanide (MG/KG)	250 +	0.4	U	0.4	U
Reactive Sulfide (MG/KG)	500 +	694		663	

NOTES:

Black Background = Criteria exceeded

Area 1 sludge composite sample consists of sludge from SL-101, SL-102, SL-103, and SL-104

No TCLP VOC sample collected from Area 1 sludge

TCLP = Toxicity Characteristic Leaching Procedure: 40 CFR 261, Subpart C, Table 1--Maximum Concentration of Contaminants for the Toxicity Characteristic. (except as noted by +)

U = Not detected above laboratory detection limits

J = Quantitation approximated

UJ = Detection limit approximate

NA = Not analyzed

* = From dilution analysis

+ = EPA interim guidance level (July 1985) withdrawn April 1998 (U.S. EPA, April 1998b)

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TABLE 2-3
SUMMARY OF CONTAMINANTS DETECTED IN HEADSPACE AIR SAMPLES
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number		MT-SL-104-0010		MT-SL-205-0616		MT-SL-403-0510		MT-SL-704-0207		MT-SL-DUP-04	
Sample Location		SL-104		SL-205		SL-403		SL-704		SL-704	
Date Sampled		9/17/2001		8/30/2001		8/30/2001		8/31/2001		8/31/2001	
Interval		0.0-10.0		6.0-16.0		5.0-10.0		2.0-7.0		2.0-7.0	
QC Identifier		None		None		None		Field Dup. MT-SL-704-0207		Field Dup. MT-SL-704-0207	
Project Screening Criteria	AAL										
Volatile Organic Compounds Headspace Analysis (PPBV)											
Benzene	1.76	11	J	5	U	5	U	5	U	5	U
Chlorobenzene	49.35	5	UJ	14		1200		5	U	5	U
Ethylbenzene	226.51	5	UJ	5	U	27		1200	U	1400	U
m&p-Xylene	351.09	5	J	5	U	71		5	U	5	
Methylene Chloride	175.95	17	J	15		11		1200	U	1400	U
o-Xylene	351.09	5	UJ	5	U	27		5	U	5	U
Tetrachloroethene	88.07	21	J	5	U	5	U	5	U	5	U
Toluene	175.25	110	UJ	5	U	4500		4000		3800	
Trichlorofluoromethane	4949.31	5	UJ	9.4		7.4		1200	U	1400	U
Sulfur Compounds Headspace Analysis (PPBV)											
2,5-Dimethylthiophene		10	J	4.0	U	4.0	U	40	U	40	U
2-Ethylthiophene		6.2	J	4.0	U	4.0	U	40	U	40	U
3-Methylthiophene		100	J	4.0	U	8.9		40	U	40	U
Carbon Disulfide	221.27	370	J	62		460		60		60	
Carbonyl Sulfide		26	J	32		430		40	U	40	U
Diethyl Sulfide		9.2	J	4.0	U	4.0	U	40	U	40	U
Dimethyl Disulfide		100	J	4.0	U	4.0	U	1600	J	2900	J
Dimethyl Sulfide		650	*J	4.0	U	4.0	U	40	UJ	3000	J
Isopropyl Mercaptan		14	J	4.0	U	4.0	U	2700	J	40	UJ
Methyl Mercaptan	2.47	4.3	J	4.0	U	4.0	U	40		47	
Thiophene		19	J	4.0	U	4.0	U	40	U	40	U

NOTES:

AAL = ENV-A 1400 NHDES 24-hour ambient aire limit

Black Background = Criteria exceeded

U = Not detected

J = Quantitation approximate

UJ = Detection limit approximate

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TABLE 2-4
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 2
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-201-0616		MT-SL-202-0717		MT-SL-DUP-01		MT-SL-203-0619		MT-SL-204-0618		MT-SL-205-0616	
Sample Location			SL-201		SL-202		SL-202		SL-203		SL-204		SL-205	
Date Sampled			8/29/2001		8/29/2001		8/29/2001		8/29/2001		8/29/2001		8/30/2001	
Depth Interval			6.0-16.0		7.0-17.0		7.0-17.0		6.0-19.0		6.0-18.0		6.0-16.0	
QC Identifier			None		Field Dup. MT-SL-202-0717		Field Dup. MT-SL-202-0717		None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1												
Volatile Organic Analysis (UG/KG)														
1,2,4-Trichlorobenzene	65000	15000	200	U	230	U	250	U	39	J	35	J	170	U
1,2-Dichlorobenzene	37000	66000	200	U	960		620		720		940		67	J
1,4-Dichlorobenzene	3400	6000	200	U	230		150	J	53	J	140	J	15	J
Acetone	160000	9000	200	U	790		850		180	U	210		170	U
Carbon Disulfide	36000	400	200	U	450	J	210	J	1900		60	J	300	
Chlorobenzene	15000	6000	200	U	230	U	250	U	180	U	120	J	170	U
Chloroform	240	100	27	J	28	J	28	J	20	J	25	J	19	J
Methyl Acetate	2200000		200	U	170	J	280	J	64	J	490		56	J
Semivolatile Organic Analysis (UG/KG)														
2,4,5-Trichlorophenol	610000	120000	63000	U	3600	J	38000	U	39000	U	59000	U	2600	UJ
2-Chloronaphthalene			5200	J	15000	U	15000	U	1700	J	24000	U	1000	UJ
2-Methylnaphthalene	5600	150000	25000	U	1700	J	2000	J	16000	U	24000	U	1000	UJ
4-Methylphenol	31000	5000		R	12000	J	11000	J	3100	J		R		R
Naphthalene	5600	5000	9000	J	75000		47000		3700	J	24000	U	1000	UJ
Pentachlorophenol	3000	3300	63000	U	61000	J	24000	J	28000	J	12000	J	2600	UJ
Phenol	3700000	56000	25000	U	67000	J	37000	J	16000	U	24000	U	1000	UJ
Pesticide/PCB Analysis (UG/KG)														
4,4'-DDE	1700	700	6.1		51		51		20		10		4.0	U
Aldrin	29	90	2.5	U	14	J	43		3.1	U	2.4	U	2.0	U
alpha-Chlordane	1600		6.0	EB	220	*JEB	450	*JEB	16	EB	22	EB	2.0	U
Aroclor-1254	220		49	U	110		290	U	61	U	38	J	40	U
beta-BHC	320	60	2.5	U	13		15	U	18		9.7		2.0	U

TABLE 2-4 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 2
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-201-0616		MT-SL-202-0717		MT-SL-DUP-01		MT-SL-203-0619		MT-SL-204-0618		MT-SL-205-0616	
Sample Location			SL-201		SL-202		SL-202		SL-203		SL-204		SL-205	
Date Sampled			8/29/2001		8/29/2001		8/29/2001		8/29/2001		8/29/2001		8/30/2001	
Depth Interval			6.0-16.0		7.0-17.0		7.0-17.0		6.0-19.0		6.0-18.0		6.0-16.0	
QC Identifier			None		Field Dup. MT-SL-202-0717		Field Dup. MT-SL-202-0717		None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1												
delta-BHC			2.5	U	2.9	UJ	35		3.1	U	3.2		2.0	U
Dieldrin	30	60	4.9	U	8.5	J	29	U	6.1	U	4.6	U	4.0	U
Endrin Ketone			4.9	U	5.7	U	29	U	6.1	U	5.8		4.0	U
gamma-Chlordane	1600		2.5	U	330	*J	660	*J	4.5		13		2.0	U
Heptachlor Epoxide	53	100	2.5	U	11	J	84		3.1	U	2.4	U	2.0	U
Dioxin Analysis (NG/KG)														
1,2,3,4,6,7,8-HpCDD			7760	*	51100	J*	132000	J*	19700	*	90300	*	427	
1,2,3,4,6,7,8-HpCDF			1690		2700	EMPC*	5400	J*	1500	*	9800	*	95.5	
1,2,3,4,7,8,9-HpCDF			76.8		28.3	J	91.3	J	103		265	J	3.3	J
1,2,3,4,7,8-HxCDD			24.6		120	J	220	J	78.8		285		0.9	J
1,2,3,4,7,8-HxCDF			40.9		177	J	184	J	121		294		1.9	J
1,2,3,6,7,8-HxCDD			392		1400	EMPC*	3000	EMPC	1070		2500	EMPC*	14.4	
1,2,3,6,7,8-HxCDF			15		49.5	J	67.5	J	35.1		227		1.8	J
1,2,3,7,8,9-HxCDD			94.9		451	J	422	J	314		997		4	J
1,2,3,7,8-PeCDD			19.7		135	J	89.2	J	77.9		161		0.64	EMPC
1,2,3,7,8-PeCDF			1.5	J	4.1	J	13.2	J	3.3	J	0.2	U	0.09	U
2,3,4,6,7,8-HxCDF			29.8		139	J	220	J	60.6		375		3.6	J
2,3,4,7,8-PeCDF			2	JEB	9.7	JEB	25.4	JEB	5.2	JEB	22.8	JEB	0.31	EMPC
2,3,7,8-TCDD	3.9		16.9		35	J	23.6	J	32.4		46.4		0.68	J
2,3,7,8-TCDF			1.7	J	4.7	J	10.1	J	3.4	J	10.8	J	0.24	EMPC
OCDD			52700	*	443000	J*	1370000	J*	157000	*	762000	*	6260	*
OCDF			3200		1500	EMPC*	8500	J*	2330		16700	*	164	
Total HpCDD			13600	J*	88400	J*	210000	J*	32800	J*	155000	J*	817	J
Total HpCDF			4670	J*	2600	J*	12900	J*	4170	J*	25100	J*	291	J

TABLE 2-4 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 2
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-201-0616		MT-SL-202-0717		MT-SL-DUP-01		MT-SL-203-0619		MT-SL-204-0618		MT-SL-205-0616	
Sample Location			SL-201		SL-202		SL-202		SL-203		SL-204		SL-205	
Date Sampled			8/29/2001		8/29/2001		8/29/2001		8/29/2001		8/29/2001		8/30/2001	
Depth Interval			6.0-16.0		7.0-17.0		7.0-17.0		6.0-19.0		6.0-18.0		6.0-16.0	
QC Identifier			None		Field Dup. MT-SL-202-0717		Field Dup. MT-SL-202-0717		None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1												
Total HxCDD			1760	J	1800	J*	8700	J*	4640	J	6500	J*	80.7	J
Total HxCDF			1510	J	8300	J*	4400	J*	3050	J	3400	J*	108	J
Total PeCDD			324	JEB	1680	JEB	1050	JEB	887	JEB	2170	JEB	11.7	JEB
Total PeCDF			51	J	177	J	464	J	147	J	685	J	7.2	J
Total TCDD			173	J	630	J	287	J	302	J	638	J	2.3	J
Total TCDF			28	J	85.2	J	181	J	78.1	J	327	J	1.4	UJ
Toxicity Equivalency	1000#		200	J	990	J	2100	J	510	J	1800	J	10	J
TAL Metal Analysis (MG/KG)														
Aluminum			7950		5970		7030		3590		7730		4760	
Antimony	3.1	8	12.2		2.9		5.3		63.5		10.7		1.3	
Arsenic	0.39	11	9.0		10.5		9.4		1.0	U	5.4		8.0	
Barium	540	750	42.4		49.5		20.7		19.7		26.7		17.8	
Beryllium	15	0.95	0.27		0.29		0.40		0.16		0.41		0.30	
Calcium			6460	J	3150	J	11200	J	40900	J	14000	J	1570	J
Chromium	12000	1000	1430	J	328	J	626	J	7490	J	1360	J	181	J
Cobalt			6.4		3.9		4.8		2.4		5.7		4.0	
Copper			13.0		6.5		8.8		14.5		10.7		5.6	
Iron			10100		7110		9310		4120		11000		6220	
Lead	400	4003	20.6		8.0		8.3		13.6		6.3		6.2	
Magnesium			4010		1850		2170		1310		2540		1380	
Manganese	180		148		90.5		108		137		130		74.2	
Mercury	2.3	13	0.040	J	0.46	J	0.31	J	0.080	J	0.080	J	0.28	J
Nickel	160	580	17.9		8.7		9.6		7.1		15.2		7.6	
Potassium			2410	J	671	J	521	J	510	J	620	J	464	J

TABLE 2-4 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 2
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-201-0616		MT-SL-202-0717		MT-SL-DUP-01		MT-SL-203-0619		MT-SL-204-0618		MT-SL-205-0616	
Sample Location			SL-201		SL-202		SL-202		SL-203		SL-204		SL-205	
Date Sampled			8/29/2001		8/29/2001		8/29/2001		8/29/2001		8/29/2001		8/30/2001	
Depth Interval			6.0-16.0		7.0-17.0		7.0-17.0		6.0-19.0		6.0-18.0		6.0-16.0	
QC Identifier			None		Field Dup. MT-SL-202-0717		Field Dup. MT-SL-202-0717		None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1												
Sodium			103	J	822		1140		456		154		85.3	U
Vanadium	55		16.4		10.3		11.2		0.64	U	11.7		8.6	
Zinc	2300	1000	34.2		25.8		31.6		34.6		35.9		22.6	
Miscellaneous Analyses														
Chromium VI (MG/KG)	30		2.5	U	2.2	U	2.7	U	3.0	UJ	2.3	UJ	2.5	U
Corrosivity/pH (SU)			8.21		8.56		10.35		8.39		7.97		7.63	
Redox Potential (mV)			336.5		281.2		324.1		299.5		312		352	
Sulfide (MG/KG)			180	J	230	J	110	J	77.0	J	140	J	55.0	J
Paint Filter (ML/KG)	1@			NA		NA		NA		NA		NA	1.0	U

NOTES:

EPA Region IX PRG = US EPA Region IX Preliminary Remediation Goals for Residential Soil. PRG values for non-carcinogens have been multiplied by 0.1 to adjust to a hazard index of 0.1 for consistency with human health risk evaluation. (see text section 2.4 for details.)

NH S-1 = NHDES Risk Characterization and Management Policy Method 1 Standards for Category S-1 Soil; Section 7.5, Table 3; January 1998, revised April 2001

Black background = Criteria exceeded

U = Analyte not detected above laboratory detection limits

J = Quantitation approximate

UJ = Detection limit approximate

NA = Not analyzed

* = From dilution analysis

EB = Analyte associated with equipment blank contamination

EMPC = Estimated maximum possible concentration

= The EPA Region 9 PRG for dioxins is 3.9 ng/kg. However, current EPA policy recommends use of 1 ppb (1000 ng/kg) as a cleanup goal.
(EPA OSWER Directive 9200.4-26: Approach for addressing Dioxin in Soil at CERCLA and RCRA Sites (U.S. EPA, 1998))

@ = Paint filter test criteria: 40 CFR 264.314 and EPA SW-846. Detection of any liquid indicates presence of free liquid in the sample and failure of the paint filter test

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TABLE 2-5
RCRA ANALYSIS OF SLUDGE - AREA 2
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number		MT-SL-A2-SLCOMP		MT-SL-DUP-02	
Sample Location		SL-A2		SL-A2	
Date Sampled		8/29/2001		8/29/2001	
Depth Interval		0.0-0.0		0.0-0.0	
QC Identifier		Field Dup. MT-SL-A2-SLCOMP		Field Dup. MT-SL-A2-SLCOMP	
Project Screening Criteria	TCLP				
TCLP Volatile Organic Analysis (UG/L)					
NOT ANALYZED					
TCLP Semivolatile Organic Analysis (UG/L)					
2,4,5-Trichlorophenol	400000	37		53	
4-Methylphenol	200000	19	J	45	J
Pentachlorophenol	100000	500	*	770	*
TCLP Metal Analysis (UG/L)					
Barium	100000	46.3	J	159	J
Chromium	5000	9.4	J	204	J
Lead	5000	3.0	UJ	3.7	J
Miscellaneous Analyses					
Corrosivity/pH (SU)		8.12		10.4	
Reactive Cyanide (MG/KG)	250 +	0.4	U	0.4	U
Reactive Sulfide (MG/KG)	500 +	39.6	U	39.6	U

NOTES:

Black Background = Criteria exceeded

Area 1 sludge composite sample consists of sludge from SL-101, SL-102, SL-103, and SL-104

No TCLP VOC sample collected from Area 1 sludge

TCLP = Toxicity Characteristic Leaching Procedure: 40 CFR 261, Subpart C, Table 1--Maximum Concentration of Contaminants for the Toxicity Characteristic. (except as noted by +)

U = Not detected above laboratory detection limits

J = Quantitation approximated

UJ = Detection limit approximate

NA = Not analyzed

* = From dilution analysis

+ = EPA interim guidance level (July 1985) withdrawn April 1998 (U.S. EPA, April 1998b)

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TABLE 2-6
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 3
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-301-0208		MT-SL-302-0309		MT-SL-303-0618	
Sample Location			SL-301		SL-302		SL-303	
Date Sampled			8/30/2001		8/30/2001		8/30/2001	
Interval			2.0-8.0		3.0-9.0		6.0-18.0	
QC Identifier			None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1						
Volatile Organic Analysis (UG/KG)								
1,2-Dichlorobenzene	37000	66000	330	U	240	U	130	J
Carbon Disulfide	36000	400	330	U	240	U	64	J
Toluene	52000	100000	330	U	240	U	220	J
Semivolatile Organic Analysis (UG/KG)								
2,4,5-Trichlorophenol	610000	120000	2200	U	470	U	16000	J
Naphthalene	5600	5000	900	U	190	U	8600	J
Pentachlorophenol	3000	3300	2200	U	470	U	22000	J
Pesticide/PCB Analysis (UG/KG)								
4,4'-DDD	2400	700	1.7	U	1.8	UJ	5.0	J
4,4'-DDE	1700	700	1.7	U	1.8	UJ	7.4	J
alpha-Chlordane	1600		1.6		0.93	UJ	3.2	J
Aroclor-1254	220		8.6	J	18	U	18	UJ
gamma-Chlordane	1600		1.7		0.93	UJ	5.0	J
Dioxin Analysis (NG/KG)								
1,2,3,4,6,7,8-HpCDD			22570	*	479		548	
1,2,3,4,6,7,8-HpCDF			2250	*	67.4		56.1	
1,2,3,4,7,8,9-HpCDF			84.9	J	3.6	J	3.4	J
1,2,3,4,7,8-HxCDD			123		1.8	J	2.2	J
1,2,3,4,7,8-HxCDF			86.1		2.1	J	2.4	J
1,2,3,6,7,8-HxCDD			1390		21.7		22.2	
1,2,3,6,7,8-HxCDF			76	EB	1.3	JEB	2.2	JEB
1,2,3,7,8,9-HxCDD			452	EB	5.2	EB	8.3	EB
1,2,3,7,8,9-HxCDF			0.5	U	0.3	U	1	EMPC
1,2,3,7,8-PeCDD			97.2	JEB	0.91	JEB	1.3	JEB
2,3,4,6,7,8-HxCDF			150	J	2.6	J	3.5	J
2,3,4,7,8-PeCDF			12.7		0.25	EMPC	0.3	U
2,3,7,8-TCDD	3.9		16		0.61	J	0.72	J
2,3,7,8-TCDF			3.9	EMPC	0.51	J	0.2	U
OCDD			248220	EB*	1960	JEB*	5320	EB*
OCDF			2210	JEB	158	JEB	48.8	JEB
Total HpCDD			42930	J*	854	J	1100	J
Total HpCDF			5240	J*	238	J	134	J
Total HxCDD			5900	JEB*	103	JEB	134	JEB
Total HxCDF			3590	JEB	73.8	JEB	48.5	JEB
Total PeCDD			2020	JEB	15.3	JEB	10.3	JEB
Total PeCDF			679	J	9.8	J	4.4	J
Total TCDD			364	J	0.99	J	2	J
Total TCDF			48.9	JEB	2.3	JEB	2	JEB
Toxicity Equivalency	1000#		620	J	11	J	13	J

TABLE 2-6 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 3
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-301-0208		MT-SL-302-0309		MT-SL-303-0618	
Sample Location			SL-301		SL-302		SL-303	
Date Sampled			8/30/2001		8/30/2001		8/30/2001	
Interval			2.0-8.0		3.0-9.0		6.0-18.0	
QC Identifier			None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1						
TAL Metal Analysis (MG/KG)								
Aluminum			2890		5330		4160	
Antimony	3.1	8	35.2	J	0.74	U	3.6	
Arsenic	0.39	11	1.9	J	7.8		6.1	
Barium	540	750	13.5		19.1		16.3	
Beryllium	15	0.95	0.15		0.28		0.24	
Calcium			28100	J	671	J	2570	J
Chromium	12000	1000	4230	J	122	J	519	J
Cobalt			2.2		2.9		3.8	
Copper			8.7		5.7		6.6	
Iron			3370		5360		5560	
Lead	400	4003	8.7		4.2		7.2	
Magnesium			839		1500		1440	
Manganese	180		143		74.6		134	
Mercury	2.3	13	0.040	J	0.15	J	0.060	J
Nickel	160	580	7.0		7.2		11.2	
Potassium			413	J	712	J	623	J
Sodium			138		98.5	U	98.1	U
Vanadium	55		5.9		9.1		6.8	
Zinc	2300	1000	23.9		18.3		20.7	
Miscellaneous Analyses								
Chromium VI (MG/KG)	30		2.2	UJ	2.2	U	2.2	UJ
Redox Potential (mV)			383.1		447.6		410.2	
Sulfide (MG/KG)			90.0	J	35.0	J	140	J
Paint Filter (ML/KG)	1 @			NA		NA		NA

NOTES:

EPA Region IX PRG = US EPA Region IX Preliminary Remediation Goals for Residential Soil. PRG values for non-carcinogens have been multiplied by 0.1 to adjust to a hazard index of 0.1 for consistency with human health risk evaluation. (see text section 2.4 for details.)

NH S-1 = NHDES Risk Characterization and Management Policy Method 1 Standards for Category S-1 Soil; Section 7.5, Table 3; January 1998, revised April 2001.

Black background = Criteria exceeded

U = Analyte not detected above laboratory detection limits

J = Quantitation approximate

UJ = Detection limit approximate

NA = Not analyzed

* = From dilution analysis

EB = Analyte associated with equipment blank contamination

R = Rejected

EMPC = Estimated maximum possible concentration

= The EPA Region 9 PRG for dioxins is 3.9 ng/kg. However, current EPA policy recommends use of 1 ppb (1000 ng/kg) as a cleanup goal. (EPA OSWER Directive 9200.4-26: Approach for addressing Dioxin in Soil at CERCLA and RCRA Sites (U.S. EPA, 1998))

@ = Paint filter test criteria: 40 CFR 264.314 and EPA SW-846. Detection of any liquid indicates presence of free liquid in the sample and failure the paint filter test

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TABLE 2-7
RCRA ANALYSIS OF SLUDGE - AREA 3
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number		MT-SL-301-0208		MT-SL-302-0309		MT-SL-303-0618	
Sample Location		SL-301		SL-302		SL-303	
Date Sampled		8/30/2001		8/30/2001		8/30/2001	
Interval		2.0-8.0		3.0-9.0		6.0-18.0	
QC Identifier		None		None		None	
Project Screening Criteria	TCLP						
TCLP Volatile Organic Analysis (UG/L)							
2-Butanone	200000	10	U	10	U	21	
TCLP Semivolatile Organic Analysis (UG/L)							
Pentachlorophenol	100000	9	J	25	U	25	U
TCLP Metal Analysis (UG/L)							
Barium	100000	56.9		57.6		46.6	
Chromium	5000	12.8	J	7.7	J	57.7	J
Lead	5000	3.0	U	3.0	U	3.2	J
Miscellaneous Analyses							
Corrosivity/pH (SU)		7.87		6.55		7.56	
Reactive Cyanide (MG/KG)	250 +	0.4	U	0.4	U	0.4	U
Reactive Sulfide (MG/KG)	500 +	40.1	U	40	U	39.6	

NOTES:

TCLP VOC samples collected from 6-8 feet bgs in SL-301, 4-8 feet bgs in SL-302, 8-12 feet bgs in SL-303

TCLP = Toxicity Characteristic Leaching Procedure: 40 CFR 261, Subpart C, Table 1--Maximum Concentration of Contaminants for the Toxicity Characteristic. (except as noted by +)

U = Not detected above laboratory detection limits

J = Quantitation approximated

+ = EPA interim guidance level (July 1985) withdrawn April 1998 (U.S. EPA, April 1998b)

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TABLE 2-8
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 4
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-401-0511		MT-SL-402-0311		MT-SL-403-0510	
Sample Location			SL-401		SL-402		SL-403	
Date Sampled			8/30/2001		8/30/2001		8/30/2001	
Interval			5.0-11.0		3.0-11.0		5.0-10.0	
QC Identifier			None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1						
Volatile Organic Analysis (UG/KG)								
1,2,4-Trichlorobenzene	65000	15000	430	U	83	J	590	U
1,2-Dichlorobenzene	37000	66000	2800		13000		3800	
1,4-Dichlorobenzene	3400	6000	440		2200		670	
2-Butanone		2000	510		850	U	590	U
Acetone	160000	9000	590		620	J	550	J
Carbon Disulfide	36000	400	750		310	J	460	
Chlorobenzene	15000	6000	430	U	850	U	480	J
Chloroform	240	100	49	J	850	U	79	J
Methyl Acetate	2200000		610		1500		1400	
Tetrachloroethene	5700	2000	170	J	850	U	590	U
Toluene	52000	100000	1200		9200		5500	J
Total Xylenes	21000	500000	430	U	280	J	590	U
Semivolatile Organic Analysis (UG/KG)								
2,4,5-Trichlorophenol	610000	120000	37000	U	380	J	27000	U
2-Methylnaphthalene	5600	150000	1800	J	5200		1800	J
4-Methylphenol	31000	5000	83000	J	110000	*J		R
bis(2-Ethylhexyl)phthalate	35000	39000	15000	J	2000	U	11000	UJ
Naphthalene	5600	5000	15000	U	760	J	11000	U
Pentachlorophenol	3000	3300	1600	J	4900	U	27000	U
Phenol	3700000	56000	6500	J	5800		11000	U
Pesticide/PCB Analysis (UG/KG)								
alpha-BHC	90	60	4.6		3.4	U	2.2	UJ
Aroclor-1254	220		180		86		42	J
Dioxin Analysis (NG/KG)								
1,2,3,4,6,7,8-HpCDD			1550		12570	*	924	
1,2,3,4,6,7,8-HpCDF			132		421		74.8	
1,2,3,4,7,8,9-HpCDF			7.4		29.1		5.2	U
1,2,3,4,7,8-HxCDD			6.2	EMPC	22.8		3.1	U
1,2,3,4,7,8-HxCDF			6.6		21.6		2.7	U
1,2,3,6,7,8-HxCDD			58		199		32.1	
1,2,3,6,7,8-HxCDF			4.7	JEB	15.1	EB	2.7	U
1,2,3,7,8,9-HxCDD			21.9	EB	74.7	EB	7.8	EMPC
1,2,3,7,8-PeCDD			4.4	JEB	13.5	JEB	3.6	U
1,2,3,7,8-PeCDF			0.7	U	25.3	EMPC	11.7	
2,3,4,6,7,8-HxCDF			7.3		4.7	U	2.9	U
2,3,4,7,8-PeCDF			0.99	J	2.5	J	2.2	U
2,3,7,8-TCDD	3.9		1.2		3.4		1.8	U
2,3,7,8-TCDF			0.68	EMPC	2	U	1.1	U

TABLE 2-8 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 4
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-401-0511		MT-SL-402-0311		MT-SL-403-0510	
Sample Location			SL-401		SL-402		SL-403	
Date Sampled			8/30/2001		8/30/2001		8/30/2001	
Interval			5.0-11.0		3.0-11.0		5.0-10.0	
QC Identifier			None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1						
OCDD			22680	EB*	94580	EB*	9150	JEB*
OCDF			190	JEB	651	JEB	130	EMPC
Total HpCDD			2770	J	22120	J*	1500	J
Total HpCDF			339	J	1170	J	237	J
Total HxCDD			325	JEB	1130	JEB	140	JEB
Total HxCDF			129	JEB	409	JEB	95.9	JEB
Total PeCDD			45	JEB	230	JEB	8.2	JEB
Total PeCDF			22.5	J	57.4	J	11.7	J
Total TCDD			5	J	16.7	J	1.8	UJ
Total TCDF			9.6	JEB	13.9	JEB	3.2	EMPC
Toxicity Equivalency	1000#		36	J	190	J	15	J
TAL Metal Analysis (MG/KG)								
Aluminum			6770		6130		5770	
Antimony	3.1	8	91.1		207	J	35.8	J
Arsenic	0.39	11	2.6	J	1.2	J	2.7	J
Barium	540	750	35.9		23.0		24.2	
Beryllium	15	0.95	0.25		0.23		0.29	
Calcium			28600	J	50000	J	11900	J
Chromium	12000	1000	10700	J	23700	J	4270	J
Cobalt			5.7		5.3	J	5.0	
Copper			17.4		25.1		13.0	
Iron			9080		9980		8550	
Lead	400	4003	16.9		27.8		10.8	
Magnesium			2990		1320		2280	
Manganese	180		819		2690		472	
Mercury	2.3	13	0.030	J	0.020	UJ	0.020	J
Nickel	160	580	14.8		12.3		15.5	
Potassium			1610	J	657	J	1040	J
Silver	39	45	1.0	U	1.7		1.0	U
Sodium			693		648		98.2	U
Thallium	0.52	10	2.0	J	1.1	UJ	1.1	UJ
Vanadium	55		0.64	U	4.9		2.6	
Zinc	2300	1000	53.5		94.2		40.6	

TABLE 2-8 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 4
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-401-0511		MT-SL-402-0311		MT-SL-403-0510	
Sample Location			SL-401		SL-402		SL-403	
Date Sampled			8/30/2001		8/30/2001		8/30/2001	
Interval			5.0-11.0		3.0-11.0		5.0-10.0	
QC Identifier			None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1						
Miscellaneous Analyses								
Chromium VI (MG/KG)	30		2.9	UJ	2.0	U	2.5	U
Redox Potential (mV)			330.3		326.3		339.2	
Sulfide (MG/KG)			150	J	300	J	40.0	J
Paint Filter (ML/KG)	1 @			NA	13.0			NA

NOTES:

EPA Region IX PRG = US EPA Region IX Preliminary Remediation Goals for Residential Soil. PRG values for non-carcinogens have been multiplied by 0.1 to adjust to a hazard index of 0.1 for consistency with human health risk evaluation. (see text section 2.4 for details.)

NH S-1 = NHDES Risk Characterization and Management Policy Method 1 Standards for Category S-1 Soil; Section 7.5, Table 3; January 1998, revised April 2001.

Black background = Criteria exceeded

U = Analyte not detected above laboratory detection limits

J = Quantitation approximate

UJ = Detection limit approximate

NA = Not analyzed

* = From dilution analysis

R = Rejected

EMPC = Estimated maximum possible concentration

= The EPA Region 9 PRG for dioxins is 3.9 ng/kg. However, current EPA policy recommends use of 1 ppb (1000 ng/kg) as a cleanup goal. (EPA OSWER Directive 9200.4-26: Approach for addressing Dioxin in Soil at CERCLA and RCRA Sites (U.S. EPA, 1998))

@ = Paint filter test criteria: 40 CFR 264.314 and EPA SW-846. Detection of any liquid indicates presence of free liquid in the sample and failure of the paint filter test

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TABLE 2-9
RCRA ANALYSIS OF SLUDGE - AREA 4
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number		MT-SL-401-0511		MT-SL-402-0311		MT-SL-403-0510	
Sample Location		SL-401		SL-402		SL-403	
Date Sampled		8/30/2001		8/30/2001		8/30/2001	
Interval		5.0-11.0		3.0-11.0		5.0-10.0	
QC Identifier		None		None		None	
Project Screening Criteria	TCLP						
TCLP Volatile Organic Analysis (UG/L)							
1,4-Dichlorobenzene	7500	6	J	8	J	2	J
2-Butanone	200000	31		100		10	U
Chlorobenzene	100000	10	U	10	U	6	J
Tetrachloroethene	700	1	J	10		10	U
TCLP Semivolatile Organic Analysis (UG/L)							
2,4,5-Trichlorophenol	400000	3	J	25	U	3	J
4-Methylphenol	200000	4900	*	2100	*	2	J
Pentachlorophenol	100000	10	J	4	J	25	U
TCLP Metal Analysis (UG/L)							
Barium	100000	34.4		55.0		50.2	
Chromium	5000	11.4	J	10.6	J	47.4	J
Miscellaneous Analyses							
Corrosivity/pH (SU)		8.32		7.89		7.68	
Reactive Cyanide (MG/KG)	250 +	0.4	U	0.4	U	0.4	U
Reactive Sulfide (MG/KG)	500 +	40		40	U	40	U

NOTES:

TCLP VOC samples collected from 5-8 feet bgs in SL-401, 4-8 feet bgs in SL-402, 4-8 feet bgs in SL-403

TCLP = Toxicity Characteristic Leaching Procedure: 40 CFR 261, Subpart C, Table 1--Maximum Concentration of Contaminants for the Toxicity Characteristic. (except as noted by +)

TCLP = 40 CFR 261, Subpart C, Table 1--Maximum Concentration of Contaminants for the Toxicity Characteristic

U = Not detected above laboratory detection limits

J = Quantitation approximated

R = Rejected

+ = EPA interim guidance level (July 1985) withdrawn April 1998 (U.S. EPA, April 1998b)

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TABLE 2-10
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 5
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number					MT-SL-501-0020		MT-SL-DUP-05		MT-SL-502-0012		MT-SL-503-0012	
Sample Location					SL-501		SL-501		SL-502		SL-503	
Date Sampled					9/4/2001		9/4/2001		9/4/2001		9/4/2001	
Interval					0.0-20.0		0.0-20.0		0.0-12.0		0.0-12.0	
QC Identifier					Field Dup. MT-SL-501-0020		Field Dup. MT-SL-501-0020		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1	NH Bkgd									
Volatile Organic Analysis (UG/KG)												
NONE DETECTED												
Semivolatile Organic Analysis (UG/KG)												
Di-n-Butylphthalate	610000	1000000			170	U	37	JEB	23	JEB	1800	U
Pesticide/PCB Analysis (UG/KG)												
Aroclor-1254	220				17	U	17	U	17	U	4.0	J
Dioxin Analysis (NG/KG)												
1,2,3,4,6,7,8-HpCDD					13.7	JEB	7.8	JEB	287	JEB	430	JEB
1,2,3,4,6,7,8-HpCDF					1.4	JEB	1.1	JEB	39.9	EB	41.2	EB
1,2,3,4,7,8,9-HpCDF					0.5	U	0.4	U	3.4	J	2.8	J
1,2,3,4,7,8-HxCDD					0.4	U	0.3	U	0.88	J	2.1	J
1,2,3,4,7,8-HxCDF					0.2	U	0.2	U	1.3	J	2.1	J
1,2,3,6,7,8-HxCDD					0.4	U	0.3	U	8.3		15.2	
1,2,3,6,7,8-HxCDF					0.2	U	0.2	U	0.6	J	1.4	J
1,2,3,7,8,9-HxCDD					0.4	U	0.3	U	2.2	J	7.1	
1,2,3,7,8,9-HxCDF					0.3	U	0.2	U	0.76	U	0.74	EMPC
1,2,3,7,8-PeCDD					0.4	U	0.3	U	0.5	U	1.1	J
1,2,3,7,8-PeCDF					0.3	U	0.2	U	0.3	U	0.27	J
2,3,4,6,7,8-HxCDF					0.3	U	0.2	U	1.3	J	2.7	J
2,3,7,8-TCDD	3.9				0.3	U	0.2	U	0.64	J	0.39	J
2,3,7,8-TCDF						R		R	0.36	J	0.57	EMPC
OCDD					129	J	70.8	J	3070	J	3370	J*
OCDF					3.1	J	2.2	J	104		64.8	

TABLE 2-10 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 5
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number				MT-SL-501-0020		MT-SL-DUP-05		MT-SL-502-0012		MT-SL-503-0012	
Sample Location				SL-501		SL-501		SL-502		SL-503	
Date Sampled				9/4/2001		9/4/2001		9/4/2001		9/4/2001	
Interval				0.0-20.0		0.0-20.0		0.0-12.0		0.0-12.0	
QC Identifier				Field Dup. MT-SL-501-0020		Field Dup. MT-SL-501-0020		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1	NH Bkgd								
Total HpCDD				24.3	JEB	13	JEB	485	JEB	849	JEB
Total HpCDF				5	JEB	3.3	JEB	164	JEB	115	JEB
Total HxCDD				1.7	J	0.61	EMPC	33.1	J	91.6	J
Total HxCDF				1.1	UJ	0.4	UJ	35.3	J	41.7	J
Total PeCDD				0.4	UJ	1.4	EMPC	2.9	JEB	9.8	JEB
Total PeCDF				0.3	UJ	0.2	UJ	2.5	J	7.7	J
Total TCDD				0.3	UJ	0.2	UJ	0.64	JEB	1	JEB
Total TCDF				0.2	UJ	0.2	UJ	1.4	JEB	0.97	JEB
Toxicity Equivalency	1000#			0.16	J	0.096	J	5.8	J	9.7	J
TAL Metal Analysis (MG/KG)											
Aluminum				3800		5280		3700		4470	
Antimony	3.1	8	1.64	0.74	U	0.74	U	0.74	U	4.3	J
Arsenic	0.39	11	11	6.4		8.8		7.1		7.7	
Barium	540	750		21.4		16.9		16.4	J	18.2	J
Beryllium	15	0.95	0.95	0.24	UJ	0.32	J	0.25	UJ	0.24	UJ
Calcium				945		719		568		2970	
Chromium	12000	1000	33	16.8	J	105	J	146	J	578	J
Cobalt				2.7		3.1		2.5		2.8	
Copper				5.7		5.4		4.4		6.1	
Iron				5040		6120		4740		5760	
Lead	400	4003	51	2.2		3.2		3.8		5.7	
Magnesium				1290		1500		1140		1550	
Manganese	180			93.1		77.6		113	J	145	J
Mercury	2.3	13	0.31	0.020	UJ	0.020	UJ	0.10	J	0.030	J
Nickel	160	580	23	10.2		10.7		6.8		16.1	
Potassium				870	J	729	J	505	J	549	J

TABLE 2-10 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 5
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number				MT-SL-501-0020		MT-SL-DUP-05		MT-SL-502-0012		MT-SL-503-0012	
Sample Location				SL-501		SL-501		SL-502		SL-503	
Date Sampled				9/4/2001		9/4/2001		9/4/2001		9/4/2001	
Interval				0.0-20.0		0.0-20.0		0.0-12.0		0.0-12.0	
QC Identifier				Field Dup. MT-SL-501-0020		Field Dup. MT-SL-501-0020		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1	NH Bkgd								
TAL Metal Analysis (MG/KG) cont.											
Vanadium	55			7.9		9.6		7.4		10.5	
Zinc	2300	1000		19.2		20.4		14.8	U	42.4	
Miscellaneous Analyses											
Chromium VI (MG/KG)	30			2.1	U	2.1	U	3.0	J	2.4	U
Redox Potential (mV)				515.8		517.8		504.9		489.3	
Sulfide (MG/KG)				5.1	U	5.1	U	5.2	U	5.9	U
Paint Filter (ML/KG)	1 @				NA		NA		NA		NA

NOTES:

EPA Region IX PRG = US EPA Region IX Preliminary Remediation Goals for Residential Soil. PRG values for non-carcinogens have been multiplied by 0.1 to adjust to a hazard index of 0.1 for consistency with human health risk evaluation. (see text section 2.4 for details.)

NH S-1 = NHDES Risk Characterization and Management Policy Method 1 Standards for Category S-1 Soil; Section 7.5, Table 3; January 1998, revised April 2001.

NH Bkgd = NHDES RCMP Background Concentrations of Metals in Soil; Section 1.5(4)(c), Table 1; January 1998, revised April 2001.

Black background = Criteria exceeded

U = Analyte not detected above laboratory detection limits

J = Quantitation approximate

UJ = Detection limit approximate

NA = Not analyzed

EB = Analyte associated with equipment blank contamination

R = Rejected

EMPC = Estimated possible maximum concentration

Samples collected from Area 5 were classified as "sludge" for purposes of analysis. However, visual or 01 factory evidence of tannery waste/sludge was not found.

= The EPA Region 9 PRG for dioxins is 3.9 ng/kg. However, current EPA policy recommends use of 1 ppb (1000 ng/kg) as a cleanup goal. (EPA OSWER Directive 9200.4-26: Approach for addressing Dioxin in Soil at CERCLA and RCRA Sites (U.S. EPA, 1998))

@ = Paint filter test criteria: 40 CFR 264.314 and EPA SW-846. Detection of any liquid indicates presence of free liquid in the sample and failure of the paint filter test

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TABLE 2-11
RCRA ANALYSIS OF SLUDGE - AREA 5
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-501-0020		MT-SL-DUP-05		MT-SL-502-0012		MT-SL-503-0012	
Sample Location			SL-501		SL-501		SL-502		SL-503	
Date Sampled			9/4/2001		9/4/2001		9/4/2001		9/4/2001	
Interval			0.0-20.0		0.0-20.0		0.0-12.0		0.0-12.0	
QC Identifier			Field Dup. MT-SL-501-0020		Field Dup. MT-SL-501-0020		None		None	
Project Screening Criteria	TCLP									
TCLP Volatile Organic Analysis (UG/L)										
NONE DETECTED										
TCLP Semivolatile Organic Analysis (UG/L)										
4-Methylphenol	200000		44			NA	33		25	
TCLP Metal Analysis (UG/L)										
Barium	100000		77.8			NA	65.8		58.4	
Chromium	5000		5.0	U		NA	5.0	U	74.4	
Mercury	200		0.20	U		NA	0.23	J	0.20	U
Miscellaneous Analyses										
Corrosivity/pH (SU)			5.57		5.32		5.37		5.95	
Reactive Cyanide (MG/KG)	250 +		0.44			NA	0.72		0.4	U
Reactive Sulfide (MG/KG)	500 +		39.9	U		NA	40.3	U	39.8	U

NOTES:

TCLP VOC samples collected from 8-12 feet bgs in SL-501, 0-4 feet bgs in SL-502, 8-12 feet bgs in SL-503

TCLP = Toxicity Characteristic Leaching Procedure: 40 CFR 261, Subpart C, Table 1--Maximum Concentration of Contaminants for the Toxicity Characteristic. (except as noted by +)

U = Not detected above laboratory detection limits

J = Quantitation approximated

NA = Not analyzed

+ = EPA interim guidance level (July 1985) withdrawn April 1998 (U.S. EPA, April 1998b)

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TABLE 2-12
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 6
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-601-0711		MT-SL-602-0509		MT-SL-603-0007	
Sample Location			SL-601		SL-602		SL-603	
Date Sampled			9/5/2001		9/5/2001		9/5/2001	
Interval			7.0-11.0		5.0-9.0		0.0-7.0	
QC Identifier			None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1						
Volatile Organic Analysis (UG/KG)								
1,2,4-Trichlorobenzene	65000	15000	570	J	220	J	710	U
1,2-Dichlorobenzene	37000	66000	46000	*	17000	*	280	J
1,4-Dichlorobenzene	3400	6000	25000		4300		200	J
2-Butanone		2000	1300	U	610		710	U
Acetone	160000	9000	830	J	280	J	710	U
Carbon Disulfide	36000	400	160	J	530	U	710	U
Chlorobenzene	15000	6000	77000	*	11000		1300	
Ethylbenzene	23000	140000	380	J	120	J	710	U
Methyl Acetate	2200000		1800		410	J	250	J
Toluene	52000	100000	330	J	160	J	710	U
Total Xylenes	21000	500000	2300		740		710	U
Semivolatile Organic Analysis (UG/KG)								
2,4,5-Trichlorophenol	610000	120000	330000	U	70000	J	4600	U
N-Nitroso-diphenylamine	99000		130000	U	7600	J	1900	U
Naphthalene	5600	5000	59000	J	41000	J	1900	U
Pentachlorophenol	3000	3300	330000	U	120000	J	4600	U
Pesticide/PCB Analysis (UG/KG)								
4,4'-DDD	2400	700	34	J	19	J	1.8	UJ
4,4'-DDE	1700	700	36	J	53	J	1.8	UJ
4,4'-DDT	1700	900	3.2	UJ	5.6	J	1.8	J
Aldrin	29	90	11	J	1.7	UJ	0.92	UJ
alpha-Chlordane	1600		21	J	14	J	1.7	J
Dieldrin	30	60	5.8	J	3.3	UJ	1.8	UJ
Endrin Ketone			26	J	18	J	1.8	UJ
gamma-Chlordane	1600		32	*J	57	*J	1.9	J
Heptachlor Epoxide	53	100	2.2	J	4.2	J	0.92	UJ
Dioxin Analysis (NG/KG)								
1,2,3,4,6,7,8-HpCDD			73100	J*	40500	J*	10500	J*
1,2,3,4,6,7,8-HpCDF			14400	JEB*	17200	JEB*	1440	JEB
1,2,3,4,7,8,9-HpCDF			737	JEB	990	JEB	51.8	JEB
1,2,3,4,7,8-HxCDD			269	JEB	163	JEB	42.5	JEB
1,2,3,4,7,8-HxCDF			758	JEB	699	JEB	37.1	JEB
1,2,3,6,7,8-HxCDD			3990	JEB*	4690	JEB*	292	JEB
1,2,3,6,7,8-HxCDF			189	J	229	J	19.9	J
1,2,3,7,8,9-HxCDD			576	JEB	417	JEB	60.5	JEB
1,2,3,7,8-PeCDD			34.7	JEB	25	JEB	7.3	JEB
2,3,4,6,7,8-HxCDF			391	JEB	488	JEB	40.4	JEB
2,3,4,7,8-PeCDF			91.9	JEB	44.9	JEB	3.2	EMPC

TABLE 2-12 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 6
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-601-0711		MT-SL-602-0509		MT-SL-603-0007	
Sample Location			SL-601		SL-602		SL-603	
Date Sampled			9/5/2001		9/5/2001		9/5/2001	
Interval			7.0-11.0		5.0-9.0		0.0-7.0	
QC Identifier			None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1						
2,3,7,8-TCDD	3.9		18	J	1240	J*	13.2	J
2,3,7,8-TCDF			26.9	J	12	J	2.1	UJ
OCDD			922000	J*	719000	J*	131000	J*
OCDF			33200	JEB*	28500	JEB*	6250	JEB*
Total HpCDD			144000	J*	80000	J*	18300	J*
Total HpCDF			36900	JEB*	75200	JEB*	5530	JEB*
Total HxCDD			20400	JEB*	19300	JEB*	1650	JEB
Total HxCDF			22200	JEB*	27600	JEB*	1600	JEB
Total PeCDD			2090	JEB*	1830	JEB*	159	JEB
Total PeCDF			1690	JEB*	1400	JEB	111	JEB
Total TCDD			1090	J*	1490	J*	37.1	J
Total TCDF			210	J*	102	J*	21.6	J
Toxicity Equivalency	1000#		1700	J	2600	J	200	J
TAL Metal Analysis (MG/KG)								
Aluminum			8090		10600		6660	
Antimony	3.1	8	446	J	547	J	5.7	J
Arsenic	0.39	11	8.1	J	1.7	J	15.7	
Barium	540	750	104	J	548	J	34.1	J
Beryllium	15	0.95	0.26	UJ	0.34	J	0.41	J
Cadmium	3.7	32	0.74	J	1.1	J	0.60	U
Calcium			21700		17100		1820	
Chromium	12000	1000	53800	J	67800	J	803	J
Cobalt			4.1		5.0		5.3	
Copper			157		114		15.8	
Iron			4990		4650		9950	
Lead	400	4003	61.9		88.3		15.4	
Magnesium			600		820		2290	
Manganese	180		68.4	J	121	J	170	J
Mercury	2.3	13	0.070	J	0.25		0.30	
Nickel	160	580	13.7		15.8		19.6	
Potassium			323	J	422	J	814	J
Sodium			383		213		98.5	U
Thallium	0.52	10	1.9	J	2.2	J	1.1	UJ
Vanadium	55		52.8		68.6		43.5	
Zinc	2300	1000	207		222		43.1	

TABLE 2-12 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 6
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-601-0711		MT-SL-602-0509		MT-SL-603-0007	
Sample Location			SL-601		SL-602		SL-603	
Date Sampled			9/5/2001		9/5/2001		9/5/2001	
Interval			7.0-11.0		5.0-9.0		0.0-7.0	
QC Identifier			None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1						
Miscellaneous Analyses								
Chromium VI (MG/KG)	30		2.4	U	2.3	U	2.2	U
Redox Potential (mV)			360.4		373		430.8	
Sulfide (MG/KG)			20.0		46.0		8.8	
Paint Filter (ML/KG)	1 @			NA		NA		NA

NOTES:

EPA Region IX PRG = US EPA Region IX Preliminary Remediation Goals for Residential Soil. PRG values for non-carcinogens have been multiplied by 0.1 to adjust to a hazard index of 0.1 for consistency with human health risk evaluation. (see text section 2.4 for details.)

NH S-1 = NHDES Risk Characterization and Management Policy Method 1 Standards for Category S-1 Soil; Section 7.5, Table 3; January 1998, revised April 2001.

Black background = Criteria exceeded

U = Analyte not detected above laboratory detection limits

J = Quantitation approximate

UJ = Detection limit approximate

NA = Not analyzed

* = From dilution analysis

EMPC = Estimated maximum possible concentration

= The EPA Region 9 PRG for dioxins is 3.9 ng/kg. However, current EPA policy recommends use of 1 ppb (1000 ng/kg) as a cleanup goal. (EPA OSWER Directive 9200.4-26: Approach for addressing Dioxin in Soil at CERCLA and RCRA Sites (U.S. EPA, 1998))

@ = Paint filter test criteria: 40 CFR 264.314 and EPA SW-846. Detection of any liquid indicates presence of free liquid in the sample and failure of the paint filter test

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TABLE 2-13
RCRA ANALYSIS OF SLUDGE - AREA 6
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number		MT-SL-601-0711		MT-SL-602-0509		MT-SL-603-0007	
Sample Location		SL-601		SL-602		SL-603	
Date Sampled		9/5/2001		9/5/2001		9/5/2001	
Interval		7.0-11.0		5.0-9.0		0.0-7.0	
QC Identifier		None		None		None	
Project Screening Criteria	TCLP						
TCLP Volatile Organic Analysis (UG/L)							
1,4-Dichlorobenzene	7500	140		9	J	10	U
Chlorobenzene	100000	810	*	4	J	1	J
TCLP Semivolatile Organic Analysis (UG/L)							
2,4,5-Trichlorophenol	400000	25	UJ	160	*J	25	UJ
4-Methylphenol	200000	6	J	55	J	10	UJ
Pentachlorophenol	100000	25	UJ	47	J	25	UJ
TCLP Metal Analysis (UG/L)							
Barium	100000	77.2		98.7		59.0	
Chromium	5000	132		301		9.4	J
Miscellaneous Analyses							
Corrosivity/pH (SU)		7.8		7.19		6.47	
Reactive Cyanide (MG/KG)	250 +	0.4	U	0.4	U	0.4	U
Reactive Sulfide (MG/KG)	500 +	271		39.9	U	40	U

NOTES:

TCLP VOC samples collected from 7-8 feet bgs in SL-601, 8-10 feet in SL-602, 4-6 feet bgs in SL-603

TCLP = Toxicity Characteristic Leaching Procedure: 40 CFR 261, Subpart C, Table 1--Maximum Concentration of Contaminants for the Toxicity Characteristic. (except as noted by +)

U = Not detected above laboratory detection limits

J = Quantitation approximated

UJ = Detection limit approximate

* = From dilution analysis

+ = EPA interim guidance level (July 1985) withdrawn April 1998 (U.S. EPA, April 1998b)

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TABLE 2-14
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 7
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-701-0217		MT-SL-702-0011		MT-SL-703-0215		MT-SL-704-0207		MT-SL-DUP-04	
Sample Location			SL-701		SL-702		SL-703		SL-704		SL-704	
Date Sampled			8/31/2001		8/31/2001		8/31/2001		8/31/2001		8/31/2001	
Interval			2.0-17.0		0.0-11.0		2.0-15.0		2.0-7.0		2.0-7.0	
QC Identifier			None		None		None		Field Dup. MT-SL-704-0207		Field Dup. MT-SL-704-0207	
Project Screening Criteria	EPA Region IX PRG	NH S-1										
Volatile Organic Analysis (UG/KG)												
1,2-Dichlorobenzene	37000	66000	250	U	250	U	32	J	1200	U	1400	U
Acetone	160000	9000	250	U	250	U	290	U	8000	JEB	1400	UJ
Carbon Disulfide	36000	400	54	J	250	U	290	U	1200	U	1400	U
Chlorobenzene	15000	6000	250	U	250	U	81	J	1200	U	1400	U
Methyl Acetate	2200000		420		250	U	430		7000		10000	
Toluene	52000	100000	56	J	250	U	1700		2000		2100	
Semivolatile Organic Analysis (UG/KG)												
2,4,5-Trichlorophenol	610000	120000	11000	U	10000	U	820	J	43000	J	33000	J
4-Chloro-3-methylphenol			4400	U	4000	U	550	J	68000	U	67000	U
4-Methylphenol	31000	5000		R		R	7400	J	43000	J	59000	J
Benzo(a)pyrene	62	700	660	J	4000	U	5500	U	68000	U	67000	U
Benzo(b)fluoranthene	620	7000	470	J	4000	U	5500	U	68000	U	67000	U
Benzo(k)fluoranthene	6200	7000	790	J	4000	U	5500	U	68000	U	67000	U
bis(2-Ethylhexyl)phthalate	35000	39000	4400	U	8900		5500	U	68000	U	67000	U
Chrysene	62000	70000	590	J	4000	U	5500	U	68000	U	67000	U
Fluoranthene	230000	810000	1100	J	4000	U	5500	U	68000	U	67000	U
Pentachlorophenol	3000	3300	11000	U	10000	U	750	J	45000	J	43000	J
Phenanthrene		480000	620	J	4000	U	5500	U	68000	U	67000	U
Phenol	3700000	56000	4400	U	4000	U	5500	U	39000	JEB	45000	JEB
Pyrene	230000		900	J	4000	U	5500	U	68000	U	67000	U
Pesticide/PCB Analysis (UG/KG)												
4,4'-DDD	2400	700	2.1	U	2.0	U	3.4	J	12	J	3.3	UJ
4,4'-DDE	1700	700	1.5	J	3.2		5.2	J	8.7	J	5.3	J

TABLE 2-14 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 7
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-701-0217		MT-SL-702-0011		MT-SL-703-0215		MT-SL-704-0207		MT-SL-DUP-04	
Sample Location			SL-701		SL-702		SL-703		SL-704		SL-704	
Date Sampled			8/31/2001		8/31/2001		8/31/2001		8/31/2001		8/31/2001	
Interval			2.0-17.0		0.0-11.0		2.0-15.0		2.0-7.0		2.0-7.0	
QC Identifier			None		None		None		Field Dup. MT-SL-704-0207		Field Dup. MT-SL-704-0207	
Project Screening Criteria	EPA Region IX PRG	NH S-1										
4,4'-DDT	1700	900	2.1	U	2.2		2.7	UJ	3.3	UJ	3.3	UJ
alpha-Chlordane	1600		8.4		29	*	4.6	J	4.3	J	2.1	J
Aroclor-1242	220		21	UJ	280		27	U	33	UJ	33	UJ
Aroclor-1254	220		16	J	78		27	U	33	UJ	33	UJ
beta-BHC	320	60	1.1	U	1.0	U	1.4	UJ	3.5	J	1.7	UJ
delta-BHC			1.1	U	5.2		1.4	UJ	1.7	UJ	1.7	UJ
Dieldrin	30	60	2.1	U	4.4		2.7	UJ	3.3	UJ	3.3	UJ
gamma-Chlordane	1600		10		31	*	6.2	J	5.2	J	4.0	J
Heptachlor Epoxide	53	100	1.5		12		1.4	UJ	4	J	1.7	UJ
Dioxin Analysis (NG/KG)												
1,2,3,4,6,7,8-HpCDD			81800	*	93940	*	25640	*	42060	*	27140	*
1,2,3,4,6,7,8-HpCDF			3220	*	3230	*	1890		7070	*	4500	*
1,2,3,4,7,8,9-HpCDF			148		109		68.4	J	234	J	139	J
1,2,3,4,7,8-HxCDD			54.8		77.1		20.7	J	49.2	J	19.3	J
1,2,3,4,7,8-HxCDF			78.3		76		46.1	J	170	J	75.7	J
1,2,3,6,7,8-HxCDD			948		1200		350		1310	J	549	J
1,2,3,6,7,8-HxCDF			32.3	EB	32.4	EB	16.3	EB	84.9	EB	37.5	EB
1,2,3,7,8,9-HxCDD			211	EB	315	EB	57.1	EB	153	EB	76.4	EB
1,2,3,7,8-PeCDD			13.5	EB	6.6	EB	3.3	JEB	12.1	EB	6.5	EB
1,2,3,7,8-PeCDF			1.2	U	1.1	U	2.9	J	2.6	U	1.3	U
2,3,4,6,7,8-HxCDF			90.5		189		35.9	J	149	J	69	J
2,3,4,7,8-PeCDF			4	J	6.9		5.3		8.4	J	3.6	J
2,3,7,8-TCDD	3.9		21.7		15.5		18.2	J	268	J	83.6	J
2,3,7,8-TCDF			2.8	EMPC	9.9		1.6		4.5		2.8	EMPC
OCDD			722660	EB*	719310	EB*	287900	EB*	717200	EB*	485720	EB*

TABLE 2-14 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 7
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-701-0217		MT-SL-702-0011		MT-SL-703-0215		MT-SL-704-0207		MT-SL-DUP-04	
Sample Location			SL-701		SL-702		SL-703		SL-704		SL-704	
Date Sampled			8/31/2001		8/31/2001		8/31/2001		8/31/2001		8/31/2001	
Interval			2.0-17.0		0.0-11.0		2.0-15.0		2.0-7.0		2.0-7.0	
QC Identifier			None		None		None		Field Dup. MT-SL-704-0207		Field Dup. MT-SL-704-0207	
Project Screening Criteria	EPA Region IX PRG	NH S-1										
OCDF			6000	JEB*	6820	JEB*	5200	JEB*	6360	JEB*	5940	JEB*
Total HpCDD			149650	J*	161180	J*	47190	J*	89010	J*	55340	J*
Total HpCDF			13140	J*	13810	J*	8670	J*	22660	J*	17780	J*
Total HxCDD			10640	JEB*	8220	JEB*	3090	JEB	5040	JEB	2350	JEB
Total HxCDF			2960	JEB*	3300	JEB*	2390	JEB	6530	JEB*	3180	JEB*
Total PeCDD			1040	JEB	1160	JEB	602	JEB	335	JEB	191	JEB
Total PeCDF			237	J	306	J	193	J	270	J	189	J
Total TCDD			102	J	88.1	J	97.9	J	279	J	89	UJ
Total TCDF			40.8	JEB	56.9	JEB	23	JEB	108	JEB	40	JEB
Toxicity Equivalency	1000#		1100	J	1300	J	380	J	1000	J	540	J
TAL Metal Analysis (MG/KG)												
Aluminum			4290		5800		2790		2420		2620	
Antimony	3.1	8	19.5	J	44.4	J	41.7	J	247	J	243	J
Arsenic	0.39	11	3.6	J	7.8	J	1.4	J	12.0	J	3.6	J
Barium	540	750	198	J	657	J	1480	J	252	J	631	J
Beryllium	15	0.95	0.26	UJ	0.35	J	0.22	UJ	0.17	UJ	0.14	UJ
Cadmium	3.7	32	3.9		16.8		0.60	U	0.60	U	0.60	U
Calcium			4980		22300		1710		2420		1500	
Chromium	12000	1000	2420	J	5280	J	5090	J	29400		29700	
Cobalt			2.9		5.6	J	2.8		2.1		2.0	
Copper			33.4		108		274		58.0		38.7	
Iron			7750		25500		10400		3480		4370	
Lead	400	4003	85.1		427		180		31.0		39.6	
Magnesium			1140		2000		610		351		155	
Manganese	180		93.5	J	207	J	45.3	J	34.6	J	15.9	J

TABLE 2-14 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN SLUDGE - AREA 7
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number			MT-SL-701-0217		MT-SL-702-0011		MT-SL-703-0215		MT-SL-704-0207		MT-SL-DUP-04	
Sample Location			SL-701		SL-702		SL-703		SL-704		SL-704	
Date Sampled			8/31/2001		8/31/2001		8/31/2001		8/31/2001		8/31/2001	
Interval			2.0-17.0		0.0-11.0		2.0-15.0		2.0-7.0		2.0-7.0	
QC Identifier			None		None		None		Field Dup. MT-SL-704-0207		Field Dup. MT-SL-704-0207	
Project Screening Criteria	EPA Region IX PRG	NH S-1										
Mercury	2.3	13	1.2		4.5		0.55		0.20		0.22	
Nickel	160	580	12.8		24.5		12.2		7.5		12.2	
Potassium			431	J	728	J	226	J	84.1	J	65.4	J
Sodium			124	J	150	J	105	J	313		321	
Thallium	0.52	10	1.1	UJ	1.1	UJ	1.1	UJ	1.6	J	1.3	J
Vanadium	55		4.7		6.7		44.0		9.1		19.6	
Zinc	2300	1000	112		330		172		76.4		121	
Miscellaneous Analyses												
Chromium VI (MG/KG)	30		2.3	U	2.4	UJ	2.4	UJ	2.2	UJ	2.1	U
Redox Potential (mV)			341.6		376.3		344.6		347.1		353.5	
Sulfide (MG/KG)			5.8	U	6.0	U	48.0		310		290	
Paint Filter (ML/KG)	1 @			NA		NA		NA		NA		NA

NOTES:

EPA Region IX PRG = US EPA Region IX Preliminary Remediation Goals for Residential Soil. PRG values for non-carcinogens have been multiplied by 0.1 to adjust to a hazard index of 0.1 for consistency with human health risk evaluation. (see text section 2.4 for details.)

NH S-1 = NHDES Risk Characterization and Management Policy Method 1 Standards for Category S-1 Soil; Section 7.5, Table 3; January 1998, revised April 2001.

Black background = Criteria exceeded

U = Analyte not detected above laboratory detection limits

J = Quantitation approximate

UJ = Detection limit approximate

NA = Not analyzed

* = From dilution analysis

EB = Analyte associated with equipment blank contamination

EMPC = Estimated maximum possible concentration

= The EPA Region 9 PRG for dioxins is 3.9 ng/kg. However, current EPA policy recommends use of 1 ppb (1000 ng/kg) as a cleanup goal. (EPA OSWER Directive 9200.4-26: Approach for addressing Dioxin in Soil at CERCLA and RCRA Sites (U.S. EPA, 1998))

@ = Paint filter test criteria: 40 CFR 264.314 and EPA SW-846. Detection of any liquid indicates presence of free liquid in the sample and failure of the paint filter test.

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TABLE 2-15
RCRA ANALYSIS OF SLUDGE - AREA 7
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number		MT-SL-701-0217		MT-SL-702-0011		MT-SL-703-0215		MT-SL-704-0207		MT-SL-DUP-04	
Sample Location		SL-701		SL-702		SL-703		SL-704		SL-704	
Date Sampled		8/31/2001		8/31/2001		8/31/2001		8/31/2001		8/31/2001	
Interval		2.0-17.0		0.0-11.0		2.0-15.0		2.0-7.0		2.0-7.0	
QC Identifier		None		None		None		Field Dup. MT-SL-704-0207		Field Dup. MT-SL-704-0207	
Project Screening Criteria	RCRA										
TCLP Volatile Organic Analysis (UG/L)											
2-Butanone	200000	15		10	U	10	U	10	U	10	U
TCLP Semivolatile Organic Analysis (UG/L)											
2,4,5-Trichlorophenol	400000	25	U	25	U	18	J	110	J		NA
2,4,6-Trichlorophenol	2000	10	U	10	U	5	J		R		NA
4-Methylphenol	200000	10	U	10	U	670	J*	4500	J		NA
Pentachlorophenol	100000	2	J	25	U	4	J		R		NA
TCLP Metal Analysis (UG/L)											
Barium	100000	146		90.0		169		124			NA
Chromium	5000	37.8		8.7	J	61.5		598			NA
Lead	5000	4.3	J	7.3	J	4.1	J	3.0	U		NA
Mercury	200	0.20	U	0.35	J	0.20	U	0.20	U		NA
Miscellaneous Analyses											
Corrosivity/pH (SU)		8.11		7.43		8.22		7.99		8.09	
Reactive Cyanide (MG/KG)	250 +	0.4	U	0.4	U	0.4	U	0.4	U		NA
Reactive Sulfide (MG/KG)	500 +	40.4	U	40.2	U	39.8	U	40.2	U		NA

NOTES:

TCLP VOC samples collected from 4-8 feet bgs in SL-701, 8-12 feet bgs in SL-702, 4-8 feet bgs in SL-703, 2-4 feet bgs in SL-704

TCLP = Toxicity Characteristic Leaching Procedure: 40 CFR 261, Subpart C, Table 1--Maximum Concentration of Contaminants for the Toxicity Characteristic. (except as noted by +)

U = Not detected above laboratory detection limits

J = Quantitation approximated

NA = Not analyzed

* = From dilution analysis

R = Rejected

+ = EPA interim guidance level (July 1985) withdrawn April 1998 (U.S. EPA, April 1998b)

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TABLE 2-16
SUMMARY OF CONTAMINANTS DETECTED IN OVERLYING SOILS
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number				MT-SO-A2-OVCOMP		MT-SO-A3-OVCOMP		MT-SO-A4-OVCOMP		MT-SO-A6-OVCOMP		MT-SO-A7-OVCOMP	
Sample Location				SO-A2		SO-A3		SO-A4		SO-A6		SO-A7	
Date Sampled				8/29/2001		8/30/2001		8/30/2001		9/5/2001		8/31/2001	
QC Identifier				None		None		None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1	NH Bkgd										
Volatile Organic Analysis (UG/KG)													
Chlorobenzene				190	U	200	U	240	U	25	J	260	U
Chloroform	240	100		25	J	200	U	32	J	180	U	260	U
Methyl Acetate	2200000			44	J	200	U	130	J	180	U	260	U
Toluene	52000	100000		19	J	200	U	240	U	180	U	260	U
Semivolatile Organic Analysis (UG/KG)													
NONE DETECTED													
Pesticide/PCB Analysis (UG/KG)													
alpha-Chlordane	1600			2.7	EB	0.89	U	1.8	U	0.88	UJ	2.1	
Aroclor-1254	220			37	U	17	U	39		17	UJ	5.7	J
Endrin Ketone				3.7	U	1.7	U	6.3		1.7	UJ	1.8	U
gamma-Chlordane	1600			2.5		0.89	U	1.8	U	0.88	UJ	2.7	
Dioxin Analysis (NG/KG)													
1,2,3,4,6,7,8-HpCDD				3340	*	2100	*	765		4350	J*	9910	*
1,2,3,4,6,7,8-HpCDF				894		343		108		633	JEB	609	
1,2,3,4,7,8,9-HpCDF				31		13.8		6.5		18.5	EMPC	20.2	
1,2,3,4,7,8-HxCDD				8.8		18.3		3.2	J	9.4	JEB	11.9	
1,2,3,4,7,8-HxCDF				13.9		9.8		4.1	J	22.1	JEB	12.1	
1,2,3,6,7,8-HxCDD				123		160		30.2		160	JEB	156	
1,2,3,6,7,8-HxCDF				10.6		8.9	EB	2.5	JEB	13	EMPC	7.1	EB
1,2,3,7,8,9-HxCDD				26.6		67.6	EB	7.8	EB	26.5	JEB	37.9	EB
1,2,3,7,8,9-HxCDF				0.5	U	4.3	EMPC	3.5	JEB	10.8	EMPC	0.2	U
1,2,3,7,8-PeCDD				3.2	J	15.9	EB	2.2	JEB	2.6	EMPC	2.6	JEB
1,2,3,7,8-PeCDF				0.69	J	1	J	1.1	J	0.4	UJ	0.2	U
2,3,4,6,7,8-HxCDF				28		16.2		5.1		22.2	JEB	23.1	
2,3,4,7,8-PeCDF				1.4	JEB	1.9	J	1.1	J	1.7	JEB	1.6	J
2,3,7,8-TCDD	3.9			4.4		3.7		2.3		25.2	J	2.4	

TABLE 2-16 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN OVERLYING SOILS
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number				MT-SO-A2-OVCOMP		MT-SO-A3-OVCOMP		MT-SO-A4-OVCOMP		MT-SO-A6-OVCOMP		MT-SO-A7-OVCOMP	
Sample Location				SO-A2		SO-A3		SO-A4		SO-A6		SO-A7	
Date Sampled				8/29/2001		8/30/2001		8/30/2001		9/5/2001		8/31/2001	
QC Identifier				None		None		None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1	NH Bkgd										
2,3,7,8-TCDF				0.99	J	0.69	J	1.4		0.87	UJ	1.5	
OCDD				51900	*	22290	EB*	4550	EB*	56600	J*	114850	JEB*
OCDF				1230		431	JEB	174	JEB	616	JEB	958	JEB
Total HpCDD				6240	J*	4090	J*	1380	J	7870	J*	18220	J*
Total HpCDF				2800	J	831	J	361		1990	JEB	1730	J
Total HxCDD				746	J	943	JEB	138	JEB	1260	JEB	987	J
Total HxCDF				928	J	318	JEB	140	JEB	920	JEB	573	JEB
Total PeCDD				102	JEB	250	JEB	24	JEB	176	JEB	105	JEB
Total PeCDF				42.4	J	52.4	J	9.7	J	61.5	JEB	42.7	J
Total TCDD				19.8	J	44.4	J	2.3	J	51.4	J	5.7	J
Total TCDF				12.3	J	17.9	JEB	6.4	JEB	9.7	J	15.5	JEB
Toxicity Equivalency	1000#			77	J	76	J	20	J	110	J	150	J
TAL Metal Analysis (MG/KG)													
Aluminum				4050		3120		5010		6120		4190	
Antimony	3.1	8	1.64	9.2		2.3		22.3	J	3.4	J	4.4	J
Arsenic	0.39	11	11	4.5		5.5		1.6	J	9.9		7.2	
Barium	540	750		45.9		14.9		20.7		24.2		48.5	
Beryllium	15	0.95	0.95	0.21		0.20		0.26		0.34	J	0.27	UJ
Calcium				4040		2320		1450		565		988	
Chromium	12000	1000	33	1080		316		2670		480		563	
Cobalt				2.5		2.8		3.5		4.9		2.6	
Copper				10.8		5.8		9.0		8.9		13.1	
Iron				4780		3680		5570		8020		4460	
Lead	400	4003	51	18.5		4.0		10.2		6.3		24.7	
Magnesium				1100		961		1460		2540		1090	
Manganese	180			72.5		83.8		185		101		72.4	
Mercury	2.3	13	0.31	0.93	J	0.030	J	0.090	J	0.17		0.57	

TABLE 2-16 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN OVERLYING SOILS
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number				MT-SO-A2-OVCOMP		MT-SO-A3-OVCOMP		MT-SO-A4-OVCOMP		MT-SO-A6-OVCOMP		MT-SO-A7-OVCOMP	
Sample Location				SO-A2		SO-A3		SO-A4		SO-A6		SO-A7	
Date Sampled				8/29/2001		8/30/2001		8/30/2001		9/5/2001		8/31/2001	
QC Identifier				None		None		None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1	NH Bkgd										
Nickel	160	580	23	6.5		7.7		9.9		17.0		15.4	
Potassium				406	J	514	J	649	J	1040	J	373	J
Vanadium	55			4.8		5.7		3.6		14.4		10.6	
Zinc	2300	1000	98	40.0		14.5		23.3		25.7		45.1	
Miscellaneous Analyses													
Chromium VI (MG/KG)	30			2.2	U	2.1	U	2.2	U	28.0		2.2	UJ
Corrosivity/pH (SU)				8.01		7.75		6.4		5.55		6.43	
Redox Potential (mV)				353.2		387.8		442.1		476.7		408.9	
Sulfide (MG/KG)				39.0		5.2	U	5.5	U	5.2	U	5.4	U

NOTES:
Area 2 composite consists of overlying soil from SL-201, SL-202, SL-203, SL-204, SL-205
Area 3 composite consists of overlying soil from SL-301, SL-302, SL-303
Area 4 composite consists of overlying soil from SL-401, SL-402, SL-403
Area 6 composite consists of overlying soil from SL-601, SL-602
Area 7 composite consists of overlying soil from SL-701, SL-703, SL-704
EPA Region IX PRG = US EPA Region IX Preliminary Remediation Goals for Residential Soil. PRG values for non-carcinogens have been multiplied by 0.1 to adjust to a hazard index of 0.1 for consistency with human health risk evaluation. (see text section 2.4 for details.)
NH S-1 = NHDES Risk Characterization and Management Policy Method 1 Standards for Category S-1 Soil; Section 7.5, Table 3; January 1998, revised April 2001
NH Bkgd = NHDES RCMP Background Concentrations of Metals in Soil; Section 1.5(4)(c), Table 1; January 1998, revised April 2001.
Black background = Criteria exceeded
U = Analyte not detected above laboratory detection limits
J = Quantitation approximate
UJ = Detection limit approximate
* = From dilution analysis
EB = Analyte associated with equipment blank contamination
R = Rejected
EMPC = Estimated maximum possible concentration
# = The EPA Region 9 PRG for dioxins is 3.9 ng/kg. However, current EPA policy recommends use of 1 ppb (1000 ng/kg) as a cleanup goal.
(EPA OSWER Directive 9200.4-26: Approach for addressing Dioxin in Soil at CERCLA and RCRA Sites (U.S. EPA, 1998))

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TABLE 2-17
SUMMARY OF CONTAMINANTS DETECTED IN UNDERLYING SOILS
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number				MT-SO-A2-UNCOMP		MT-SO-A3-UNCOMP		MT-SO-A4-UNCOMP		MT-SO-A6-UNCOMP		MT-SO-A7-UNCOMP	
Sample Location				SO-A2		SO-A3		SO-A4		SO-A6		SO-A7	
Date Sampled				8/29/2001		8/30/2001		8/30/2001		9/5/2001		8/31/2001	
QC Identifier				None		None		None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1	NH Bkgd										
Volatile Organic Analysis (UG/KG)													
Chloroform	240	100		33	J	210	U	170	U	210	U	240	UJ
Methyl Acetate	22000000			250	U	210	U	170	U	210	U	560	J
Toluene	520000	100000		250	U	210	U	170	U	210	U	650	J
Semivolatile Organic Analysis (UG/KG)													
4-Methylphenol	310000	5000			R		R	860	J	180	U	1200	J
Pentachlorophenol	3000	3300		980		120	J	450	U	450	U	2300	U
Phenol	37000000	56000		180	U	200	U	180	U	180	U	390	JEB
Pesticide/PCB Analysis (UG/KG)													
NONE DETECTED													
Dioxin Analysis (NG/KG)													
1,2,3,4,6,7,8-HpCDD				41		42.2		8.6		513	J	714	
1,2,3,4,6,7,8-HpCDF				3.4	U	5		2.5	J	79.5	JEB	131	
1,2,3,4,7,8,9-HpCDF				0.4	U	0.6	U	1.7	J	4.9	EMPC	4.8	J
1,2,3,4,7,8-HxCDD				0.3	U	0.4	U	0.96	J	0.8	UJ	0.71	J
1,2,3,4,7,8-HxCDF				0.27	U	0.3	U	1.2	J	1.4	JEB	1.6	J
1,2,3,6,7,8-HxCDD				1.8	U	3.1	J	1.4	J	10.3	JEB	16	
1,2,3,6,7,8-HxCDF				0.11	EMPC	0.3	U	1.2	JEB	0.5	UJ	1.1	JEB
1,2,3,7,8,9-HxCDD				0.68	J	1.6	JEB	2.3	JEB	2.8	JEB	3.5	JEB
1,2,3,7,8,9-HxCDF				0.2	U	0.4	U	3	JEB	0.6	UJ	0.2	U
1,2,3,7,8-PeCDD				0.23	EMPC	0.54	EMPC	1.7	JEB	0.6	UJ	0.2	U
1,2,3,7,8-PeCDF				0.2	U	0.3	U	1.6	J	0.5	UJ	0.2	U
2,3,4,6,7,8-HxCDF				0.2	U	0.3	U	1.2	J	4	JEB	2.6	J
2,3,4,7,8-PeCDF				0.2	U	0.3	U	1.1	J	0.4	UJ	0.1	U
2,3,7,8-TCDD	3.9			0.2	U	0.3	U	0.66	EMPC	0.48	EMPC	0.41	J
2,3,7,8-TCDF					R	0.2	U	0.73	J	0.3	UJ	0.29	J
OCDD				371		425	JEB	67.4	JEB	7090	J*	5240	EB*

TABLE 2-17 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN UNDERLYING SOILS
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number				MT-SO-A2-UNCOMP		MT-SO-A3-UNCOMP		MT-SO-A4-UNCOMP		MT-SO-A6-UNCOMP		MT-SO-A7-UNCOMP	
Sample Location				SO-A2		SO-A3		SO-A4		SO-A6		SO-A7	
Date Sampled				8/29/2001		8/30/2001		8/30/2001		9/5/2001		8/31/2001	
QC Identifier				None		None		None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1	NH Bkgd										
OCDF				3.5	U	6.3	EMPC	6.6	JEB	817	JEB	545	JEB
Total HpCDD				74.1	UJ	80.8	J	14.1	J	1020	J	1280	J
Total HpCDF				20	J	12.8	J	6	J	404	JEB	528	J
Total HxCDD				8.3	EMPC	17.3	JEB	4.6	JEB	92.8	JEB	81.6	JEB
Total HxCDF				6	EMPC	5.6	JEB	7.1	JEB	74.6	JEB	106	JEB
Total PeCDD				1	EMPC	2.9	JEB	1.7	JEB	5.5	JEB	7	JEB
Total PeCDF				3.8	J	0.3	UJ	2.7	J	3.9	JEB	8.6	J
Total TCDD				0.2	UJ	0.56	EMPC	0.66	EMPC	0.48	EMPC	0.66	J
Total TCDF				0.63	EMPC	0.51	JEB	0.73	JEB	0.97	UJ	3	JEB
Toxicity Equivalency	1000#			0.76	J	1.5	J	4.3	J	9.1	J	12	J
TAL Metal Analysis (MG/KG)													
Aluminum				4120		2000		6050		4100		8400	
Antimony	3.1	8	1.64	0.74	U	0.74	U	0.74	U	0.74	U	1.2	J
Arsenic	0.39	11	11	13.9		6.3		5.8		7.2		8.2	
Barium	540	750		27.8		12.9		26.6		15.2		24.2	
Beryllium	15	0.95	0.95	0.22		0.13		0.17		0.25	UJ	0.41	J
Calcium				1520		560		1130		667		735	
Chromium	12000	1000	33	17.4		12.8		26.8		**81.2**		**174**	
Cobalt				5.5		1.8		5.4		2.5		3.4	
Copper				11.2		5.4		9.8		5.8		15.9	
Iron				6300		3580		9060		6120		6710	
Lead	400	4003	51	5.8		2.5		4.2		3.3		7.3	
Magnesium				2350		828		3530		1380		1440	
Manganese	180			141		33.4		106		59.2		58.7	
Mercury		13	0.31	0.020	UJ	0.020	UJ	0.040	J	0.060	J	0.050	J
Nickel	160	580	23	20.0		6.5		17.6		8.9		11.0	
Potassium				1360	J	438	J	2180	J	695	J	397	J

TABLE 2-17 (cont.)
SUMMARY OF CONTAMINANTS DETECTED IN UNDERLYING SOILS
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Sample Number				MT-SO-A2-UNCOMP		MT-SO-A3-UNCOMP		MT-SO-A4-UNCOMP		MT-SO-A6-UNCOMP		MT-SO-A7-UNCOMP	
Sample Location				SO-A2		SO-A3		SO-A4		SO-A6		SO-A7	
Date Sampled				8/29/2001		8/30/2001		8/30/2001		9/5/2001		8/31/2001	
QC Identifier				None		None		None		None		None	
Project Screening Criteria	EPA Region IX PRG	NH S-1	NH Bkgd										
Sodium				522		98.5	U	98.5	U	98.6	U	97.9	U
Vanadium	55			10.3		4.7		14.5		10.2		11.8	
Zinc	2300	1000	98	19.2		12.0		24.4		16.1	U	38.6	
Miscellaneous Analysis													
Chromium VI (MG/KG)	30			2.2	U	2.1	U	2.1	U	2.1	U	2.2	UJ
Corrosivity/pH (SU)				8.82		7.78		8.29		5.39		8.06	
Redox Potential (mV)				395.3		391.5		356.7		285		346.3	
Sulfide (MG/KG)				5.5	U	5.2	U	85.0		5.4	U	5.6	U

NOTES:

Area 2 composite consists of underlying soil from SL-202, SL-204, SL-205

Area 3 composite consists of underlying soil from SL-301, SL-302, SL-303

Area 4 composite consists of underlying soil from SL-402, SL-403

Area 6 composite consists of underlying soil from SL-601, SL-602, SL-603

Area 7 composite consists of underlying soil from SL-701, SL-702, SL-703, SL-704

EPA Region IX PRG = US EPA Region IX Preliminary Remediation Goals for Residential Soil. PRG values for non-carcinogens have been multiplied by 0.1 to adjust to a hazard index of 0.1 for consistency with human health risk evaluation. (see text section 2.4 for details.)

NH S-1 = NHDES Risk Characterization and Management Policy Method 1 Standards for Category S-1 Soil; Section 7.5, Table 3; January 1998, revised April 2001.

NH Bkgd = NHDES RCMP Background Concentrations of Metals in Soil; Section 1.5(4)(c), Table 1; January 1998, revised April 2001.

Black background = Criteria exceeded

U = Analyte not detected above laboratory detection limits

J = Quantitation approximate

UJ = Detection limit approximate

EB = Analyte associated with equipment blank contamination

R = Rejected

= The EPA Region 9 PRG for dioxins is 3.9 ng/kg. However, current EPA policy recommends use of 1 ppb (1000 ng/kg) as a cleanup goal.
(EPA OSWER Directive 9200.4-26: Approach for addressing Dioxin in Soil at CERCLA and RCRA Sites (U.S. EPA, 1998))

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TABLE 2-18
PERCENT SOLIDS STATISTICS SUMMARY
SLUDGE AND SOIL SAMPLES
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Matrix	Disposal Area	Minimum % Solids	Maximum % Solids	Average % Solids
Sludge	Area 1	13.1	35.0	25.7
Sludge	Area 2	54.0	94.2	73.3
Sludge	Area 3	83.0	94.0	90.7
Sludge	Area 4	36.4	79.9	57.5
Sludge +	Area 5	84.6	99.0	95.4
Sludge	Area 6	27.3	91.3	51.6
Sludge	Area 7	30.0	89.4	62.1
Soil	Area 2	85.0	92.2	89.7
Soil	Area 3	83.0	97.0	92.3
Soil	Area 4	85.0	95.0	93.0
Soil	Area 6	93.3	97.0	95.4
Soil	Area 7	84.3	94.8	90.5

NOTES:

These statistics were calculated from all sludge and soil samples analyzed for the EE/CA Field Investigation.

+ = Classified as sludge for purposes of chemical analysis; but no visual evidence of sludge/waste was observed in any borings or test pits in Area 5.
The material observed in borings and test pits was poorly graded fine sand.

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TABLE 2-19
SUMMARY OF COMPOUNDS EXCEEDING SCREENING CRITERIA IN SLUDGE/WASTE
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

	Area 1	Area 2	Area 3	Area 4	Area 5	Area 6	Area 7
Volatile Organic Compounds (UG/KG)							
1,2-Dichlorobenzene						X	
1,4-Dichlorobenzene						X	
2-Butanone	X						
Carbon Disulfide	X	X		X			
Chlorobenzene						X	
Semivolatile Organic Compounds (UG/KG)							
2-Methylnaphthalene	X						
4-Methylphenol	X	X		X			X
Benzo(a)pyrene							X
Naphthalene		X	X			X	
Pentachlorophenol	X	X	X			X	X
Phenol		X					
Pesticides/PCBs (UG/KG)							
Aldrin		X					
Aroclor-1242							X
Heptachlor Epoxide		X					
Dioxins (NG/KG)							
2,3,7,8-TCDD	X	X	X			X	X
Toxicity Equivalency	X	X				X	X
Metals (MG/KG)							
Antimony	X	X	X	X	X	X	X
Arsenic	X	X	X	X	X	X	X
Barium						X	X
Cadmium							X
Chromium	X	X	X	X		X	X
Lead							X
Manganese	X			X			X
Mercury							X
Thallium				X		X	X
Vanadium						X	
Chromium VI (MG/KG)							
RCRA Analyses							
Paint Filter (ML/KG)				X			
Reactive Sulfide (MG/KG)	X						

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TABLE 2-20
ESTIMATED SLUDGE/WASTE AND OVERLYING SOIL VOLUMES
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Disposal Area	Estimated Area of Sludge/Waste (SF)	Estimated Thickness of Sludge/Waste (FT)	Estimated Volume of Sludge/Waste (CF)	Estimated Volume of Sludge/Waste (CY)	Estimated Thickness of Overlying Soil (FT)	Estimated Volume of Overlying Soil (CF)	Estimated Volume of Overlying Soil (CY)
1	40,000	17	680,000	25,185	NA	NA	NA
2	80,000	10	800,000	29,630	3	240,000	8,889
3	2,000	5	10,000	370	2	4,000	148
4	3,000	9	27,000	1,000	2	6,000	222
5	NA	NA	NA	NA	NA	NA	NA
6	3,500	5	17,500	648	2	7,000	259
7	8,000	12	96,000	3,556	0	0	0
			TOTAL VOLUME (CY):	60,389			9,519

Notes:
See Section 2.1.3 for assumptions made in the area/thickness/volume estimations for sludge/waste and overlying soil.
Overlying soil estimates evaluate only overlying soil considered practical to separate from underlying sludge/waste during excavation.
SF = Square Feet
FT = Feet
CF = Cubic Feet
CY = Cubic Yards
NA = Not Applicable. Field observations and chemical analysis indicate no sludge or tannery waste present, or no overlying soil.

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TABLE 2-21
SELECTION OF EXPOSURE PATHWAYS
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Scenario Timeframe	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Sludge	Surface[1] Sludge Area 1	Trespasser	Adolescent	Ingestion	Quant	Adolescents are expected to visit the wet areas along the edges of Area 1 for recreational purposes and therefore be exposed to sludge in areas covered by less than one foot of water through inadvertent contact.
					Dermal	Quant	Adolescents are expected to visit the wet areas along the edges of Area 1 for recreational purposes and therefore be exposed to sludge in areas covered by less than one foot of water through inadvertent contact.
					Inhalation	None	Wet conditions preclude the inhalation of fugitive dust pathway.
	Soil/Sludge	Surface[2] Soil/Sludge Areas 2 through 7	Trespasser	Adolescent	Ingestion	Quant	Adolescents are expected to visit Areas 2 through 7 for recreational purposes and therefore be exposed to surface sludge/soil in relatively dry areas through inadvertent contact.
					Dermal	Quant	Adolescents are expected to visit Areas 2 through 7 for recreational purposes and therefore be exposed to surface sludge/soil in relatively dry areas through inadvertent contact.
					Inhalation	Quant	There is evidence of dirt biking activity in Areas 2 through 7. Therefore, adolescents may be exposed to surface sludge/soil in relatively dry areas through inhalation of fugitive dust.
Future	Soil/Sludge	Surface[2] Soil/Sludge Areas 2 through 7	Resident	Adult/Child	Ingestion	Quant	Future residential exposure at Areas 1 through 7 is evaluated. Adults and children ages 0-30 years may be exposed to contaminated soil on-site through inadvertent contact.
					Dermal	Quant	Future residential exposure at Areas 1 through 7 is evaluated. Adults and children ages 0-30 years may be exposed to contaminated soil on-site through inadvertent contact.
					Inhalation	None	Under a future residential land-use scenario, it is likely that grass-cover will minimize inhalation of fugitive dust.
	Soil/Sludge	"All"[3] Soil/Sludge Areas 1 through 7	Resident	Adult/Child	Ingestion	Quant	Future residential exposure at Areas 1 through 7 is evaluated. Adults and children ages 0-30 years may be exposed to contaminated soil on-site through inadvertent contact.
					Dermal	Quant	Future residential exposure at Areas 1 through 7 is evaluated. Adults and children ages 0-30 years may be exposed to contaminated soil on-site through inadvertent contact.
					Inhalation	None	Under a future residential land-use scenario, it is likely that grass-cover will minimize inhalation of fugitive dust.

NOTES:

[1] Sludge samples from Area 1 were composites of material obtained from depths of 0 to 10-12 feet below ground surface (bgs).

[2] Surface soil/sludge samples from Areas 2 through 7 include all samples that originate at the surface of these disposal areas. Since very few samples were collected from only surface materials (0 to 2 feet bgs) and many of the samples were composites of materials from 0 to as much as 20 feet bgs, the surface dataset includes any sample with a top depth of 0 feet bgs, most samples extending below 2 feet bgs.

[3] Soil/sludge samples from Areas 1 through 7 include all samples obtained from these areas that start at a depth between 0 and 10 feet bgs. Since very few samples were collected from only 0 to 10 feet bgs and many of the samples were composites of materials from a wide range of depths, the “all soil” dataset includes any sample with a top depth of less than 10 feet bgs. Many of the samples in this dataset actually extend to depths greater than 10 feet bgs.

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TABLE 2-22.1
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
SURFACE* SLUDGE AREA 1
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Scenario Timeframe: Current/Future
Medium: Sludge
Exposure Medium: Sludge
Exposure Point: Surface* Sludge Area 1

CAS Number	Chemical	Minimum (1) Concentration	Minimum Qualifier	Maximum (1) Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background (2) Value	Screening (3) Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for (4) Contaminant Deletion or Selection
95-50-1	1,2-Dichlorobenzene	440	J	2100		ug/kg	MT-SL-103-0010-AVG	4/4	0 - 0	2100		90000 nc_1			NO	BSL
106-46-7	1,4-Dichlorobenzene	150	J	250		ug/kg	MT-SL-103-0010-AVG	2/4	1200 - 1200	250		3400 ca			NO	BSL
78-93-3	2-Butanone	1600		2200		ug/kg	MT-SL-101-0010	3/4	1300 - 1300	2200		730000 nc			NO	BSL
67-64-1	Acetone	1300		1900	EB	ug/kg	MT-SL-102-0012	4/4	0 - 0	1900		160000 nc			NO	BSL
75-15-0	Carbon Disulfide	1500		6100		ug/kg	MT-SL-102-0012	4/4	0 - 0	6100		36000 nc			NO	BSL
79-20-9	Methyl Acetate	2800		8900		ug/kg	MT-SL-102-0012	4/4	0 - 0	8900		2200000 nc			NO	BSL
95-95-4	2,4,5-Trichlorophenol	5000	J	22000	J	ug/kg	MT-SL-102-0012, MT-SL-103-0010-AVG	3/4	85000 - 85000	22000		610000 nc			NO	BSL
91-57-6	2-Methylnaphthalene	21000	J	21000	J	ug/kg	MT-SL-102-0012	1/4	16000 - 34000	21000		5600 nc			YES	ASL
106-44-5	4-Methylphenol	550000		1300000		ug/kg	MT-SL-102-0012	4/4	0 - 0	1300000		31000 nc			YES	ASL
87-86-5	Pentachlorophenol	9100	J	32000		ug/kg	MT-SL-103-0010-AVG	3/4	160000 - 160000	32000		3000 ca			YES	ASL
108-95-2	Phenol	6300	J	23000	J	ug/kg	MT-SL-102-0012	4/4	0 - 0	23000		3700000 nc			NO	BSL
72-54-8	4,4'-DDD	5.9	J	5.9	J	ug/kg	MT-SL-104-0010	1/4	3.3 - 3.3	5.9		2400 ca			NO	BSL
72-55-9	4,4'-DDE	4.8	J	10	J	ug/kg	MT-SL-101-0010	4/4	0 - 0	10		1700 ca			NO	BSL
50-29-3	4,4'-DDT	4.4	J	4.4	J	ug/kg	MT-SL-101-0010	1/4	3.3 - 3.3	4.4		1700 ca*			NO	BSL
309-00-2	Aldrin	6.1	J	6.1	J	ug/kg	MT-SL-104-0010	1/4	1.7 - 1.7	6.1		29 ca*			NO	BSL
319-84-6	alpha-BHC	4.9	J	24	J	ug/kg	MT-SL-104-0010	3/4	1.7 - 1.7	24		90 ca			NO	BSL
5103-71-9	alpha-Chlordane	3.5	J	62	J	ug/kg	MT-SL-104-0010	4/4	0 - 0	62		1600 ca			NO	BSL
319-85-7	beta-BHC	4.1		4.1		ug/kg	MT-SL-103-0010-AVG	1/4	1.7 - 1.7	4.1		320 ca			NO	BSL
60-57-1	Dieldrin	7	J	7	J	ug/kg	MT-SL-104-0010	1/4	3.3 - 3.3	7		30 ca			NO	BSL
5103-74-2	gamma-Chlordane	3.3	J	48	J	ug/kg	MT-SL-104-0010	4/4	0 - 0	48		1600 ca			NO	BSL
76-44-8	Heptachlor	28	J	56	J	ug/kg	MT-SL-104-0010	2/4	1.7 - 1.7	56		110 ca			NO	BSL
35822-46-9	1,2,3,4,6,7,8-HpCDD	2580	JEB	54600		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	54600					NO	NTX
67562-39-4	1,2,3,4,6,7,8-HpCDF	1130	JEB	4740		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	4740					NO	NTX
55673-89-7	1,2,3,4,7,8,9-HpCDF	53.2	JEB	408		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	408					NO	NTX
39227-28-6	1,2,3,4,7,8-HxCDD	40.4	JEB	390		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	390					NO	NTX
70648-26-9	1,2,3,4,7,8-HxCDF	55.2	JEB	319		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	319					NO	NTX
57653-85-7	1,2,3,6,7,8-HxCDD	421	JEB	2460		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	2460					NO	NTX
57117-44-9	1,2,3,6,7,8-HxCDF	39.5	J	196		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	196					NO	NTX
19408-74-3	1,2,3,7,8,9-HxCDD	135	JEB	1530	JEB	ng/kg	MT-SL-101-0010	4/4	0 - 0	1530					NO	NTX
40321-76-4	1,2,3,7,8-PeCDD	26.5	JEB	395	JEB	ng/kg	MT-SL-101-0010	4/4	0 - 0	395					NO	NTX
57117-41-6	1,2,3,7,8-PeCDF	89.3	EMPC	148		ng/kg	MT-SL-103-0010-AVG	3/4	0.8 - 0.8	148					NO	NTX
60851-34-5	2,3,4,6,7,8-HxCDF	48.4	JEB	228		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	228					NO	NTX
57117-31-4	2,3,4,7,8-PeCDF	5.7	JEB	24.3	JEB	ng/kg	MT-SL-101-0010	4/4	0 - 0	24.3					NO	NTX
1746-01-6	2,3,7,8-TCDD	7.3	J	103		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	103		3.9 ca			YES	ASL
51207-31-9	2,3,7,8-TCDF	3.7	J	13.9	J	ng/kg	MT-SL-101-0010	4/4	0 - 0	13.9					NO	NTX
3268-87-9	OCDD	19200	JEB	406000		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	406000					NO	NTX
39001-02-0	OCDF	870	JEB	4900		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	4900					NO	NTX
37871-00-4	Total HpCDD	4440	JEB	108000		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	108000					NO	NTX
38998-75-3	Total HpCDF	2010	JEB	11500		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	11500					NO	NTX
34465-46-8	Total HxCDD	2110	JEB	15000	JEB	ng/kg	MT-SL-101-0010	4/4	0 - 0	15000					NO	NTX
55684-94-1	Total HxCDF	651	JEB	4640		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	4640					NO	NTX
36088-22-9	Total PeCDD	142	JEB	5100	JEB	ng/kg	MT-SL-101-0010	4/4	0 - 0	5100					NO	NTX
30402-15-4	Total PeCDF	153	JEB	1040		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	1040					NO	NTX

TABLE 2-22.1 (CONT.)
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
SURFACE* SLUDGE AREA 1
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Scenario Timeframe: Current/Future
Medium: Sludge
Exposure Medium: Sludge
Exposure Point: Surface* Sludge Area 1

CAS Number	Chemical	Minimum (1) Concentration	Minimum Qualifier	Maximum (1) Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background (2) Value	Screening (3) Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for (4) Contaminant Deletion or Selection
41903-57-5	Total TCDD	50.7	J	1550		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	1550					NO	NTX
55722-27-5	Total TCDF	63.7	J	470	J	ng/kg	MT-SL-101-0010	4/4	0 - 0	470					NO	NTX
Dioxin TEQ	Toxicity Equivalency	150	J	1600		ng/kg	MT-SL-103-0010-AVG	4/4	0 - 0	1600		3.9 ca			YES	ASL
7429-90-5	Aluminum	4540		8770		mg/kg	MT-SL-104-0010	4/4	0 - 0	8770					NO	EPA I
7440-36-0	Antimony	4		4		mg/kg	MT-SL-103-0010-AVG	1/3	0.74 - 0.74	4		3.1 nc			YES	ASL
7440-38-2	Arsenic	3.1		7.6	J	mg/kg	MT-SL-104-0010	4/4	0 - 0	7.6		0.39 ca*			YES	ASL
7440-39-3	Barium	26.3		45.7		mg/kg	MT-SL-104-0010	4/4	0 - 0	45.7		540 nc			NO	BSL
7440-41-7	Beryllium	0.08		0.24		mg/kg	MT-SL-104-0010	4/4	0 - 0	0.24		15 nc			NO	BSL
7440-70-2	Calcium	75000	J	156000		mg/kg	MT-SL-103-0010-AVG	4/4	0 - 0	156000					NO	NUT
7440-47-3	Chromium	18200		25200		mg/kg	MT-SL-104-0010	4/4	0 - 0	25200		12000 ca			YES	ASL
7440-48-4	Cobalt	4.9		7.4	J	mg/kg	MT-SL-104-0010	4/4	0 - 0	7.4					NO	EPA I
7440-50-8	Copper	23.7		34.7		mg/kg	MT-SL-104-0010	4/4	0 - 0	34.7					NO	EPA I
7439-89-6	Iron	5570		10700		mg/kg	MT-SL-102-0012	4/4	0 - 0	10700					NO	EPA I
7439-92-1	Lead	43.5		60.4		mg/kg	MT-SL-103-0010-AVG	4/4	0 - 0	60.4		400 nc			NO	BSL
7439-95-4	Magnesium	787		1470		mg/kg	MT-SL-104-0010	4/4	0 - 0	1470					NO	NUT
7439-96-5	Manganese	3990		13300		mg/kg	MT-SL-102-0012	4/4	0 - 0	13300		180 nc			YES	ASL
7440-02-0	Nickel	3.4		10.1	J	mg/kg	MT-SL-104-0010	4/4	0 - 0	10.1		160 nc			NO	BSL
7440-09-7	Potassium	451		892	J	mg/kg	MT-SL-104-0010	4/4	0 - 0	892					NO	NUT
7782-49-2	Selenium	1.3		1.3		mg/kg	MT-SL-103-0010-AVG	1/4	1 - 1	1.3		39 nc			NO	BSL
7440-22-4	Silver	1.8	J	6.2	J	mg/kg	MT-SL-102-0012	2/4	1 - 1	6.2		39 nc			NO	BSL
7440-23-5	Sodium	8160		11300		mg/kg	MT-SL-102-0012	4/4	0 - 0	11300					NO	NUT
7440-62-2	Vanadium	20.6		34		mg/kg	MT-SL-104-0010	4/4	0 - 0	34		55 nc			NO	BSL
7440-66-6	Zinc	128		183		mg/kg	MT-SL-104-0010	4/4	0 - 0	183		2300 nc			NO	BSL
18496-25-8	Sulfide	49	J	280	J	mg/kg	MT-SL-104-0010	3/4	16.6 - 16.6	280					NO	NTX

NOTES:
(1) Minimum/maximum detected concentration.
(2) N/A - Refer to supporting information for background discussion.
Background values are the maximum of off-site background concentrations.
(3) Region IX PRG residential soil November 2000. Region IX PRGs for non-carcinogens have been adjusted by a factor of 0.1 to correspond to an HI of 0.1
(4) Rationale Codes Selection Reason: Infrequent Detection but Associated Historically (HIST)
Frequent Detection (FD)
Toxicity Information Available (TX)
Above Screening Levels (ASL)
Deletion Reason: Infrequent Detection (IFD)
Background Levels (BKG)
No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)
EPA Region I does not advocate quantitative risk evaluation of this contaminant.(EPA I)

Definitions: N/A = Not Applicable
SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
MCL = Federal Maximum Contaminant Level
SMCL = Secondary Maximum Contaminant Level
J = Estimated Value
ca = Carcinogenic
ca* = Carcinogenic where nc <100X ca
ca** = Carcinogenic where nc <10X ca
nc = Non-Carcinogenic
EB = present in equipment blank
nc_1 = Region IX PRG for this non-carcinogen was based on a ceiling limit or saturation.
The value shown is 1/10 of the Region IX risk-based PRG.

*The sludge samples from Area 1 were composites of materials from 0 to 10-12 feet bgs.

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TABLE 2-22.2
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
SURFACE* SOIL/SLUDGE ONLY AREAS 2 TO 7
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Scenario Timeframe: Current/Future
Medium: Soil/Sludge
Exposure Medium: Soil/Sludge
Exposure Point: Surface * Soil/Sludge Only Areas 2 to 7

CAS Number	Chemical	Minimum (1) Concentration	Minimum Qualifier	Maximum (1) Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background (2) Value	Screening (3) Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for (4) Contaminant Deletion or Selection
95-50-1	1,2-Dichlorobenzene	280	J	280	J	ug/kg	MT-SL-603-0007	1/10	180 - 290	280		90000 nc_1			NO	BSL
106-46-7	1,4-Dichlorobenzene	200	J	200	J	ug/kg	MT-SL-603-0007	1/10	180 - 290	200		3400 ca			NO	BSL
108-90-7	Chlorobenzene	25	J	1300		ug/kg	MT-SL-603-0007	2/10	190 - 290	1300		15000 nc			NO	BSL
67-66-3	Chloroform	25	J	32	J	ug/kg	MT-SO-A4-OVCOMP	2/10	180 - 710	32		240 ca**			NO	BSL
79-20-9	Methyl Acetate	44	J	250	J	ug/kg	MT-SL-603-0007	3/10	180 - 290	250		2200000 nc			NO	BSL
108-88-3	Toluene	19	J	19	J	ug/kg	MT-SO-A2-OVCOMP	1/10	180 - 710	19		59000 nc_1			NO	BSL
117-81-7	bis(2-Ethylhexyl)phthalate	8900		8900		ug/kg	MT-SL-702-0011	1/10	170 - 1900	8900		35000 ca*			NO	BSL
84-74-2	Di-n-Butylphthalate	23	JEB	61		ug/kg	MT-SL-501-0020-AVG	2/10	180 - 4000	61		610000 nc			NO	BSL
72-55-9	4,4'-DDE	3.2		3.2		ug/kg	MT-SL-702-0011	1/10	1.7 - 3.7	3.2		1700 ca			NO	BSL
50-29-3	4,4'-DDT	1.8	J	2.2		ug/kg	MT-SL-702-0011	2/10	1.7 - 3.7	2.2		1700 ca*			NO	BSL
5103-71-9	alpha-Chlordane	1.7	J	29		ug/kg	MT-SL-702-0011	4/10	0.87 - 1.8	29		1600 ca			NO	BSL
53469-21-9	Aroclor-1242	280		280		ug/kg	MT-SL-702-0011	1/10	17 - 37	280		220 ca			YES	ASL
11097-69-1	Aroclor-1254	4	J	78		ug/kg	MT-SL-702-0011	4/10	17 - 37	78		220 ca**			NO	BSL
319-86-8	delta-BHC	5.2		5.2		ug/kg	MT-SL-702-0011	1/10	0.87 - 1.9	5.2		440 ca*			NO	BSL
60-57-1	Dieldrin	4.4		4.4		ug/kg	MT-SL-702-0011	1/10	1.7 - 3.7	4.4		30 ca			NO	BSL
72-20-8	Endrin	5.8		5.8		ug/kg	MT-SL-702-0011	1/10	1.7 - 3.7	5.8		1800 nc			NO	BSL
53494-70-5	Endrin Ketone	6.3		6.3		ug/kg	MT-SO-A4-OVCOMP	1/10	1.7 - 3.7	6.3		1800 nc			NO	BSL
5103-74-2	gamma-Chlordane	1.9	J	31		ug/kg	MT-SL-702-0011	4/10	0.87 - 1.8	31		1600 ca			NO	BSL
1024-57-3	Heptachlor Epoxide	12		12		ug/kg	MT-SL-702-0011	1/10	0.87 - 1.9	12		53 ca*			NO	BSL
35822-46-9	1,2,3,4,6,7,8-HpCDD	10.8		93940		ng/kg	MT-SL-702-0011	10/10	0 - 0	93940					NO	NTX
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.2		3230		ng/kg	MT-SL-702-0011	10/10	0 - 0	3230					NO	NTX
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.8	J	109		ng/kg	MT-SL-702-0011	9/10	0.45 - 0.45	109					NO	NTX
39227-28-6	1,2,3,4,7,8-HxCDD	0.88	J	77.1		ng/kg	MT-SL-702-0011	9/10	0.35 - 0.35	77.1					NO	NTX
70648-26-9	1,2,3,4,7,8-HxCDF	1.3	J	76		ng/kg	MT-SL-702-0011	9/10	0.2 - 0.2	76					NO	NTX
57653-85-7	1,2,3,6,7,8-HxCDD	8.3		1200		ng/kg	MT-SL-702-0011	9/10	0.35 - 0.35	1200					NO	NTX
57117-44-9	1,2,3,6,7,8-HxCDF	0.6	J	32.4	EB	ng/kg	MT-SL-702-0011	9/10	0.2 - 0.2	32.4					NO	NTX
19408-74-3	1,2,3,7,8,9-HxCDD	2.2	J	315	EB	ng/kg	MT-SL-702-0011	9/10	0.35 - 0.35	315					NO	NTX
72918-21-9	1,2,3,7,8,9-HxCDF	0.74	EMPC	10.8	EMPC	ng/kg	MT-SO-A6-OVCOMP	4/10	0.2 - 1.8	10.8					NO	NTX
40321-76-4	1,2,3,7,8-PeCDD	1.1	J	15.9	EB	ng/kg	MT-SO-A3-OVCOMP	8/10	0.35 - 0.5	15.9					NO	NTX
57117-41-6	1,2,3,7,8-PeCDF	0.27	J	1.1	J	ng/kg	MT-SO-A4-OVCOMP	4/10	0.2 - 1.1	1.1					NO	NTX
60851-34-5	2,3,4,6,7,8-HxCDF	1.3	J	189		ng/kg	MT-SL-702-0011	9/10	0.25 - 0.25	189					NO	NTX
57117-31-4	2,3,4,7,8-PeCDF	1.1	J	6.9		ng/kg	MT-SL-702-0011	7/10	0.2 - 0.3	6.9					NO	NTX
1746-01-6	2,3,7,8-TCDD	0.39	J	25.2	J	ng/kg	MT-SO-A6-OVCOMP	9/10	0.25 - 0.25	25.2		3.9 ca			YES	ASL
51207-31-9	2,3,7,8-TCDF	0.36	J	9.9		ng/kg	MT-SL-702-0011	7/9	0.87 - 2.1	9.9					NO	NTX
3268-87-9	OCDD	99.9		719310	EB	ng/kg	MT-SL-702-0011	10/10	0 - 0	719310					NO	NTX
39001-02-0	OCDF	2.6		6820	JEB	ng/kg	MT-SL-702-0011	10/10	0 - 0	6820					NO	NTX
37871-00-4	Total HpCDD	18.6		161180	J	ng/kg	MT-SL-702-0011	10/10	0 - 0	161180					NO	NTX
38998-75-3	Total HpCDF	4.2		13810	J	ng/kg	MT-SL-702-0011	10/10	0 - 0	13810					NO	NTX
34465-46-8	Total HxCDD	1.2		8220	JEB	ng/kg	MT-SL-702-0011	10/10	0 - 0	8220					NO	NTX
55684-94-1	Total HxCDF	35.3	J	3300	JEB	ng/kg	MT-SL-702-0011	9/10	0.75 - 0.75	3300					NO	NTX
36088-22-9	Total PeCDD	0.8		1160	JEB	ng/kg	MT-SL-702-0011	10/10	0 - 0	1160					NO	NTX
30402-15-4	Total PeCDF	2.5	J	306	J	ng/kg	MT-SL-702-0011	9/10	0.25 - 0.25	306					NO	NTX
41903-57-5	Total TCDD	0.64	JEB	88.1	J	ng/kg	MT-SL-702-0011	9/10	0.25 - 0.25	88.1					NO	NTX

TABLE 2-22.2 (CONT.)
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
SURFACE* SOIL/SLUDGE ONLY AREAS 2 TO 7
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Scenario Timeframe: Current/Future
Medium: Soil/Sludge
Exposure Medium: Soil/Sludge
Exposure Point: Surface * Soil/Sludge Only Areas 2 to 7

CAS Number	Chemical	Minimum (1) Concentration	Minimum Qualifier	Maximum (1) Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background (2) Value	Screening (3) Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for (4) Contaminant Deletion or Selection
55722-27-5	Total TCDF	0.97	JEB	56.9	JEB	ng/kg	MT-SL-702-0011	9/10	0.2 - 0.2	56.9					NO	NTX
Dioxin TEQ	Toxicity Equivalency	0.13		1300	J	ng/kg	MT-SL-702-0011	10/10	0 - 0	1300		3.9 ca			YES	ASL
7429-90-5	Aluminum	3120		6660		mg/kg	MT-SL-603-0007	10/10	0 - 0	6660					NO	EPA I
7440-36-0	Antimony	2.3		44.4	J	mg/kg	MT-SL-702-0011	8/10	0.74 - 0.74	44.4		3.1 nc			YES	ASL
7440-38-2	Arsenic	1.6	J	15.7		mg/kg	MT-SL-603-0007	10/10	0 - 0	15.7		0.39 ca*			YES	ASL
7440-39-3	Barium	14.9		657	J	mg/kg	MT-SL-702-0011	10/10	0 - 0	657		540 nc			YES	ASL
7440-41-7	Beryllium	0.2		0.41	J	mg/kg	MT-SL-603-0007	7/10	0.24 - 0.27	0.41		15 nc			NO	BSL
7440-43-9	Cadmium	16.8		16.8		mg/kg	MT-SL-702-0011	1/10	0.6 - 0.6	16.8		3.7 nc			YES	ASL
7440-70-2	Calcium	565		22300		mg/kg	MT-SL-702-0011	10/10	0 - 0	22300					NO	NUT
7440-47-3	Chromium	60.9		5280	J	mg/kg	MT-SL-702-0011	10/10	0 - 0	5280		12000 ca			NO	BSL
7440-48-4	Cobalt	2.5		5.6	J	mg/kg	MT-SL-702-0011	10/10	0 - 0	5.6					NO	EPA I
7440-50-8	Copper	4.4		108		mg/kg	MT-SL-702-0011	10/10	0 - 0	108					NO	EPA I
7439-89-6	Iron	3680		25500		mg/kg	MT-SL-702-0011	10/10	0 - 0	25500					NO	EPA I
7439-92-1	Lead	2.7		427		mg/kg	MT-SL-702-0011	10/10	0 - 0	427		400 nc			YES	ASL
7439-95-4	Magnesium	961		2540		mg/kg	MT-SO-A6-OVCOMP	10/10	0 - 0	2540					NO	NUT
7439-96-5	Manganese	72.4		207	J	mg/kg	MT-SL-702-0011	10/10	0 - 0	207		180 nc			YES	ASL
7439-97-6	Mercury	0.03	J	4.5		mg/kg	MT-SL-702-0011	9/10	0.02 - 0.02	4.5		2.3 nc			YES	ASL
7440-02-0	Nickel	6.5		24.5		mg/kg	MT-SL-702-0011	10/10	0 - 0	24.5		160 nc			NO	BSL
7440-09-7	Potassium	373	J	1040	J	mg/kg	MT-SO-A6-OVCOMP	10/10	0 - 0	1040					NO	NUT
7440-23-5	Sodium	150	J	150	J	mg/kg	MT-SL-702-0011	1/10	97.9 - 98.6	150					NO	NUT
7440-62-2	Vanadium	3.6		43.5		mg/kg	MT-SL-603-0007	10/10	0 - 0	43.5		55 nc			NO	BSL
7440-66-6	Zinc	14.5		330		mg/kg	MT-SL-702-0011	9/10	14.8 - 14.8	330		2300 nc			NO	BSL
18540-29-9	Chromium VI	3	J	28		mg/kg	MT-SO-A6-OVCOMP	2/10	2.1 - 2.4	28		30 ca**			NO	BSL
18496-25-8	Sulfide	8.8		39		mg/kg	MT-SO-A2-OVCOMP	2/10	5.1 - 6	39					NO	NTX

NOTES:
(1) Minimum/maximum detected concentration.
(2) N/A - Refer to supporting information for background discussion.
Background values are the maximum of off-site background concentrations.
(3) Region IX PRG residential soil November 2000. Region IX PRGs for non-carcinogens have been adjusted by a factor of 0.1 to correspond to an HI of 0.1
(4) Rationale Codes Selection Reason: Infrequent Detection but Associated Historically (HIST)
Frequent Detection (FD)
Toxicity Information Available (TX)
Above Screening Levels (ASL)
Deletion Reason: Infrequent Detection (IFD)
Background Levels (BKG)
No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)
EPA Region I does not advocate quantitative risk evaluation of this contaminant.(EPA I)

Definitions:
N/A = Not Applicable
SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
MCL = Federal Maximum Contaminant Level
SMCL = Secondary Maximum Contaminant Level
J = Estimated Value
ca = Carcinogenic
ca* = Carcinogenic where nc <100X ca
ca** = Carcinogenic where nc <10X ca
nc = Non-Carcinogenic
EB = present in equipment blank
nc_1 = Region IX PRG for this non-carcinogen was based on a ceiling limit or saturation.
The value shown is 1/10 of the Region IX risk-based PRG.

*Since very few samples were collected from only surface materials (0 to 2 feet bgs) and many of the samples were composites of materials from 0 to as much as 20 feet bgs, the surface dataset includes any sample with a top depth of 0 feet bgs, most samples extending below 2 feet bgs.

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TABLE 2-22.3
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
"ALL"* SOIL/SLUDGE AREAS 1 THROUGH 7
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Scenario Timeframe: Future
Medium: Soil/Sludge
Exposure Medium: Soil/Sludge
Exposure Point: All* Soil and Sludge Areas 1 to 7

CAS Number	Chemical	Minimum (1) Concentration	Minimum Qualifier	Maximum (1) Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background (2) Value	Screening (3) Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for (4) Contaminant Deletion or Selection
120-82-1	1,2,4-Trichlorobenzene	35	J	570	J	ug/kg	MT-SL-601-0711	5/33	170 - 1300	570		65000 nc			NO	BSL
95-50-1	1,2-Dichlorobenzene	32	J	46000		ug/kg	MT-SL-601-0711	16/33	180 - 1300	46000		90000 nc_1			NO	BSL
106-46-7	1,4-Dichlorobenzene	15	J	25000		ug/kg	MT-SL-601-0711	12/33	180 - 1300	25000		3400 ca			YES	ASL
78-93-3	2-Butanone	510		2200		ug/kg	MT-SL-101-0010	5/33	170 - 1300	2200		730000 nc			NO	BSL
67-64-1	Acetone	210		4300		ug/kg	MT-SL-704-0207-AVG	12/33	170 - 710	4300		160000 nc			NO	BSL
75-15-0	Carbon Disulfide	54	J	6100		ug/kg	MT-SL-102-0012	14/33	180 - 1300	6100		36000 nc			NO	BSL
108-90-7	Chlorobenzene	25	J	77000		ug/kg	MT-SL-601-0711	7/33	170 - 1300	77000		15000 nc			YES	ASL
67-66-3	Chloroform	19	J	79	J	ug/kg	MT-SL-403-0510	9/33	180 - 1300	79		240 ca**			NO	BSL
100-41-4	Ethylbenzene	120	J	380	J	ug/kg	MT-SL-601-0711	2/33	170 - 1300	380		150000 nc_1			NO	BSL
79-20-9	Methyl Acetate	44	J	8900		ug/kg	MT-SL-102-0012	20/33	180 - 330	8900		2200000 nc			NO	BSL
127-18-4	Tetrachloroethene	170	J	170	J	ug/kg	MT-SL-401-0511	1/33	170 - 1300	170		5700 ca*			NO	BSL
108-88-3	Toluene	19	J	9200		ug/kg	MT-SL-402-0311	11/33	170 - 1300	9200		59000 nc_1			NO	BSL
1330-20-7	Total Xylenes	280	J	2300		ug/kg	MT-SL-601-0711	3/29	170 - 1300	2300		140000 nc_1			NO	BSL
95-95-4	2,4,5-Trichlorophenol	380	J	70000	J	ug/kg	MT-SL-602-0509	9/33	440 - 330000	70000		610000 nc			NO	BSL
91-58-7	2-Chloronaphthalene	1700	J	5200	J	ug/kg	MT-SL-201-0616	2/33	170 - 130000	5200		390000 nc			NO	BSL
91-57-6	2-Methylnaphthalene	1800	J	21000	J	ug/kg	MT-SL-102-0012	5/33	170 - 130000	21000		5600 nc			YES	ASL
59-50-7	4-Chloro-3-methylphenol	550	J	550	J	ug/kg	MT-SL-703-0215	1/33	170 - 130000	550		31000 ca			NO	BSL
106-44-5	4-Methylphenol	1200	J	1300000		ug/kg	MT-SL-102-0012	11/16	180 - 130000	1300000		31000 nc			YES	ASL
50-32-8	Benzo(a)pyrene	660	J	660	J	ug/kg	MT-SL-701-0217	1/33	170 - 130000	660		62 ca			YES	ASL
205-99-2	Benzo(b)fluoranthene	470	J	470	J	ug/kg	MT-SL-701-0217	1/33	170 - 130000	470		620 ca			NO	BSL
207-08-9	Benzo(k)fluoranthene	790	J	790	J	ug/kg	MT-SL-701-0217	1/33	170 - 130000	790		6200 ca			NO	BSL
117-81-7	bis(2-Ethylhexyl)phthalate	8900		15000	J	ug/kg	MT-SL-401-0511	2/33	170 - 130000	15000		35000 ca*			NO	BSL
218-01-9	Chrysene	590	J	590	J	ug/kg	MT-SL-701-0217	1/33	170 - 130000	590		62000 ca			NO	BSL
84-74-2	Di-n-Butylphthalate	23	JEB	61		ug/kg	MT-SL-501-0020-AVG	2/33	180 - 130000	61		610000 nc			NO	BSL
206-44-0	Fluoranthene	1100	J	1100	J	ug/kg	MT-SL-701-0217	1/33	170 - 130000	1100		230000 nc			NO	BSL
86-30-6	N-Nitroso-diphenylamine	7600	J	7600	J	ug/kg	MT-SL-602-0509	1/33	170 - 130000	7600		99000 ca			NO	BSL
91-20-3	Naphthalene	760	J	61000		ug/kg	MT-SL-202-0717-AVG	7/33	170 - 68000	61000		5600 nc			YES	ASL
87-86-5	Pentachlorophenol	120	J	120000	J	ug/kg	MT-SL-602-0509	12/33	440 - 330000	120000		3000 ca			YES	ASL
85-01-8	Phenanthrene	620	J	620	J	ug/kg	MT-SL-701-0217	1/33	170 - 130000	620		2200000 nc			NO	BSL
108-95-2	Phenol	390	JEB	52000		ug/kg	MT-SL-202-0717-AVG	9/33	170 - 130000	52000		3700000 nc			NO	BSL
129-00-0	Pyrene	900	J	900	J	ug/kg	MT-SL-701-0217	1/33	170 - 130000	900		230000 nc			NO	BSL
72-54-8	4,4'-DDD	3.4	J	34	J	ug/kg	MT-SL-601-0711	6/33	1.7 - 17	34		2400 ca			NO	BSL
72-55-9	4,4'-DDE	1.5	J	53	J	ug/kg	MT-SL-602-0509	15/33	1.7 - 6.5	53		1700 ca			NO	BSL
50-29-3	4,4'-DDT	1.8	J	5.6	J	ug/kg	MT-SL-602-0509	4/33	1.7 - 17	5.6		1700 ca*			NO	BSL
309-00-2	Aldrin	6.1	J	29		ug/kg	MT-SL-202-0717-AVG	3/33	0.87 - 3.4	29		29 ca*			NO	BSL
319-84-6	alpha-BHC	4.6		24	J	ug/kg	MT-SL-104-0010	4/33	0.87 - 8.9	24		90 ca			NO	BSL
5103-71-9	alpha-Chlordane	1.6		340		ug/kg	MT-SL-202-0717-AVG	19/33	0.87 - 3.4	340		1600 ca			NO	BSL
53469-21-9	Aroclor-1242	280		280		ug/kg	MT-SL-702-0011	1/33	17 - 170	280		220 ca			YES	ASL
11097-69-1	Aroclor-1254	4	J	180		ug/kg	MT-SL-401-0511	11/33	17 - 61	180		220 ca**			NO	BSL

TABLE 2-22.3 (CONT.)
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
"ALL"* SOIL/SLUDGE AREAS 1 THROUGH 7
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Scenario Timeframe: Future
Medium: Soil/Sludge
Exposure Medium: Soil/Sludge
Exposure Point: All* Soil and Sludge Areas 1 to 7

CAS Number	Chemical	Minimum (1) Concentration	Minimum Qualifier	Maximum (1) Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background (2) Value	Screening (3) Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for (4) Contaminant Deletion or Selection
319-85-7	beta-BHC	2.2		18		ug/kg	MT-SL-203-0619	5/33	0.87 - 3.4	18		320 ca			NO	BSL
319-86-8	delta-BHC	3.2		18		ug/kg	MT-SL-202-0717-AVG	3/33	0.87 - 3.4	18		440 ca*			NO	BSL
60-57-1	Dieldrin	4.4		12		ug/kg	MT-SL-202-0717-AVG	4/33	1.7 - 6.5	12		30 ca			NO	BSL
72-20-8	Endrin	5.8		5.9	J	ug/kg	MT-SL-601-0711	2/33	1.7 - 17	5.9		1800 nc			NO	BSL
53494-70-5	Endrin Ketone	5.8		26	J	ug/kg	MT-SL-601-0711	4/33	1.7 - 17	26		1800 nc			NO	BSL
5103-74-2	gamma-Chlordane	1.7		500		ug/kg	MT-SL-202-0717-AVG	18/33	0.87 - 3.4	500		1600 ca			NO	BSL
76-44-8	Heptachlor	28	J	56	J	ug/kg	MT-SL-104-0010	2/33	0.87 - 8.9	56		110 ca			NO	BSL
1024-57-3	Heptachlor Epoxide	1.5		48		ug/kg	MT-SL-202-0717-AVG	6/33	0.87 - 3.4	48		53 ca*			NO	BSL
35822-46-9	1,2,3,4,6,7,8-HpCDD	10.8		93940		ng/kg	MT-SL-702-0011	33/33	0 - 0	93940					NO	NTX
67562-39-4	1,2,3,4,6,7,8-HpCDF	1.2		17200	JEB	ng/kg	MT-SL-602-0509	33/33	0 - 0	17200					NO	NTX
55673-89-7	1,2,3,4,7,8,9-HpCDF	2.8	J	990	JEB	ng/kg	MT-SL-602-0509	30/33	0.45 - 5.2	990					NO	NTX
39227-28-6	1,2,3,4,7,8-HxCDD	0.71	J	390		ng/kg	MT-SL-103-0010-AVG	29/33	0.35 - 3.1	390					NO	NTX
70648-26-9	1,2,3,4,7,8-HxCDF	1.3	J	758	JEB	ng/kg	MT-SL-601-0711	30/33	0.2 - 2.7	758					NO	NTX
57653-85-7	1,2,3,6,7,8-HxCDD	3.1	J	4690	JEB	ng/kg	MT-SL-602-0509	32/33	0.35 - 0.35	4690					NO	NTX
57117-44-9	1,2,3,6,7,8-HxCDF	0.6	J	229	J	ng/kg	MT-SL-602-0509	29/33	0.2 - 2.7	229					NO	NTX
19408-74-3	1,2,3,7,8,9-HxCDD	1.6	JEB	1530	JEB	ng/kg	MT-SL-101-0010	32/33	0.35 - 0.35	1530					NO	NTX
72918-21-9	1,2,3,7,8,9-HxCDF	0.74	EMPC	10.8	EMPC	ng/kg	MT-SO-A6-OVCOMP	5/33	0.1 - 5.7	10.8					NO	NTX
40321-76-4	1,2,3,7,8-PeCDD	0.54	EMPC	395	JEB	ng/kg	MT-SL-101-0010	28/33	0.2 - 3.6	395					NO	NTX
57117-41-6	1,2,3,7,8-PeCDF	0.27	J	148		ng/kg	MT-SL-103-0010-AVG	13/33	0.09 - 2.4	148					NO	NTX
60851-34-5	2,3,4,6,7,8-HxCDF	1.3	J	488	JEB	ng/kg	MT-SL-602-0509	29/33	0.25 - 4.7	488					NO	NTX
57117-31-4	2,3,4,7,8-PeCDF	0.25	EMPC	91.9	JEB	ng/kg	MT-SL-601-0711	25/33	0.1 - 2.2	91.9					NO	NTX
1746-01-6	2,3,7,8-TCDD	0.39	J	1240	J	ng/kg	MT-SL-602-0509	30/33	0.25 - 1.8	1240		3.9 ca			YES	ASL
51207-31-9	2,3,7,8-TCDF	0.24	EMPC	26.9	J	ng/kg	MT-SL-601-0711	25/32	0.2 - 2.1	26.9					NO	NTX
3268-87-9	OCDD	99.9		922000	J	ng/kg	MT-SL-601-0711	33/33	0 - 0	922000					NO	NTX
39001-02-0	OCDF	2.6		33200	JEB	ng/kg	MT-SL-601-0711	33/33	0 - 0	33200					NO	NTX
37871-00-4	Total HpCDD	18.6		161180	J	ng/kg	MT-SL-702-0011	33/33	0 - 0	161180					NO	NTX
38998-75-3	Total HpCDF	4.2		75200	JEB	ng/kg	MT-SL-602-0509	33/33	0 - 0	75200					NO	NTX
34465-46-8	Total HxCDD	1.2		20400	JEB	ng/kg	MT-SL-601-0711	33/33	0 - 0	20400					NO	NTX
55684-94-1	Total HxCDF	5.6	JEB	27600	JEB	ng/kg	MT-SL-602-0509	32/33	0.75 - 0.75	27600					NO	NTX
36088-22-9	Total PeCDD	0.8		5100	JEB	ng/kg	MT-SL-101-0010	33/33	0 - 0	5100					NO	NTX
30402-15-4	Total PeCDF	2.5	J	1690	JEB	ng/kg	MT-SL-601-0711	31/33	0.25 - 0.3	1690					NO	NTX
41903-57-5	Total TCDD	0.48	EMPC	1550		ng/kg	MT-SL-103-0010-AVG	31/33	0.25 - 1.8	1550					NO	NTX
55722-27-5	Total TCDF	0.51	JEB	470	J	ng/kg	MT-SL-101-0010	30/33	0.2 - 1.4	470					NO	NTX
Dioxin TEQ	Toxicity Equivalency	0.13		2600	J	ng/kg	MT-SL-602-0509	33/33	0 - 0	2600		3.9 ca			YES	ASL
7429-90-5	Aluminum	2000		10600		mg/kg	MT-SL-602-0509	33/33	0 - 0	10600					NO	EPA I
7440-36-0	Antimony	1.2	J	547	J	mg/kg	MT-SL-602-0509	25/32	0.74 - 0.74	547		3.1 nc			YES	ASL
7440-38-2	Arsenic	1.2	J	15.7		mg/kg	MT-SL-603-0007	32/33	1 - 1	15.7		0.39 ca*			YES	ASL
7440-39-3	Barium	12.9		1480	J	mg/kg	MT-SL-703-0215	33/33	0 - 0	1480		540 nc			YES	ASL
7440-41-7	Beryllium	0.08		0.41	J	mg/kg	MT-SL-204-0618, MT-SL-603 0007, MT-SO-A7-UNCOMP	25/33	0.16 - 0.27	0.41		15 nc			NO	BSL

TABLE 2-22.3 (CONT.)
OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
"ALL"* SOIL/SLUDGE AREAS 1 THROUGH 7
FINAL ENGINEERING EVALUATION/COST ANALYSIS
MOHAWK TANNERY SITE
NASHUA, NEW HAMPSHIRE

Scenario Timeframe: Future
Medium: Soil/Sludge
Exposure Medium: Soil/Sludge
Exposure Point: All* Soil and Sludge Areas 1 to 7

CAS Number	Chemical	Minimum (1) Concentration	Minimum Qualifier	Maximum (1) Concentration	Maximum Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening	Background (2) Value	Screening (3) Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for (4) Contaminant Deletion or Selection
7440-43-9	Cadmium	0.74	J	16.8		mg/kg	MT-SL-702-0011	4/33	0.52 - 0.68	16.8		3.7 nc			YES	ASL
7440-70-2	Calcium	560		156000		mg/kg	MT-SL-103-0010-AVG	33/33	0 - 0	156000					NO	NUT
7440-47-3	Chromium	12.8		67800	J	mg/kg	MT-SL-602-0509	33/33	0 - 0	67800		12000 ca			YES	ASL
7440-48-4	Cobalt	1.8		7.4	J	mg/kg	MT-SL-104-0010	33/33	0 - 0	7.4					NO	EPA I
7440-50-8	Copper	4.4		274		mg/kg	MT-SL-703-0215	33/33	0 - 0	274					NO	EPA I
7439-89-6	Iron	3370		25500		mg/kg	MT-SL-702-0011	33/33	0 - 0	25500					NO	EPA I
7439-92-1	Lead	2.5		427		mg/kg	MT-SL-702-0011	33/33	0 - 0	427		400 nc			YES	ASL
7439-95-4	Magnesium	253		4010		mg/kg	MT-SL-201-0616	33/33	0 - 0	4010					NO	NUT
7439-96-5	Manganese	25.2		13300		mg/kg	MT-SL-102-0012	33/33	0 - 0	13300		180 nc			YES	ASL
7439-97-6	Mercury	0.02	J	4.5		mg/kg	MT-SL-702-0011	26/31	0.02 - 0.02	4.5		2.3 nc			YES	ASL
7440-02-0	Nickel	3.4		24.5		mg/kg	MT-SL-702-0011	33/33	0 - 0	24.5		160 nc			NO	BSL
7440-09-7	Potassium	74.7		2410	J	mg/kg	MT-SL-201-0616	33/33	0 - 0	2410					NO	NUT
7782-49-2	Selenium	1.3		1.3		mg/kg	MT-SL-103-0010-AVG	1/33	0.87 - 1.1	1.3		39 nc			NO	BSL
7440-22-4	Silver	1.7		6.2	J	mg/kg	MT-SL-102-0012	3/33	0.87 - 1.1	6.2		39 nc			NO	BSL
7440-23-5	Sodium	103	J	11300		mg/kg	MT-SL-102-0012	17/33	85.3 - 98.6	11300					NO	NUT
7440-28-0	Thallium	1.4		2.2	J	mg/kg	MT-SL-602-0509	4/33	0.99 - 2	2.2		0.52 nc			YES	ASL
7440-62-2	Vanadium	2.6		68.6		mg/kg	MT-SL-602-0509	31/33	0.64 - 0.64	68.6		55 nc			YES	ASL
7440-66-6	Zinc	12		330		mg/kg	MT-SL-702-0011	31/33	14.8 - 16.1	330		2300 nc			NO	BSL
18540-29-9	Chromium VI	3	J	28		mg/kg	MT-SO-A6-OVCOMP	2/33	2 - 10.9	28		30 ca**			NO	BSL
18496-25-8	Sulfide	8.8		300	J	mg/kg	MT-SL-402-0311, MT-SL-704 0207-AVG	20/33	5.1 - 16.6	300					NO	NTX

NOTES:
(1) Minimum/maximum detected concentration.
(2) N/A - Refer to supporting information for background discussion.
Background values are the maximum of off-site background concentrations.
(3) Region IX PRG residential soil November 2000. Region IX PRGs for non-carcinogens have been adjusted by a factor of 0.1 to correspond to an HI of 0
(4) Rationale Codes Selection Reason: Infrequent Detection but Associated Historically (HIST)
Frequent Detection (FD)
Toxicity Information Available (TX)
Above Screening Levels (ASL)
Deletion Reason: Infrequent Detection (IFD)
Background Levels (BKG)
No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Level (BSL)
EPA Region I does not advocate quantitative risk evaluation of this contaminant.(EPA I)

Definitions:
N/A = Not Applicable
SQL = Sample Quantitation Limit
COPC = Chemical of Potential Concern
ARAR/TBC = Applicable or Relevant and Appropriate Requirement/To Be Considered
MCL = Federal Maximum Contaminant Level
SMCL = Secondary Maximum Contaminant Level
J = Estimated Value
ca = Carcinogenic
ca* = Carcinogenic where nc <100X ca
ca** = Carcinogenic where nc <10X ca
nc = Non-Carcinogenic
EB = present in equipment blank
nc_1 = Region IX PRG for this non-carcinogen was based on a ceiling limit or saturation.
The value shown is 1/10 of the Region IX risk-based PRG.

*Since very few samples were collected from only 0 to 10 feet bgs and many of the samples were composites of materials from a wide range of depths, the “all soil” dataset includes any sample with a top depth of less than 10 feet bgs. Many of the samples in this dataset actually extend to depths greater than 10 feet bgs.

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