

TABLE 5.1
DEMOLITION DEBRIS
ANALYTICAL RESULTS
FRONTIER CHEMICAL SITE

<i>Sample Location:</i>	<i>Common Red Brick</i>	<i>Concrete Block Material</i>	<i>Miscellaneous Concrete</i>	<i>Vitreous Red Brick/Tile</i>	<i>Yellow Brick Pieces</i>	
<i>Sample #:</i>	<i>3</i>	<i>5</i>	<i>4</i>	<i>2</i>	<i>1</i>	
<i>Sample Date:</i>	<i>2/27/2012</i>	<i>2/27/2012</i>	<i>2/27/2012</i>	<i>2/27/2012</i>	<i>2/27/2012</i>	
<i>Parameter</i>	<i>Units</i>					
Volatiles						
1,1,1-Trichloroethane	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
1,1,2,2-Tetrachloroethane	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
1,1,2-Trichloroethane	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
1,1-Dichloroethane	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
1,1-Dichloroethene	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
1,2,4-Trichlorobenzene	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
1,2-Dibromoethane (Ethylene dibromide)	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
1,2-Dichlorobenzene	µg/kg	5.3 U	5.2 UJ	0.69 J	5.3 U	5.1 U
1,2-Dichloroethane	µg/kg	5.3 U	5.2 UJ	5.1 U	5.3 U	5.1 U
1,2-Dichloropropane	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
1,3-Dichlorobenzene	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
1,4-Dichlorobenzene	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/kg	26 U	26 U	25 U	26 U	25 U
2-Hexanone	µg/kg	26 U	26 U	25 U	26 U	25 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/kg	26 U	26 U	25 U	26 U	25 U
Acetone	µg/kg	26 U	26 U	7.6 J	26 U	25 U
Benzene	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Bromodichloromethane	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Bromoform	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Bromomethane (Methyl bromide)	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Carbon disulfide	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Carbon tetrachloride	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Chlorobenzene	µg/kg	5.3 U	5.2 UJ	5.1 U	5.3 U	5.1 U
Chloroethane	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Chloroform (Trichloromethane)	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Chloromethane (Methyl chloride)	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
cis-1,2-Dichloroethene	µg/kg	5.3 U	5.2 UJ	5.1 U	5.3 U	5.1 U
cis-1,3-Dichloropropene	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Cyclohexane	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Dibromochloromethane	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Dichlorodifluoromethane (CFC-12)	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Ethylbenzene	µg/kg	5.3 U	5.2 UJ	5.1 U	5.3 U	5.1 U
Isopropyl benzene	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U

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<i>Sample Location:</i>	<i>Common Red Brick</i>	<i>Concrete Block Material</i>	<i>Miscellaneous Concrete</i>	<i>Vitreous Red Brick/Tile</i>	<i>Yellow Brick Pieces</i>	
<i>Sample #:</i>	3	5	4	2	1	
<i>Sample Date:</i>	2/27/2012	2/27/2012	2/27/2012	2/27/2012	2/27/2012	
<i>Parameter</i>	<i>Units</i>					
Volatiles (cont'd)						
Methyl acetate	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Methyl cyclohexane	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Methyl tert butyl ether (MTBE)	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Methylene chloride	µg/kg	17	19	4.5 J	4.0 J	4.4 J
Styrene	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Tetrachloroethene	µg/kg	5.3 U	5.2 UJ	1.4 J	5.3 U	5.1 U
Toluene	µg/kg	5.3 U	5.2 U	1.3 J	5.3 U	5.1 U
trans-1,2-Dichloroethene	µg/kg	5.3 U	5.2 UJ	5.1 U	5.3 U	5.1 U
trans-1,3-Dichloropropene	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Trichloroethene	µg/kg	5.3 U	5.2 UJ	5.1 U	5.3 U	5.1 U
Trichlorofluoromethane (CFC-11)	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Trifluorotrichloroethane (Freon 113)	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Vinyl chloride	µg/kg	5.3 U	5.2 U	5.1 U	5.3 U	5.1 U
Xylenes (total)	µg/kg	11 U	10 U	10 U	11 U	10 U
Semi-Volatiles						
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/kg	180 U	180 U	170 U	180 U	180 U
2,4,5-Trichlorophenol	µg/kg	180 U	180 U	170 U	180 U	180 U
2,4,6-Trichlorophenol	µg/kg	180 U	180 U	170 U	180 U	180 U
2,4-Dichlorophenol	µg/kg	180 U	180 U	170 U	180 U	180 U
2,4-Dimethylphenol	µg/kg	180 U	180 U	170 U	180 U	180 U
2,4-Dinitrophenol	µg/kg	350 U	340 U	340 U	350 U	340 U
2,4-Dinitrotoluene	µg/kg	180 U	180 U	170 U	180 U	180 U
2,6-Dinitrotoluene	µg/kg	180 U	180 U	170 U	180 U	180 U
2-Chloronaphthalene	µg/kg	180 U	180 U	170 U	180 U	180 U
2-Chlorophenol	µg/kg	180 U	180 U	170 U	180 U	180 U
2-Methylnaphthalene	µg/kg	180 U	180 U	170 U	180 U	180 U
2-Methylphenol	µg/kg	180 U	180 U	170 U	180 U	180 U
2-Nitroaniline	µg/kg	350 U	340 U	340 U	350 U	340 U
2-Nitrophenol	µg/kg	180 U	180 U	170 U	180 U	180 U
3,3'-Dichlorobenzidine	µg/kg	180 U	180 U	170 U	180 U	180 U
3-Nitroaniline	µg/kg	350 U	340 U	340 U	350 U	340 U
4,6-Dinitro-2-methylphenol	µg/kg	350 U	340 U	340 U	350 U	340 U
4-Bromophenyl phenyl ether	µg/kg	180 U	180 U	170 U	180 U	180 U

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<i>Sample #:</i>	<i>3</i>	<i>5</i>	<i>4</i>	<i>2</i>	<i>1</i>
<i>Sample Date:</i>	<i>2/27/2012</i>	<i>2/27/2012</i>	<i>2/27/2012</i>	<i>2/27/2012</i>	<i>2/27/2012</i>
<i>Parameter</i>	<i>Units</i>				
<i>Semi-Volatiles (cont'd)</i>					
4-Chloro-3-methylphenol	µg/kg	180 U	180 U	170 U	180 U
4-Chloroaniline	µg/kg	180 U	180 U	170 U	180 U
4-Chlorophenyl phenyl ether	µg/kg	180 U	180 U	170 U	180 U
4-Methylphenol	µg/kg	350 U	340 U	340 U	350 U
4-Nitroaniline	µg/kg	350 U	340 U	340 U	350 U
4-Nitrophenol	µg/kg	350 U	340 U	340 U	350 U
Acenaphthene	µg/kg	180 U	180 U	170 U	180 U
Acenaphthylene	µg/kg	180 U	180 U	170 U	180 U
Acetophenone	µg/kg	180 U	180 U	26 J	180 U
Anthracene	µg/kg	180 U	9.3 J	170 U	180 U
Atrazine	µg/kg	180 U	180 U	170 U	180 U
Benzaldehyde	µg/kg	180 U	180 U	170 U	180 U
Benzo(a)anthracene	µg/kg	11 J	45 J	16 J	11 J
Benzo(a)pyrene	µg/kg	180 U	33 J	14 J	5.9 J
Benzo(b)fluoranthene	µg/kg	180 U	40 J	27 J	11 J
Benzo(g,h,i)perylene	µg/kg	180 U	23 J	9.5 J	180 U
Benzo(k)fluoranthene	µg/kg	180 U	26 J	170 U	7.2 J
Biphenyl (1,1-Biphenyl)	µg/kg	180 U	180 U	170 U	180 U
bis(2-Chloroethoxy)methane	µg/kg	180 U	180 U	170 U	180 U
bis(2-Chloroethyl)ether	µg/kg	180 U	180 U	170 U	180 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/kg	180 U	180 U	63 J	180 U
Butyl benzylphthalate (BBP)	µg/kg	180 U	180 U	170 U	180 U
Caprolactam	µg/kg	180 U	180 U	170 U	180 U
Carbazole	µg/kg	180 U	180 U	170 U	180 U
Chrysene	µg/kg	12 J	57 J	29 J	18 J
Dibenz(a,h)anthracene	µg/kg	180 U	180 U	170 U	180 U
Dibenzofuran	µg/kg	180 U	180 U	170 U	180 U
Diethyl phthalate	µg/kg	180 U	15 J	170 U	16 J
Dimethyl phthalate	µg/kg	180 U	180 U	170 U	180 U
Di-n-butylphthalate (DBP)	µg/kg	180 U	180 U	170 U	180 U
Di-n-octyl phthalate (DnOP)	µg/kg	180 U	180 U	170 U	180 U
Fluoranthene	µg/kg	24 J	110 J	42 J	17 J
Fluorene	µg/kg	180 U	180 U	170 U	180 U
Hexachlorobenzene	µg/kg	180 U	180 U	170 U	180 U

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<i>Sample #:</i>	<i>3</i>	<i>5</i>	<i>4</i>	<i>2</i>	<i>1</i>	
<i>Sample Date:</i>	<i>2/27/2012</i>	<i>2/27/2012</i>	<i>2/27/2012</i>	<i>2/27/2012</i>	<i>2/27/2012</i>	
<i>Parameter</i>	<i>Units</i>					
<i>Semi-Volatiles (cont'd)</i>						
Hexachlorobutadiene	µg/kg	180 U	180 U	170 U	180 U	180 U
Hexachlorocyclopentadiene	µg/kg	180 U	180 U	170 U	180 U	180 U
Hexachloroethane	µg/kg	180 U	180 U	170 U	180 U	180 U
Indeno(1,2,3-cd)pyrene	µg/kg	180 U	22 J	170 U	6.6 J	180 U
Isophorone	µg/kg	180 U	180 U	170 U	180 U	180 U
Naphthalene	µg/kg	180 U	180 U	170 U	180 U	180 U
Nitrobenzene	µg/kg	180 U	180 U	170 U	180 U	180 U
N-Nitrosodi-n-propylamine	µg/kg	180 U	180 U	170 U	180 U	180 U
N-Nitrosodiphenylamine	µg/kg	180 U	180 U	170 U	180 U	180 U
Pentachlorophenol	µg/kg	350 U	340 U	340 U	350 U	340 U
Phenanthrene	µg/kg	14 J	79 J	29 J	11 J	13 J
Phenol	µg/kg	180 U	180 U	170 U	180 U	180 U
Pyrene	µg/kg	17 J	92 J	37 J	15 J	14 J
<i>Metals</i>						
Aluminum	mg/kg	19200	15000	8020	17800	929
Antimony	mg/kg	17.1 U	16.7 U	2.0 J	14.6 U	16.8 U
Arsenic	mg/kg	5.5	6.8	8.0	4.4	1.2 J
Barium	mg/kg	303	148	94.9	281	17.2
Beryllium	mg/kg	0.67	3.0	0.86	0.61	0.22 U
Cadmium	mg/kg	0.11 J	0.68	5.1	0.23	0.042 J
Calcium	mg/kg	24700	161000	144000	23400	585
Chromium	mg/kg	8.2	11.2	19.1	8.8	2.8
Cobalt	mg/kg	1.3	2.6	2.7	1.4	0.26 J
Copper	mg/kg	5.9	12.0	59.2	6.4	4.5
Iron	mg/kg	4320	7910	9060	4900	433
Lead	mg/kg	5.5	22.1	47.8	24.1	2.5
Magnesium	mg/kg	2640	37700	35500	1480	252
Manganese	mg/kg	133	532	527	105	10.3
Mercury	mg/kg	0.022 U	0.018 J	0.018 J	0.022 U	0.021 U
Nickel	mg/kg	4.3 J	8.9	13.0	4.6 J	5.6 U
Potassium	mg/kg	2560	1690	1230	2220	682
Selenium	mg/kg	4.6 U	1.0 J	1.3 J	3.9 U	4.5 U
Silver	mg/kg	0.57 U	0.56 U	0.23 J	0.49 U	0.56 U

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	<i>Sample #:</i>	<i>3</i>	<i>5</i>	<i>4</i>	<i>2</i>	<i>1</i>
	<i>Sample Date:</i>	<i>2/27/2012</i>	<i>2/27/2012</i>	<i>2/27/2012</i>	<i>2/27/2012</i>	<i>2/27/2012</i>
<i>Parameter</i>	<i>Units</i>					
Metals (cont'd)						
Sodium	mg/kg	628	513	364	687	180
Thallium	mg/kg	6.8 U	6.7 U	6.3 U	5.8 U	6.7 U
Vanadium	mg/kg	18.8	11.2	9.6	16.3	2.0
Zinc	mg/kg	9.3	104	109	16.7	3.3
PCBs						
Aroclor-1016 (PCB-1016)	µg/kg	230 U	180 U	180 U	210 U	240 U
Aroclor-1221 (PCB-1221)	µg/kg	230 U	180 U	180 U	210 U	240 U
Aroclor-1232 (PCB-1232)	µg/kg	230 U	180 U	180 U	210 U	240 U
Aroclor-1242 (PCB-1242)	µg/kg	230 U	180 U	180 U	210 U	240 U
Aroclor-1248 (PCB-1248)	µg/kg	230 U	180 U	180 U	210 U	240 U
Aroclor-1254 (PCB-1254)	µg/kg	230 U	180 U	180 U	210 U	240 U
Aroclor-1260 (PCB-1260)	µg/kg	230 U	180 U	180 U	210 U	240 U
Aroclor-1262 (PCB-1262)	µg/kg	230 U	180 U	180 U	210 U	240 U
Aroclor-1268 (PCB-1268)	µg/kg	230 U	180 U	180 U	210 U	240 U

Notes:

- J Estimated.
- U Non-detect at associated value.
- UJ Estimated reporting limit.

TABLE 5.2
CRUSHED CONCRETE ANALYTICAL RESULTS
FRONTIER CHEMICAL SITE

		<i>Sample Description Date</i>	<i>North End of Main Pile 12/19/2013</i>	<i>Center-East Section of Main Pile 12/19/2013</i>	<i>South-East Section of Main Pile 12/19/2013</i>	<i>South-West Section of Main Pile 12/19/2013</i>	<i>Center-West Section of Main Pile 12/19/2013</i>	<i>Small Pile 12/19/2013</i>
	<i>New York State Commercial units Criteria Table 375-6.8(b)</i>							
Metals								
Aluminum	mg/kg	-	4890	7160	5460	6720	6340	7600
Antimony	mg/kg	-	1.9	5.7	1.8	7.1	6.3	3.2
Arsenic	mg/kg	16	4.5	8	8	15.6	8.6	9.2
Barium	mg/kg	400	42.5	58.1	64.7	152	61	71.9
Beryllium	mg/kg	590	0.2	0.33	0.21	0.26	0.26	0.29
Cadmium	mg/kg	9.3	2	0.86	0.46	2	1.3	0.61
Calcium	mg/kg	-	136000	129000	101000	107000	153000	105000
Chromium, Hexavalent	mg/kg	400	15.4*	24.1*	16.4*	54.3*	28.1*	24.3*
Chromium, Trivalent	mg/kg	1500	-	-	-	-	-	-
Cobalt	mg/kg	-	4.7	4.1	4	6.5	4.2	4.7
Copper	mg/kg	270	46.6	43.3	20.5	60.8	57.8	31.1
Total Cyanide	mg/kg	27	-	-	-	-	-	-
Iron	mg/kg	-	9030	12000	10800	24700	14100	11400
Lead	mg/kg	1000	37.1	51.9	37.6	117	99.4	211
Magnesium	mg/kg	-	49900	29700	32800	23200	38300	23700
Manganese	mg/kg	10000	56	473	436	841	511	434
Total Mercury	mg/kg	2.8	0.088	0.092	0.04	0.13	0.087	1.1
Nickel	mg/kg	310	17.3	17.7	11.5	22.6	18.1	14.3
Potassium	mg/kg	-	1870	1750	1420	2550	2520	6980
Selenium	mg/kg	1500	1.1	1.2	0.63	1.4	1.4	0.62
Silver	mg/kg	1500	ND	ND	ND	0.36	ND	ND
Sodium	mg/kg	-	307	333	323	401	429	660
Thallium	mg/kg	-	ND	ND	ND	ND	ND	ND
Vanadium	mg/kg	-	10.7	14.8	10.8	17	14.4	12.3
Zinc	mg/kg	10000	185	89.7	84.3	178	93.9	68.7
PCBs/Pesticides								
2,4,5-TP Acid (Silvex)	mg/kg	500	-	-	-	-	-	-
4,4'-DDE	mg/kg	62	ND	0.011	ND	0.025	0.024	0.011
4,4'-DDT	mg/kg	47	0.038	0.023	0.017	0.056	ND	0.032
4,4'-DDD	mg/kg	92	ND	ND	ND	0.022	ND	0.0099
Aldrin	mg/kg	0.68	ND	ND	ND	ND	ND	ND
Alpha-BHC	mg/kg	3.4	0.019	0.0089	0.0068	0.02	0.019	ND
beta-BHC	mg/kg	3	0.021	0.014	0.011	0.025	0.02	0.011
Chlordane (alpha)	mg/kg	24	ND	ND	ND	ND	ND	ND
Chlordane (gamma)	mg/kg	-	ND	ND	ND	ND	ND	ND
delta-BHC	mg/kg	500	ND	0.012	0.011	0.026	0.27	0.012
Dibenzofuran	mg/kg	350	ND	0.15	ND	0.24	ND	0.014
Dieldrin	mg/kg	1.4	ND	ND	ND	ND	ND	ND
Endosulfan I	mg/kg	200	ND	ND	ND	ND	ND	ND
Endosulfan II	mg/kg	200	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	mg/kg	200	ND	ND	ND	ND	ND	0.0081
Endrin	mg/kg	89	ND	ND	ND	ND	ND	ND
Endrin aldehyde	mg/kg	-	ND	ND	ND	ND	ND	ND
Endrin ketone	mg/kg	-	ND	ND	ND	ND	ND	ND

TABLE 5.2
CRUSHED CONCRETE ANALYTICAL RESULTS
FRONTIER CHEMICAL SITE

		<i>Sample Description Date</i>	<i>North End of Main Pile 12/19/2013</i>	<i>Center-East Section of Main Pile 12/19/2013</i>	<i>South-East Section of Main Pile 12/19/2013</i>	<i>South-West Section of Main Pile 12/19/2013</i>	<i>Center-West Section of Main Pile 12/19/2013</i>	<i>Small Pile 12/19/2013</i>
	<i>New York State Commercial units Criteria Table 375-6.8(b)</i>							
Heptachlor	mg/kg	15	ND	0.009	ND	ND	0.017	ND
Heptachlor epoxide	mg/kg	-	ND	ND	ND	ND	ND	ND
Lindane (gamma-BHC)	mg/kg	9.2	0.03	0.0093	ND	ND	0.026	ND
Methoxychlor	mg/kg	-	0.074	0.027	ND	ND	0.073	ND
Toxaphene	mg/kg	-	ND	ND	ND	ND	ND	ND
PCBs	mg/kg	1	0.48	3.9	ND	ND	ND	ND
SVOCs								
Biphenyl	mg/kg	-	ND	ND	ND	ND	ND	ND
bis(2-chloroisopropyl) ether	mg/kg	-	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	mg/kg	-	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	mg/kg	-	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	mg/kg	-	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	mg/kg	-	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	mg/kg	-	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	mg/kg	-	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	mg/kg	-	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	mg/kg	-	ND	ND	ND	ND	ND	ND
2-Chlorophenol	mg/kg	-	ND	ND	ND	ND	ND	ND
2-Methylphenol	mg/kg	-	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	mg/kg	-	0.035	0.0073	ND	0.13	ND	0.12
2-Nitroanaline	mg/kg	-	ND	ND	ND	ND	ND	ND
2-Nitrophenol	mg/kg	-	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	mg/kg	-	ND	ND	ND	ND	ND	ND
3-Nitroanaline	mg/kg	-	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	mg/kg	-	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenyl ether	mg/kg	-	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	mg/kg	-	ND	ND	ND	ND	ND	ND
4-Chloroanaline	mg/kg	-	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	mg/kg	-	ND	ND	ND	ND	ND	ND
4-Methylphenol	mg/kg	-	ND	ND	ND	ND	ND	ND
4-Nitroanaline	mg/kg	-	ND	ND	ND	ND	ND	ND
4-Nitrophenol	mg/kg	-	ND	ND	ND	ND	ND	ND
Acenaphthene	mg/kg	500	ND	ND	ND	ND	ND	ND
Acenaphthylene	mg/kg	500	ND	ND	ND	ND	ND	ND
Acetophenone	mg/kg	-	ND	ND	ND	ND	ND	ND
Anthracene	mg/kg	500	0.16	0.44	0.089	0.71	0.87	0.42
Atrazine	mg/kg	-	ND	ND	ND	ND	ND	ND
Benzaldehyde	mg/kg	-	ND	ND	ND	ND	ND	ND
Benz(a)anthracene	mg/kg	5.6	0.8	0.86	0.24	1.6	ND	1.2
Benz(a)pyrene	mg/kg	1	0.7	0.75	0.15	1.2	1.4	1.2
Benz(b)fluoranthene	mg/kg	5.6	0.9	0.9	0.22	1.6	1.9	1.4
Benzo(g,h,i)perylene	mg/kg	500	0.66	0.59	ND	0.9	1.2	0.77
Benzo(k)fluoranthene	mg/kg	56	0.5	0.49	0.15	0.7	1.9	0.74
Bis(2-chloroethoxy)methane	mg/kg	-	ND	ND	ND	ND	ND	ND
Bis(2-chloroethyl)ether	mg/kg	-	ND	ND	ND	ND	ND	ND
Bis(2-ethylexyl) phthalate	mg/kg	-	ND	0.71	ND	2.6	1.6	0.79

TABLE 5.2
CRUSHED CONCRETE ANALYTICAL RESULTS
FRONTIER CHEMICAL SITE

		<i>Sample Description Date</i>	<i>North End of Main Pile 12/19/2013</i>	<i>Center-East Section of Main Pile 12/19/2013</i>	<i>South-East Section of Main Pile 12/19/2013</i>	<i>South-West Section of Main Pile 12/19/2013</i>	<i>Center-West Section of Main Pile 12/19/2013</i>	<i>Small Pile 12/19/2013</i>
	<i>New York State Commercial units Criteria Table 375-6.8(b)</i>							
Butyl benzyl phthalate	mg/kg	-	ND	ND	ND	3.5	ND	ND
Caprolactam	mg/kg	-	ND	ND	ND	ND	ND	ND
Carbazole	mg/kg	-	ND	0.16	ND	0.3	ND	0.22
Chrysene	mg/kg	56	0.9	0.9	0.24	1.5	1.8	1.2
Dibenzo(a,h)anthracene	mg/kg	0.56	0.16	0.19	ND	ND	ND	0.26
Di-n-butyl phthalate	mg/kg	-	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	mg/kg	-	ND	ND	ND	ND	ND	ND
Dibenzofuran	mg/kg	-	ND	0.15	ND	0.24	ND	0.14
Diethyl phthalate	mg/kg	-	ND	ND	ND	ND	ND	ND
Dimethyl phthalate	mg/kg	-	ND	ND	ND	ND	ND	ND
Fluoranthene	mg/kg	500	1.2	1.6	0.41	2.8	3.2	2.1
Fluorene	mg/kg	500	ND	0.23	ND	0.3	0.41	0.17
Hexachlorobenzene	mg/kg	-	ND	ND	ND	ND	ND	ND
Hexachlorobutadine	mg/kg	-	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadine	mg/kg	-	ND	ND	ND	ND	ND	ND
Hexachloroethane	mg/kg	-	N	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	mg/kg	5.6	0.65	0.65	ND	1.1	ND	0.82
Isophorone	mg/kg	-	ND	ND	ND	ND	ND	ND
m-Cresol	mg/kg	500	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/kg	-	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	mg/kg	-	ND	ND	ND	ND	ND	ND
Naphthalene	mg/kg	500	ND	ND	ND	0.31	ND	0.14
Nitrobenzene	mg/kg	-	ND	ND	ND	ND	ND	ND
o-Cresol	mg/kg	500	-	-	-	-	-	-
p-Cresol	mg/kg	500	-	-	-	-	-	-
Pentachlorophenol	mg/kg	6.7	ND	ND	ND	ND	ND	ND
Phenanthrene	mg/kg	500	0.77	1.9	0.37	2.8	3.6	1.7
Phenol	mg/kg	500	N	ND	ND	ND	ND	0.28
Pyrene	mg/kg	500	1.5	1.6	0.41	2.7	3	2.1
VOCs								
1,1,1-Trichloroethane	mg/kg	500	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	mg/kg	-	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	mg/kg	-	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	mg/kg	-	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	mg/kg	240	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	mg/kg	500	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	mg/kg	-	0.0048	0.0099	0.0058	0.0041	0.0075	0.089
1,2,-Dibromo-3-Chloropropane	mg/kg	-	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	mg/kg	500	0.011	0.035	0.005	0.0061	0.016	0.13
1,2-Dichloroethane	mg/kg	30	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	mg/kg	-	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	mg/kg	500	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	mg/kg	500	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	mg/kg	280	0.0017	0.0071	0.002	0.0014	0.0025	0.039

TABLE 5.2
CRUSHED CONCRETE ANALYTICAL RESULTS
FRONTIER CHEMICAL SITE

		<i>Sample Description Date</i>	<i>North End of Main Pile 12/19/2013</i>	<i>Center-East Section of Main Pile 12/19/2013</i>	<i>South-East Section of Main Pile 12/19/2013</i>	<i>South-West Section of Main Pile 12/19/2013</i>	<i>Center-West Section of Main Pile 12/19/2013</i>	<i>Small Pile 12/19/2013</i>
	<i>New York State Commercial units Criteria Table 375-6.8(b)</i>							
1,4-Dichlorobenzene	mg/kg	130	0.0035	0.015	0.0029	0.0025	0.0054	0.055
2-Hexanone	mg/kg	-	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	mg/kg	-	ND	ND	ND	ND	ND	ND
1,4-Dioxane	mg/kg	130	-	-	-	-	-	-
Acetone	mg/kg	500	0.0069	0.021	0.0064	0.005	0.0067	0.017
Benzene	mg/kg	44	ND	ND	ND	ND	ND	0.00091
Bromodichlorobenzene	mg/kg	-	ND	ND	ND	ND	ND	ND
Bromoform	mg/kg	-	ND	ND	ND	ND	ND	ND
Bromomethane	mg/kg	-	ND	ND	ND	ND	ND	ND
Butylbenzene	mg/kg	500	-	-	-	-	-	-
Carbon Disulfide	mg/kg	-	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	mg/kg	22	ND	ND	ND	ND	ND	ND
Chlorobenzene	mg/kg	500	ND	0.0011	ND	ND	ND	0.0024
Dibromochloromethane	mg/kg	-	ND	ND	ND	ND	ND	ND
Chloroethane	mg/kg	-	ND	ND	ND	ND	ND	ND
Chloroform	mg/kg	350	ND	ND	ND	ND	ND	ND
Chloromethane	mg/kg	-	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	mg/kg	-	ND	ND	ND	ND	ND	ND
Cyclohexane	mg/kg	-	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	mg/kg	-	ND	ND	ND	ND	ND	ND
Ethylbenzene	mg/kg	390	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	mg/kg	-	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	mg/kg	6	ND	ND	ND	ND	ND	ND
Isopropylbenzene	mg/kg	-	ND	ND	ND	ND	ND	ND
Methyl Acetate	mg/kg	-	ND	ND	ND	ND	ND	ND
Metyl Ethyl Ketone (2- Butanone)	mg/kg	500	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	mg/kg	500	ND	ND	ND	ND	ND	ND
Methylcyclohexane	mg/kg	-	ND	ND	ND	ND	ND	ND
Methylene chloride	mg/kg	500	ND	ND	ND	ND	ND	ND
n-Propylbenzene	mg/kg	500	-	-	-	-	-	-
sec-Butylbenzene	mg/kg	500	-	-	-	-	-	-
tert-Butylbenzene	mg/kg	500	-	-	-	-	-	-
Styrene	mg/kg	-	ND	ND	ND	ND	ND	ND
Tetrachloroethene	mg/kg	150	0.00078	0.0013	ND	ND	0.0011	ND
Toluene	mg/kg	500	ND	ND	0.00047	ND	ND	0.00048
trans-1,3-Dichloropropene	mg/kg	-	ND	ND	ND	ND	ND	ND
Trichloroethene	mg/kg	200	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	mg/kg	-	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	mg/kg	190	-	-	-	-	-	-
1,3,5-Trimethylbenzene	mg/kg	190	-	-	-	-	-	-
Vinyl chloride	mg/kg	13	ND	ND	ND	ND	ND	ND
Xylene (mixed)	mg/kg	500	ND	ND	ND	ND	ND	ND

Note:

* Chromium results are for total Chromium

TABLE 5.3

**WASTEWATER DISCHARGE SUMMARY
FRONTIER CHEMICAL SITE**

<i>Date</i>	<i>Volume Discharged (gal)</i>	<i>Bi-Weekly Discharge Sample</i>	<i>Sample Discharge Period</i>	<i>Maximum Daily Allowable Discharge (gal/day)</i>
6/3/13	-	W-47392-060313-SPM-001	-	-
6/4/13	-	-	-	-
6/5/13	14,000	WS-47392-060513-SPM-001	6/5/13 - 6/18/13	100000
6/7/13	791	-	-	-
6/8/13	800	-	-	-
6/9/13	-	-	-	-
6/10/13	767	-	-	-
6/11/13	14104	-	-	-
6/12/13	24824	-	-	-
6/13/13	31216	-	-	-
6/14/13	11206	-	-	-
6/15/13	14209	-	-	-
6/17/13	18014	-	-	-
6/18/13	30792	WS-47392-061813-SPM-001	6/19/13 - 7/3/13	60000
6/19/13	-	-	-	-
6/20/13	27200	-	-	-
6/21/13	4155	-	-	-
6/24/13	-	-	-	-
6/25/13	-	-	-	-
6/26/13	-	-	-	-
6/27/13	-	-	-	-
6/28/12	4053	-	-	-
6/29/13	1320	-	-	-
7/1/13	19201	-	-	-
7/2/13	30343	-	-	-
7/3/13	26056	WS-47392-070313-SPM-001	7/5/13 - 7/19/13	40214
7/5/13	6725	-	-	-
7/6/13	24119	-	-	-
7/8/13	23830	-	-	-
7/9/13	23318	-	-	-
7/10/13	8858	-	-	-
7/16/13	3660	WS-47392-071613-SPM-002	7/19/13 - 8/1/13	23848
7/20/13	21571	-	-	-
7/26/13	25667	WS-47392-072213-SPM-002	7/23/13 - 8/6/13	100,000
7/27/13	47900	-	-	-
7/28/13	17745	-	-	-
7/29/13	41052	-	-	-
7/30/13	38911	-	-	-
7/31/13	37795	-	-	-
8/1/13	23459	-	-	-

TABLE 5.3

**WASTEWATER DISCHARGE SUMMARY
FRONTIER CHEMICAL SITE**

<i>Date</i>	<i>Volume Discharged (gal)</i>	<i>Bi-Weekly Discharge Sample</i>	<i>Sample Discharge Period</i>	<i>Maximum Daily Allowable Discharge (gal/day)</i>
8/2/13	3438			
8/5/13	1255			
8/7/13	7344	WS-47392-080713-Discharge	8/9/13 - 8/22/13	41,000
8/9/13	35			
8/10/13	21263			
8/13/13	5054			
8/14/13	10517			
8/17/13	1601			
8/20/13	-	WS-47392-082012-Discharge WS-47392-082012-DischargeA	8/20/13 - 9/3/13	6656
8/26/13	-	WS-47392-082613-Discharge	8/28/13 - 9/10/13	1247
8/27/13	6377			
8/28/13	-	WS-47392-082813-Discharge	8/30/13 - 9/13/13	96000
8/29/13	1225			
8/30/13	11294			
8/31/13	10272			
9/11/13	1485	WS-47392-091113-Discharge	9/13/13-9/26/13	19600
9/22/13	2869			
9/23/13	20235			
9/24/13	3783	WS-47392-092413-Discharge	9/25/13 - 10/9/13	13,314
9/25/13	5132			
10/2/13	8274			
10/5/13	10832			
10/6/13	11005			
10/7/13	11002			
10/8/13	12999	WS-47392-100813-Discharge	10/9/13 - 10/22/13	18901
10/10/13	17872			
10/11/13	6203			
10/12/13	11548			
10/13/13	5023			
10/18/13	12256			
10/22/13	14741	WS-47392-102213-Discharge	10/23/13 - 11/5/13	23497
10/27/13	6722			
10/28/13	13356			
10/30/13	6992			
10/31/13	2790			
11/1/13	4105			
11/2/13	12193			
11/3/13	4897			

TABLE 5.3

**WASTEWATER DISCHARGE SUMMARY
FRONTIER CHEMICAL SITE**

<i>Date</i>	<i>Volume Discharged (gal)</i>	<i>Bi-Weekly Discharge Sample</i>	<i>Sample Discharge Period</i>	<i>Maximum Daily Allowable Discharge (gal/day)</i>
11/5/13	21016	WS-47392-110513-Discharge	11/6/13 - 11/19/13	28397
11/8/13	3881			
11/9/13	3544			
11/9/13	20665	Meter was re-set to zero during the morning. Total discharge on 11/9 = 24209		
11/10/13	8803			
11/11/13	996			
11/14/13	13912			
11/19/13	1096	WS-47392-111913-Discharge	11/20/13 - 12/2/13	3994
11/25/13	1905			
12/6/13	4653	WS-47392-120313-Discharge	12/4/13 - 12/17/13	4881
12/7/13	1515			
1/20/14	1048	WS-47392-01131413-Discharge	1/14/14 - 1/27/14	26,051
1/22/14	709			
	987,393			

TABLE 5.4

COMPARISON OF PID : VS : LABORATORY RESULTS
SOURCE SOIL INVESTIGATION
FRONTIER CHEMICAL SITE

< 100 ppm	< 100	< 100	<100 totals	100-200	200-300	300-400	400-500	500-600	600-700	700-800	800-900	900-1,000	>1,000
19	2	11		40	53	566	385	423	10	181		378	174
6	7	25		53	315	315	1690	718	131			5395	299
20	6	7		16	70	18	230	4174	136				349
70	92	33		7	153	385							114
11	28	8		1298	133	234							216
20	4	5		674	121	29							690
42	77	107		6	140	127							671
59	1291	41		240		115							292
4	77	20		60									2533
1	68	1357		23									113
8	219	114		153									239
24	68	210		197									842
123	225	182		64									174
92	4	125		1310									1379
50	35	38		228									7081
28	2	27		160									6445
19	112			161									
188	68			183									
61	128			117									
104	164												
95	117												
136	5												
5	56												
51	21												
64	44												
66	19												
35	8												
215	8												
87	2												
61	7												
15	8												
11	0												
27	1												
18	0												
17	12												
37	1												
83	1												
2	2												
55	2												
29	90												
38	24												
14	28												
24	12												
14	5												
79	9												
86	110												
	348												
2313	3617	2310	8240	4990	985	1789	1920	5315	277	181	0	5773	21611
Average PID Concentration			76	263	141	224	640	1772	92	181	0	2887	1351
		20 >100ppm	8 <100ppm	2 <100ppm	2 <100ppm			1 <100ppm					

TABLE 5.5
CONFIRMATION TESTING RESULTS
NON-SOURCE AREA SOIL
FRONTIER CHEMICAL SITE

<i>Sample Date</i>	<i>Non-Source Soil Quantity (cubic yards)</i>	<i>Total VOC Results (ppm)</i>	<i>Note</i>
5/1/13	1,925	47.4	
5/7/13	3,850	5.8	
5/17/13	5,775	56.7	
5/23/13	7,700	2.0	
6/12/13	9,625	1.4	
7/9/13	10,780	15.7	
7/15/13	10,780	1.9	
8/15/13	12,500	16.5	
8/15/13	12,500	15.2	
8/30/13	15,000	10.8	
9/19/13	17,500	244.1	
9/27/13	17,500	18.3	resampled after extra soil removed
10/29/13	20,000	16.7	
11/7/13	22,500	8.0	
12/3/14	24,300	1.2	

TABLE 5.6

**CONFIRMATORY TESTING RESULTS
EVACUATION SIDEWALLS AND BASE
FRONTIER CHEMICAL SITE**

<i>Grid Location</i>	<i>Confirmatory Testing Date</i>	<i>Testing Depth (ft bgs)</i>	<i>Average VOC Result (ppm)</i>	<i>Notes</i>
Sidewall Testing				
E9	7/16/13	-	0.6	
E9/E10	7/16/13	-	0.0	
E10/F11	7/16/13	-	0.0	
F11	7/18/13	-	8.2	
F11/F12	7/18/13	-	3.9	
F12	7/31/13	-	3.1	
F12/F13	7/31/13	-	7.0	
F13	7/31/13	-	12.7	
F13/G13	7/31/13	-	8.9	
G13	7/31/13	-	2.3	
G3/H13	9/6/13	-	0.6	
H13	9/6/13	-	19.2	
H13/I13	9/6/13	-	89.2	
L9	9/25/13	-	11.3	
L9/L10	9/25/13	-	15.5	
L10	9/25/13	-	196.0	Re-excavated on 10/1. New average = 13.7 ppm
L10/L11	9/25/13	-	6.9	
L11	9/25/13	-	6.7	
L11 (north wall)	9/25/13	-	14.3	
L11/L12 (east Wall)	9/25/13	-	101.4	Re-excavated on 10/1. New average = 5.8 ppm
L12	9/25/13	-	5.6	
L12/K12	9/25/13	-	17.6	
K12	10/9/13	-	141.9	East half of sidewall in Quad K12 was cleared.
H11	10/15/13	-	9.8	
H11/H10 (south wall)	10/15/13	-	11.1	
H10 (west wall)	10/28/13	-	16.2	
H9 (west wall)	10/28/13	-	56.5	
I14 (west and south wall)	11/6/13	-	49.8	
I14 (south wall)	11/6/13	-	24.2	
I14/J14	11/8/13	-	4.5	
J14	11/8/13	-	8.9	
J13	11/8/13	-	19.6	
K13	11/11/13	-	3.1	
K13/L12	11/11/13	-	9.0	
J7/K7	11/11/13	-	12.4	
K7/K8	11/11/13	-	30.6	
K8	11/11/13	-	19.5	
K8/J8	11/11/13	-	23.5	
J8	11/11/13	-	4.1	
J8/J7	11/11/13	-	8.6	
J7	11/11/13	-	10.8	
K9	11/14/13	-	2.9	
K9/J9	11/14/13	-	4.1	
J9	11/14/13	-	64.8	
I9/J9	11/14/13	-	13.9	
I9	11/14/13	-	7.9	
I9/H9	11/14/13	-	52.8	
H9 (east wall)	11/15/13	-	12.0	
H9/H10 (east wall)	11/15/13	-	19.6	

TABLE 5.6

**CONFIRMATORY TESTING RESULTS
EVACUATION SIDEWALLS AND BASE
FRONTIER CHEMICAL SITE**

<i>Grid Location</i>	<i>Confirmatory Testing Date</i>	<i>Testing Depth (ft bgs)</i>	<i>Average VOC Result (ppm)</i>	<i>Notes</i>
H10 (east wall)	11/15/13	-	50.7	
H9/H8 (east wall)	11/20/13	-	6.2	
H8	11/20/13	-	27.9	
H8/H7	11/20/13	-	17.1	
H7/I7	11/20/13	-	18.1	
I7 (south wall)	11/20/13	-	13.9	
I7 (east wall)	11/20/13	-	86.1	
I7/I6	11/20/13	-	32.1	
I6	11/20/13	-	6.7	
I6/H6	11/20/13	-	3.2	
H6	11/21/13	-	6.1	
H6/H7	11/21/13	-	9.0	
H7/I7	11/21/13	-	5.8	
H7/H8	11/21/13	-	3.6	
H8	11/21/13	-	14.8	
G8	11/25/13	-	34.8	
G8/F9	11/25/13	-	6.2	
F9	11/25/13	-	3.8	
E8	11/25/13	-	2.3	
E9	11/25/13	-	1.8	
Base of Excavation Testing				
F9	7/16/13	12	2.0	
F10/F11	7/18/13	14-15	26.1	
G10	7/30/13	13-14	11.9	
G11	7/30/13	13-14	8.0	
F11	7/30/13	13	8.4	
F12/G12	7/30/13	13	33.2	
F12/F13	7/31/13	13-14	19.2	
H12/H13	9/6/13	14	22.6	
L12/L13	9/20/13	13	10.5	
K11	9/20/13	13	36.8	
H12	10/4/13	10	17.8	
I10	10/15/13	12	21.5	
G6/G7	11/4/13	3	8.7	
I14/J14	11/8/13	14	34.7	
H10	11/5/2013	6-7	7.0	
I8/I9	11/22/13	3-5	4.4	

Notes:

ppm parts per million

¹ Estimated soil volume based on the tonnage divided by 1.55 tons/cubic yard

VOC Volatile organic compound.

TABLE 5.7

**ROCK SEPARATED FROM SOURCE AREA SOIL
ANALYTICAL RESULTS
FRONTIER CHEMICAL SITE**

	<i>Sample Location:</i>	<i>Crushed Rock Pile</i>	<i>Crushed Rock Fines</i>	<i>Crushed Rock Pile</i>	<i>Crushed Rock Fines</i>	<i>Screened Rock Pile</i>
	<i>Sample #:</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
	<i>Sample Date:</i>	<i>10/17/2013</i>	<i>10/17/2013</i>	<i>10/17/2013</i>	<i>10/17/2013</i>	<i>10/29/2013</i>
<i>Parameters</i>	<i>Units</i>					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/kg	3300	15	120	7.1	92
1,1,2,2-Tetrachloroethane	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
1,1,2-Trichloroethane	µg/kg	13	3.4 U	3.3 U	3.1 U	32 U
1,1-Dichloroethane	µg/kg	9.0	3.4 U	5.5	3.1 U	32 U
1,1-Dichloroethene	µg/kg	4.0	3.4 U	0.75 J	3.1 U	32 U
1,2,4-Trichlorobenzene	µg/kg	23000	17000	26000	26000	43000
1,2-Dibromo-3-chloropropane (DBCP)	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
1,2-Dibromoethane (Ethylene dibromide)	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
1,2-Dichlorobenzene	µg/kg	32000	7400	25000	12000	16000
1,2-Dichloroethane	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
1,2-Dichloropropane	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
1,3-Dichlorobenzene	µg/kg	13000	3400	7000	3700	2300
1,4-Dichlorobenzene	µg/kg	20000	5100	13000	7700	11000
2-Butanone (Methyl ethyl ketone) (MEK)	µg/kg	38 J	13 J	16 U	16 U	160 U
2-Chlorotoluene	µg/kg	32000	5600	21000	5700	9000
2-Hexanone	µg/kg	5.1 J	17 U	16 U	16 U	160 U
3-Chlorotoluene	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
4-Chlorotoluene	µg/kg	14000	4500	8000	3900	1700
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/kg	7.6 J	17 U	2.4 J	16 U	160 U
Acetone	µg/kg	42	17	20	20	160 U
Benzene	µg/kg	110	7.6	42	4.1	32 U
Bromodichloromethane	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Bromoform	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Bromomethane (Methyl bromide)	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Carbon disulfide	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Carbon tetrachloride	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Chlorobenzene	µg/kg	1600	29	1000	37	86
Chloroethane	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Chloroform (Trichloromethane)	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Chloromethane (Methyl chloride)	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
cis-1,2-Dichloroethene	µg/kg	0.63 J	3.4 U	3.3 U	3.1 U	32 U

TABLE 5.7

**ROCK SEPARATED FROM SOURCE AREA SOIL
ANALYTICAL RESULTS
FRONTIER CHEMICAL SITE**

<i>Sample Location:</i>	<i>Crushed Rock Pile</i>	<i>Crushed Rock Fines</i>	<i>Crushed Rock Pile</i>	<i>Crushed Rock Fines</i>	<i>Screened Rock Pile</i>	
<i>Sample #:</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	
<i>Sample Date:</i>	<i>10/17/2013</i>	<i>10/17/2013</i>	<i>10/17/2013</i>	<i>10/17/2013</i>	<i>10/29/2013</i>	
<i>Parameters</i>	<i>Units</i>					
<i>Volatile Organic Compounds (Continued)</i>						
cis-1,3-Dichloropropene	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Cyclohexane	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Dibromochloromethane	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Dichlorodifluoromethane (CFC-12)	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Ethylbenzene	µg/kg	3.7	0.28 J	2.1 J	0.62 J	32 U
Isopropyl benzene	µg/kg	9.8	8.1	3.9	4.0	26 J
Methyl acetate	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Methyl cyclohexane	µg/kg	1.3 J	3.4 U	3.3 U	3.1 U	32 U
Methyl tert butyl ether (MTBE)	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Methylene chloride	µg/kg	12	3.4 U	6.3	3.1 U	32 U
Styrene	µg/kg	5.6	3.4 U	3.3 U	3.1 U	32 U
Tetrachloroethene	µg/kg	6700	79	1200	47	210
Toluene	µg/kg	70	6.0	43	5.1	32 U
trans-1,2-Dichloroethene	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
trans-1,3-Dichloropropene	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Trichloroethene	µg/kg	4400	32	670	25	98
Trichlorofluoromethane (CFC-11)	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Trifluorotrichloroethane (Freon 113)	µg/kg	34	3.4 U	1.9 J	3.1 U	32 U
Vinyl chloride	µg/kg	3.0 U	3.4 U	3.3 U	3.1 U	32 U
Xylenes (total)	µg/kg	19	1.7 J	12	3.3 J	65 U
Total VOCs	mg/kg	150.4	43.2	103.1	59.2	81.82

Notes:

- J Estimated concentration.
- U Not detected at the associated reporting limit.
- UJ Not detected; associated reporting limit is estimated.

TABLE 5.7

**ROCK SEPARATED FROM SOURCE AREA SOIL
ANALYTICAL RESULTS
FRONTIER CHEMICAL SITE**

	<i>Sample Location:</i>	<i>Screened Rock Pile</i>	<i>Screened Rock Pile</i>	<i>Screened Rock Pile</i>	<i>Screened Rock Pile</i>
	<i>Sample #:</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>
	<i>Sample Date:</i>	<i>10/29/2013</i>	<i>10/29/2013</i>	<i>10/29/2013</i>	<i>11/19/2013</i>
<i>Parameters</i>	<i>Units</i>				
<i>Volatile Organic Compounds</i>					
1,1,1-Trichloroethane	µg/kg	1.3 J	0.87 J	0.47 J	30 U
1,1,2,2-Tetrachloroethane	µg/kg	2.8 U	2.7 U	3.1 U	30 U
1,1,2-Trichloroethane	µg/kg	2.8 U	2.7 U	3.1 U	30 U
1,1-Dichloroethane	µg/kg	2.8 U	2.7 U	3.1 U	30 U
1,1-Dichloroethene	µg/kg	2.8 U	2.7 U	3.1 U	30 U
1,2,4-Trichlorobenzene	µg/kg	9300	6100	5900	12000
1,2-Dibromo-3-chloropropane (DBCP)	µg/kg	2.8 U	2.7 U	3.1 U	30 U
1,2-Dibromoethane (Ethylene dibromide)	µg/kg	2.8 U	2.7 U	3.1 U	30 U
1,2-Dichlorobenzene	µg/kg	35	4700	4200	5500
1,2-Dichloroethane	µg/kg	2.8 U	2.7 U	3.1 U	30 U
1,2-Dichloropropane	µg/kg	2.8 U	2.7 U	3.1 U	30 U
1,3-Dichlorobenzene	µg/kg	24	1600	1700	2000
1,4-Dichlorobenzene	µg/kg	49	2800	2500	3200
2-Butanone (Methyl ethyl ketone) (MEK)	µg/kg	14 U	13 U	15 U	150 U
2-Chlorotoluene	µg/kg	17	1800	2000	2700
2-Hexanone	µg/kg	14 U	13 U	15 U	150 U
3-Chlorotoluene	µg/kg	2.8 U	2.7 U	3.1 U	30 U
4-Chlorotoluene	µg/kg	14	1400	1400	1300
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/kg	14 U	13 U	15 U	150 U
Acetone	µg/kg	14 U	3.3 J	5.4 J	150 U
Benzene	µg/kg	2.8 U	0.87 J	1.3 J	24 J
Bromodichloromethane	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Bromoform	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Bromomethane (Methyl bromide)	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Carbon disulfide	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Carbon tetrachloride	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Chlorobenzene	µg/kg	1.3 J	8.5	29	93
Chloroethane	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Chloroform (Trichloromethane)	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Chloromethane (Methyl chloride)	µg/kg	2.8 U	2.7 U	3.1 U	30 U
cis-1,2-Dichloroethene	µg/kg	2.8 U	2.7 U	3.1 U	30 U

TABLE 5.7

**ROCK SEPARATED FROM SOURCE AREA SOIL
ANALYTICAL RESULTS
FRONTIER CHEMICAL SITE**

	<i>Sample Location: Sample #: Sample Date:</i>	<i>Screened Rock Pile 6 10/29/2013</i>	<i>Screened Rock Pile 7 10/29/2013</i>	<i>Screened Rock Pile 8 10/29/2013</i>	<i>Screened Rock Pile 9 11/19/2013</i>
Parameters					
	Units				
Volatile Organic Compounds (Continued)					
cis-1,3-Dichloropropene	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Cyclohexane	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Dibromochloromethane	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Dichlorodifluoromethane (CFC-12)	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Ethylbenzene	µg/kg	2.8 U	2.7 U	0.27 J	30 U
Isopropyl benzene	µg/kg	2.8 U	2.7 U	1.1 J	30
Methyl acetate	µg/kg	2.8 U	2.7 U	3.1 U	18 J
Methyl cyclohexane	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Methyl tert butyl ether (MTBE)	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Methylene chloride	µg/kg	2.8 U	2.7 U	3.1 U	8.5 J
Styrene	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Tetrachloroethene	µg/kg	14	8.0	8.2	93
Toluene	µg/kg	0.44 J	1.3 J	3.0 J	19 J
trans-1,2-Dichloroethene	µg/kg	2.8 U	2.7 U	3.1 U	30 U
trans-1,3-Dichloropropene	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Trichloroethene	µg/kg	8.7	4.9	4.2	56
Trichlorofluoromethane (CFC-11)	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Trifluorotrchloroethane (Freon 113)	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Vinyl chloride	µg/kg	2.8 U	2.7 U	3.1 U	30 U
Xylenes (total)	µg/kg	5.6 U	5.3 U	0.89 J	7.2 J
Total VOCs	mg/kg	9.46	18.43	17.75	27.05

Notes:

J Estimated concentration.

U Not detected at the associated reporting limit.

UJ Not detected; associated reporting limit is estimated.

TABLE 5.8

**CONFIRMATORY TESTING RESULTS
TREATED SOURCE AREA SOIL
FRONTIER CHEMICAL SITE**

<i>Sample Date</i>	<i>Treated Source Soil Quantity (cubic yards)¹</i>	<i>Total VOC Results (ppm)</i>
7/8/13	167	0.04
7/11/13	333	0.025
7/15/13	500	0.05
7/19/13	667	1.25
7/19/13	833	1.14
7/22/13	1000	0.35
7/24/13	1167	0.053
7/24/13	1167	0.044
7/25/13	1333	0.072
7/29/13	1500	0.095
7/29/13	1667	0.058
7/31/13	1833	0.092
7/31/13	2000	0.078
8/5/13	2167	0.075
8/5/13	2333	0.214
8/6/13	2500	0.236
8/6/13	2667	0.152
8/7/13	2833	0.108
8/7/13	3000	0.082
8/8/13	3167	0.158
8/8/13	3333	0.081
8/8/13	3333	0.093
8/9/13	3500	1.06
8/12/13	3667	0.085
8/12/13	3833	0.16
8/14/13	4000	0.108
8/15/13	4200	0.142
8/15/13	4400	0.16
8/16/13	4600	0.141
8/18/13	4800	0.102
8/18/13	5000	0.093
8/19/13	5200	0.159
8/19/13	5200	0.129
8/20/13	5400	0.094
8/21/13	5600	4.6
8/22/13	5800	0.061
8/23/13	6000	0.396
8/25/13	6200	0.202
8/27/13	6400	0.112
8/27/13	6600	0.123
8/28/13	6800	0.116
8/29/13	7000	0.155
8/30/13	7200	0.08
8/30/13	7200	0.076

TABLE 5.8

**CONFIRMATORY TESTING RESULTS
TREATED SOURCE AREA SOIL
FRONTIER CHEMICAL SITE**

<i>Sample Date</i>	<i>Treated Source Soil Quantity (cubic yards)¹</i>	<i>Total VOC Results (ppm)</i>
8/31/13	7400	1.987
9/3/13	7600	0.28
9/3/13	7800	0.11
9/5/13	8000	0.106
9/6/13	8200	2.39
9/9/13	8400	0.046
9/9/13	8600	0.116
9/9/13	8800	0.09
9/11/13	9000	0.058
9/11/13	9000	0.052
9/12/13	9200	0.162
9/13/13	9400	0.074
9/15/13	9600	0.196
9/15/13	9800	0.128
9/17/13	10000	0.148
9/18/13	10200	0.04
9/19/13	10400	0.161
9/22/13	10800	0.062
9/23/13	10600	0.073
9/23/13	11000	5.72
9/23/13	11000	0.082
9/23/13	11200	0.052
9/24/13	11400	0.06
9/26/13	11600	0.056
9/27/13	11800	0.024
9/27/13	12000	0.037
9/30/13	12200	0.035
9/30/13	12400	0.024
9/30/13	12600	0.029
10/3/13	12800	0.059
10/3/13	12800	0.062
10/4/13	13000	0.054
10/4/13	13200	0.064
10/7/13	13400	0.049
10/7/13	13600	0.047
10/7/13	13800	0.075
10/7/13	14000	0.355
10/8/13	14200	0.03
10/8/13	14400	0.118
10/10/13	14600	0.08
10/10/13	14800	0.062
10/11/13	15000	0.07
10/11/13	15000	0.062
10/11/13	15200	0.037

TABLE 5.8

**CONFIRMATORY TESTING RESULTS
TREATED SOURCE AREA SOIL
FRONTIER CHEMICAL SITE**

<i>Sample Date</i>	<i>Treated Source Soil Quantity (cubic yards)¹</i>	<i>Total VOC Results (ppm)</i>
10/13/13	15400	0.092
10/14/13	15600	2.9
10/14/13	15800	0.156
10/15/13	16000	0.146
10/16/13	16200	0.173
10/17/13	16400	0.197
10/17/13	16600	0.07
10/20/13	16800	0.066
10/20/13	17000	0.065
10/22/13	17200	0.063
10/22/13	17200	0.068
10/22/13	17400	0.171
10/23/13	17600	0.034
10/23/13	17800	0.066
10/25/13	18000	0.103
10/25/13	18200	0.186
10/27/13	18400	0.063
10/27/13	18600	0.062
10/27/13	18800	0.07
10/27/13	19000	0.099
10/29/13	19200	0.055
10/29/13	19200	0.063
10/29/13	19400	0.254
10/30/13	19600	0.113
10/30/13	19800	2.25
10/30/13	20000	1.74
11/1/13	20200	0.059
11/4/13	20400	0.039
11/5/13	21400	3.48
11/8/13	22400	0.139
11/14/13	23400	0.104
11/18/13	24400	0.133
11/18/13	24400	1.06
11/25/13	25400	0.162
12/3/13	26400	1.45
12/4/13	27400	0.155

Notes:

ppm parts per million

¹ Estimated soil volume

TABLE 5.9

**COMMUNITY AIR MONITORING TEST RESULTS SUMMARY
FRONTIER CHEMICAL SITE**

Date	Upwind Monitoring Location		Downwind Monitoring Location			
	Average 15-Minute Dust Concentration (mg/m ³)	Maximum 15-Minute Dust Concentration (mg/m ³)	Average 15-Minute Dust Concentration (mg/m ³)	Maximum 15-Minute Dust Concentration (mg/m ³)	Average 15-Minute PID Reading (ppm)	Maximum 15-Minute PID Reading (ppm)
4/23/13	0.021	0.027	0.024	0.043	0.004	0.024
4/24/13	0.032	0.052	0.036	0.048	0	0.001
4/25/13	0.026	0.041	0.025	0.041	0.36	1.03
4/26/13	0.018	0.033	0.02	0.027	0.05	0.303
4/29/13	0.026	0.041	0.024	0.033	0	0.005
4/30/13	0.013	0.029	0.013	0.022	0	0.015
5/1/13	0.008	0.039	0.016	0.049	-	-
5/2/13	0.032	0.508	0.016	0.035	-	-
5/3/13	0.01	0.024	0.014	0.033	0.001	0.045
5/6/13	0.015	0.028	0.025	0.079	-	-
5/7/13	0.017	0.046	0.022	0.052	0	0.002
5/8/13	0.012	0.044	0.018	0.054	0.006	0.175
5/9/13	0.036	0.065	0.034	0.065	0	0.005
5/10/13	0.03	0.046	0.038	0.098	-	-
5/13/13	0.017	0.051	0.024	0.16	0.414	1.092
5/14/13	0.016	0.022	0.019	0.034	0	0.003
5/15/13	0.028	0.047	0	0.006	0.002	0.031
5/16/13	0.019	0.04	0.031	0.218	0.006	0.171
5/17/13	0.014	0.049	0.011	0.039	0.037	0.189
5/20/13	0.023	0.034	0.01	0.019	0.011	0.391
5/21/13	0.051	0.067	0.056	0.073	0.58	0.827
5/22/13	0.027	0.054	0.031	0.056	0.094	0.478
5/23/13	0.021	0.04	0.026	0.042	0.47	1.019
5/24/13	0.014	0.026	0.015	0.043	1.11	4.933
5/28/13	0.026	0.052	0.027	0.046	0.24	0.57
5/29/13	0.035	0.055	0.04	0.057	0.001	0.021
5/30/13	0.043	0.061	0.045	0.065	0.038	0.397
5/31/13	0.037	0.052	0.04	0.054	0.081	0.819
6/3/13	0.008	0.022	0.009	0.02	0.53	1.158
6/4/13	0.022	0.03	0.018	0.064	0.011	0.16
6/5/13	0.024	0.064	0.021	0.041	0.233	0.772
6/6/13	0.014	0.035	0.016	0.033	0.989	1.482
6/7/13	0.007	0.016	0.022	0.08	2.055	3.829
6/10/13	0.04	0.064	0.043	0.068	0.07	0.306
6/11/13	0.008	0.021	0.012	0.026	0.105	0.324
6/12/13	0.015	0.042	0.019	0.039	0.021	0.236
6/13/13	0.021	0.046	0.024	0.045	2.66	3.901
6/14/13	0.03	0.04	0.03	0.038	0	0.003

TABLE 5.9

**COMMUNITY AIR MONITORING TEST RESULTS SUMMARY
FRONTIER CHEMICAL SITE**

Date	Upwind Monitoring Location		Downwind Monitoring Location			
	Average 15-Minute Dust Concentration (mg/m ³)	Maximum 15-Minute Dust Concentration (mg/m ³)	Average 15-Minute Dust Concentration (mg/m ³)	Maximum 15-Minute Dust Concentration (mg/m ³)	Average 15-Minute PID Reading (ppm)	Maximum 15-Minute PID Reading (ppm)
6/17/13	0.016	0.033	0.023	0.035	0.093	0.269
6/18/13	0.034	0.055	0.033	0.059	0.313	1.224
6/19/13	0.017	0.032	0.01	0.014	0.05	0.304
6/20/13	0.015	0.03	0.021	0.071	0.261	0.498
6/21/13	0.016	0.029	0.017	0.144	0.305	0.442
6/24/13	0.036	0.068	0.039	0.065	0.202	0.939
6/25/13	0.032	0.075	0.026	0.053	0	0
6/26/13	0.021	0.042	0.016	0.023	0	0.007
6/27/13	0.037	0.043	0.016	0.021	0.002	0.056
6/28/13	0.053	0.101	0.02	0.03	0.003	0.065
7/1/13	0.152	0.217	0.053	0.087	0.002	0.06
7/2/13	0.118	0.149	0.041	0.057	0.015	0.554
7/3/13	0.073	0.12	0.03	0.045	0.011	0.339
7/5/13	0.026	0.041	0.017	0.098	0.007	0.109
7/8/13	0.056	0.073	0.032	0.07	0.035	0.415
7/9/13	0.001	0.02	0.013	0.018	0.009	0.144
7/10/13	0.038	0.055	0.05	0.166	0.023	0.268
7/11/13	0.03	0.065	0.021	0.051	0.014	0.135
7/12/13	0.035	0.069	0.012	0.042	0.016	0.078
7/15/13	0.04	0.056	0.021	0.072	0.065	0.302
7/16/13	0.05	0.07	0.022	0.036	0.015	0.164
7/17/13	0.051	0.082	0.03	0.079	0.282	1.474
7/18/13	0.044	0.076	0.052	0.095	0	0.004
7/19/13	0.051	0.066	0.091	0.183	0	0.008
7/22/13	0.022	0.03	0.023	0.182	0.561	1.952
7/23/13	0.053	0.075	0.055	0.134	0.056	0.258
7/24/13	0.01	0.022	0.008	0.136	0.066	0.132
7/25/13	0.028	0.136	0.008	0.021	0.013	0.086
7/26/13	0.009	0.019	0.005	0.039	0.013	0.057
7/29/13	0.01	0.016	0.154	0.317	0.016	0.04
7/30/13	0.03	0.739	0.156	2.04	0.005	0.017
7/31/13	0.091	0.913	0.016	0.042	0.3	0.484
8/1/13	0.01	0.066	0.035	0.226	0.217	0.272
8/2/13	0.014	0.101	0.034	0.059	0.225	0.29
8/5/13	0.011	0.058	0.216	1.46	0.241	0.313
8/6/13	0.012	0.125	0.092	0.297	0.083	0.549
8/7/13	0.025	0.196	0.153	1.6	0.067	0.144
8/8/13	0.012	0.045	0.033	0.061	0.121	0.788

TABLE 5.9

**COMMUNITY AIR MONITORING TEST RESULTS SUMMARY
FRONTIER CHEMICAL SITE**

Date	Upwind Monitoring Location		Downwind Monitoring Location			
	Average 15-Minute Dust Concentration (mg/m ³)	Maximum 15-Minute Dust Concentration (mg/m ³)	Average 15-Minute Dust Concentration (mg/m ³)	Maximum 15-Minute Dust Concentration (mg/m ³)	Average 15-Minute PID Reading (ppm)	Maximum 15-Minute PID Reading (ppm)
8/9/13	0.008	0.035	0.034	0.137	0.148	0.657
8/12/13	0.008	0.037	0.019	0.038	0.022	0.031
8/13/13	0.008	0.022	0.055	0.108	0.068	0.319
8/14/13	0.012	0.087	0.026	0.05	0.036	0.256
8/15/13	0.008	0.033	0.047	0.268	0.044	0.339
8/16/13	0.013	0.118	0.023	0.049	0.252	0.467
8/18/13	0.015	0.051	0.031	0.054	0.207	0.315
8/19/13	0.019	0.054	0.08	0.171	0.057	0.402
8/20/13	0.021	0.035	0.057	0.096	0.027	0.177
8/21/13	0.023	0.056	0.053	0.064	0.101	0.525
8/22/13	0.021	0.035	0.27	0.722	0.373	0.829
8/23/13	0.014	0.134	0.04	0.155	0.78	0.596
8/24/13	0.005	0.017	0.015	0.047	0.107	0.549
8/25/13	-	-	0.128	0.586	0.275	0.688
8/26/13	0.013	0.017	0.057	0.143	0.175	0.65
8/27/13	0.021	0.029	0.076	0.118	0.122	0.525
8/28/13	0.016	0.026	0.055	0.077	0.027	0.368
8/29/13	0.027	0.06	0.072	0.135	0.036	0.275
8/30/13	0.017	0.022	0.007	0.116	0.029	0.089
8/31/13	0.017	0.132	0.052	0.078	0.051	0.108
9/3/13	0.004	0.008	0.023	0.393	0.145	0.192
9/4/13	0.006	0.013	0.054	0.125	0.124	0.221
9/5/13	0.003	0.008	0.046	0.146	0.003	0.071
9/6/13	0.001	0.018	0.016	0.051	0	0.017
9/7/13	0.004	0.01	0.023	0.046	0	0.007
9/9/13	0.003	0.007	0.01	0.043	0	0.007
9/10/13	0.03	0.036	0.103	0.143	-	-
9/11/13	0.027	0.037	0.105	0.131	0.011	0.222
9/12/13	0.006	0.011	0.238	1.11	0.007	0.141
9/13/13	0.001	0.008	0.027	0.086	0	0.006
9/14/13	0.001	0.007	0.02	0.035	0.002	0.041
9/15/13	0	0.004	0.014	0.027	0	0.001
9/16/13	0.001	0.01	0.022	0.048	0.001	0.04
9/17/13	0.001	0.013	0.003	0.092	0.001	0.025
9/18/13	0.002	0.013	0.076	0.261	0.038	0.432
9/19/13	0.006	0.008	0.04	0.059	0	0.009
9/20/13	0.018	0.207	0.113	0.266	0	0.002
9/22/13	0	0.013	0.01	0.033	0	0

TABLE 5.9

**COMMUNITY AIR MONITORING TEST RESULTS SUMMARY
FRONTIER CHEMICAL SITE**

Date	<i>Upwind Monitoring Location</i>		<i>Downwind Monitoring Location</i>			
	<i>Average 15-Minute Dust Concentration (mg/m³)</i>	<i>Maximum 15-Minute Dust Concentration (mg/m³)</i>	<i>Average 15-Minute Dust Concentration (mg/m³)</i>	<i>Maximum 15-Minute Dust Concentration (mg/m³)</i>	<i>Average 15-Minute PID Reading (ppm)</i>	<i>Maximum 15-Minute PID Reading (ppm)</i>
9/23/13	0.003	0.022	0.024	0.05	0	0.001
9/24/13	0.001	0.027	0.022	0.05	0	0.007
9/25/13	0.001	0.021	0.044	0.207	0	0.001
9/26/13	0.002	0.014	0.02	0.062	0	0.022
9/27/13	0.002	0.012	0.035	0.076	0	0.011
9/28/13	0.001	0.013	0.015	0.035	0	0.001
9/30/13	0.004	0.009	0.053	0.142	0.001	0.048
10/1/13	0.004	0.015	0.063	0.14	0.001	0.036
10/2/13	0.005	0.009	0.05	0.102	0.006	0.233
10/3/13	0	0.012	0.063	0.198	0.001	0.125
10/4/13	0.003	0.007	0.084	0.577	0.003	0.086
10/5/13	0.004	0.007	0.04	0.069	0.031	0.116
10/7/13	0.001	0.003	0.031	0.161	0.072	0.216
10/8/13	0	0.005	0.013	0.048	0.001	0.013
10/9/13	0.002	0.01	0.073	0.848	0.01	0.067
10/10/13	0.003	0.016	0.058	0.5	0.009	0.104
10/11/13	0.003	0.013	0.029	0.088	0.002	0.047
10/12/13	0.002	0.011	0.018	0.038	0.058	0.328
10/13/13	0.002	0.006	0.011	0.029	0.095	0.184
10/14/13	0.001	0.004	0.012	0.027	0.003	0.022
10/15/13	0.002	0.009	0.036	0.215	0.1	0.376
10/16/13	0.002	0.008	0.028	0.286	0.284	0.895
10/17/13	0.007	0.057	0.029	0.093	0.274	1.37
10/18/13	0.002	0.006	0.108	0.402	0.064	0.131
10/19/13	0.006	0.011	0.051	0.282	0.304	0.447
10/20/13	0.003	0.007	0.045	0.249	0.348	0.544
10/21/13	0.002	0.006	0.039	0.13	0.255	0.469
10/22/13	0.005	0.01	0.06	0.151	0.13	0.178
10/23/13	0.001	0.012	0.069	0.293	0.029	0.049
10/24/13	0	0.017	0.014	0.032	0.001	0.012
10/25/13	0.002	0.012	0.031	0.117	0.014	0.05
10/26/13	0.003	0.008	0.024	0.068	0.323	0.554
10/27/13	0.001	0.002	0.008	0.019	0.64	0.88
10/28/13	0.003	0.01	0.05	0.133	0.422	0.706
10/29/13	0.008	0.033	0.023	0.056	0.081	0.142
10/30/13	0.009	0.067	0.038	0.066	0.028	0.044
10/31/13	0.01	0.024	0.04	0.05	0.023	0.091
11/2/13	0.002	0.012	0.17	0.87	0.144	0.252

TABLE 5.9

**COMMUNITY AIR MONITORING TEST RESULTS SUMMARY
FRONTIER CHEMICAL SITE**

Date	Upwind Monitoring Location		Downwind Monitoring Location			
	Average 15-Minute Dust Concentration (mg/m ³)	Maximum 15-Minute Dust Concentration (mg/m ³)	Average 15-Minute Dust Concentration (mg/m ³)	Maximum 15-Minute Dust Concentration (mg/m ³)	Average 15-Minute PID Reading (ppm)	Maximum 15-Minute PID Reading (ppm)
11/4/13	0.004	0.014	0.015	0.048	0.163	0.223
11/5/13	0.003	0.012	0.04	0.091	0.211	0.31
11/6/13	0.001	0.012	0.061	0.257	0.28	0.36
11/7/13	0.002	0.012	0.021	0.044	0.201	0.374
11/8/13	0.002	0.006	0.015	0.036	0.152	0.234
11/9/13	0.005	0.013	0.026	0.04	0.1	0.194
11/10/13	0.003	0.011	0.027	0.043	0.102	0.164
11/11/13	0.004	0.007	0.045	0.092	0.182	0.437
11/12/13	0.003	0.008	0.024	0.092	0.04	0.113
11/13/13	0.003	0.005	0.06	0.17	0.12	0.209
11/14/13	0.005	0.01	0.042	0.141	0.047	0.085
11/15/13	0.006	0.008	0.033	0.07	0.004	0.145
11/16/13	0.007	0.012	0.027	0.068	0.05	0.05
11/17/13	0.003	0.006	0.032	0.088	0.201	0.343
11/18/13	0.004	0.006	0.053	0.134	0.127	0.296
11/19/13	0.004	0.014	0.046	0.092	0.167	0.241
11/20/13	0.004	0.014	0.069	0.112	0.056	0.166
11/21/13	0.004	0.012	0.062	0.127	-	-
11/22/13	0.007	0.011	0.064	0.092	0.281	0.419
11/23/13	0.004	0.007	0.347	1.38	0.299	0.414
11/24/13	0.005	0.012	0.026	0.052	0.242	0.316
11/25/13	0.004	0.01	0.055	0.192	0.23	0.273
12/3/13	0.008	0.023	0.039	0.078	-	-
12/4/13	0.015	0.018	0.125	0.31	0.189	0.276
12/5/13	0.007	0.014	0.047	0.059	0.136	0.263
12/6/13	0.007	0.011	0.039	0.18	0.186	0.272
12/7/13	0.004	0.008	0.028	0.068	0.19	0.295
12/8/13	0.006	0.009	0.067	0.234	0.23	0.326
12/9/13	0.005	0.008	0.033	0.057	0.224	0.312
12/10/13	0.009	0.028	0.05	0.084	0.189	0.277
12/11/13	0.007	0.014	0.072	0.247	0.235	0.381
12/12/13	0.009	0.089	0.103	0.486	0.235	0.297
12/13/13	0.007	0.024	0.049	0.068	0.255	0.349
12/14/13	0.006	0.01	0.024	0.035	0.238	0.337
12/16/13	0.006	0.015	0.018	0.028	0.222	0.284
12/17/13	0.01	0.016	0.055	0.104	0.236	0.326
12/18/13	0.007	0.017	0.041	0.06	0.316	0.472
12/19/13	0.006	0.01	0.027	0.042	0.27	0.373

TABLE 5.9

**COMMUNITY AIR MONITORING TEST RESULTS SUMMARY
FRONTIER CHEMICAL SITE**

<i>Date</i>	<i>Upwind Monitoring Location</i>		<i>Downwind Monitoring Location</i>			
	<i>Average 15-Minute Dust Concentration (mg/m³)</i>	<i>Maximum 15-Minute Dust Concentration (mg/m³)</i>	<i>Average 15-Minute Dust Concentration (mg/m³)</i>	<i>Maximum 15-Minute Dust Concentration (mg/m³)</i>	<i>Average 15-Minute PID Reading (ppm)</i>	<i>Maximum 15-Minute PID Reading (ppm)</i>
12/20/13	0.007	0.011	0.035	0.052	0.31	0.516
12/21/13	0.005	0.009	0.023	0.039	0.304	0.481
1/6/14	0.003	0.005	0.026	0.066	0.203	0.309
1/9/14	0.01	0.017	0.034	0.057	0.251	0.31
1/10/14	0.011	0.023	0.045	0.077	0.236	0.304
1/11/14	0.003	0.006	0.011	0.02	0.279	0.425
1/13/14	0.004	0.006	0.013	0.022	0.18	0.233
1/14/14	0.012	0.014	0.069	0.134	0.25	0.328
1/15/14	0.005	0.007	0.033	0.136	-	-
1/16/14	0.006	0.007	0.026	0.035	0.15	0.262

Note:

- Data not recorded on that day.

TABLE 5.10

**TENORM WASTE CHARACTERIZATION
ANALYTICAL RESULTS
FRONTIER CHEMICAL SITE**

<i>Sample Location:</i>	<i>TENORM (non-source soil)</i>	<i>TENORM (source soil)</i>	<i>TENORM (non-source soil)</i>	<i>TENORM (non-source soil)</i>	<i>TENORM (non-source soil)</i>	<i>TENORM (non-source soil)</i>	
<i>Sample #:</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	
<i>Sample Date:</i>	<i>11/07/2013</i>	<i>11/07/2013</i>	<i>11/07/2013</i>	<i>11/07/2013</i>	<i>11/07/2013</i>	<i>11/21/2013</i>	
<i>Parameters</i>	<i>Units</i>						
Radiology							
Actinium-227	pCi/g	0.516	0.212	-2.98	0.142	0.132	0.187 U
Actinium-228	pCi/g	25.4	3.83	7.35	6.46	2.71	8.12
Bismuth-212	pCi/g	28.7	3.56	8.94	7.26	3.63	10.1
Bismuth-214	pCi/g	15.2	2.38	6.30	5.05	2.90	5.85
Lead-210	pCi/g	10.5	2.65	6.87	2.42	3.89	4.49
Lead-212	pCi/g	29.1	3.63	7.97	6.69	2.72	8.41
Lead-214	pCi/g	16.6	2.62	6.77	5.46	3.03	6.19
Potassium-40	pCi/g	14.1	18.0	13.8	13.4	12.9	9.33
Protactinium-231	pCi/g	-9.85	1.10	-2.65	3.10	-1.85	4.37 U
Radium-226	pCi/g	15.2	2.38	6.30	5.05	2.90	5.85
Radium-228	pCi/g	25.4	3.83	7.35	6.46	2.71	8.12
Thallium-208	pCi/g	9.39	0.997	2.50	2.19	0.955	2.96
Thorium	pCi/g	25.4	3.83	7.35	6.46	2.71	8.12
Thorium-234	pCi/g	14.9	2.60	8.98	5.45	4.32	4.58
Uranium-235	pCi/g	1.42	0.254	0.236	0.661	0.282	0.544 U
Uranium-238	pCi/g	14.9	2.60	8.98	5.45	4.32	4.58
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
1,1,1,2-Tetrachloroethane	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
1,1,2-Trichloroethane	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
1,1-Dichloroethane	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
1,1-Dichloroethene	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
1,2,3-Trichlorobenzene A (TIC)	µg/kg	2.3 J	650 J	160 J	87 J	340 J	50 U
1,2,4-Trichlorobenzene	µg/kg	4.9 J	1700	1500	1100 J	2000	3.4 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/kg	6.9 U	5.6 U	5.5 U	4.7 U	5.4 U	6.8 U
1,2-Dibromoethane (Ethylene dibromide)	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
1,2-Dichlorobenzene	µg/kg	1.5 J	280	2600	1900 J	3200	16 J
1,2-Dichloroethane	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	50 U
1,2-Dichloropropane	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
1,3-Dichlorobenzene	µg/kg	15 J	900	5700	4000 J	7400	16 J
1,4-Dichlorobenzene	µg/kg	5.7 J	380	4400	3300 J	5500	17 J
2-Butanone (Methyl ethyl ketone) (MEK)	µg/kg	14 U	11 U	11 U	9.4 U	11 U	14 U
2-Chlorotoluene	µg/kg	19 J	510	4300	3100 J	5200	320
2-Hexanone	µg/kg	14 U	11 U	11 U	9.4 U	11 U	14 U
4-Chlorotoluene	µg/kg	23 J	320	4200	3000 J	4400	150

TABLE 5.10

**TENORM WASTE CHARACTERIZATION
ANALYTICAL RESULTS
FRONTIER CHEMICAL SITE**

<i>Sample Location:</i>	<i>TENORM (non-source soil)</i>	<i>TENORM (source soil)</i>	<i>TENORM (non-source soil)</i>	<i>TENORM (non-source soil)</i>	<i>TENORM (non-source soil)</i>	<i>TENORM (non-source soil)</i>	
<i>Sample #:</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	
<i>Sample Date:</i>	<i>11/07/2013</i>	<i>11/07/2013</i>	<i>11/07/2013</i>	<i>11/07/2013</i>	<i>11/07/2013</i>	<i>11/21/2013</i>	
<i>Parameters</i>	<i>Units</i>						
<i>Volatile Organic Compounds-Continued</i>							
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/kg	14 U	11 U	11 U	9.4 U	11 U	14U
Acetone	µg/kg	14 U	11 U	11 U	9.4 U	11 U	13J
Benzene	µg/kg	3.4 U	2.8 U	0.55 J	0.65 J	2.7 U	0.47 J
Bromodichloromethane	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
Bromoform	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
Bromomethane (Methyl bromide)	µg/kg	6.9 U	5.6 U	5.5 U	4.7 U	5.4 U	6.8 U
Carbon disulfide	µg/kg	1.1 J	2.8 U	1.5 J	1.5 J	2.7 U	3.4 U
Carbon tetrachloride	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
Chlorobenzene	µg/kg	3.4 U	2.8 U	350	280 J	550	3.4 U
Chloroethane	µg/kg	6.9 U	5.6 U	5.5 U	4.7 U	5.4 U	6.8 U
Chloroform (Trichloromethane)	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	2.0 J
Chloromethane (Methyl chloride)	µg/kg	6.9 U	5.6 U	5.5 U	4.7 U	5.4 U	6.8 U
cis-1,2-Dichloroethene	µg/kg	1.9 J	0.42 J	0.50 J	0.71 J	2.7 U	5.4
cis-1,3-Dichloropropene	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
Cyclohexane	µg/kg	6.9 U	5.6 U	5.5 U	4.7 U	5.4 U	6.8 U
Dibromochloromethane	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
Dichlorodifluoromethane (CFC-12)	µg/kg	6.9 U	5.6 U	5.5 U	4.7 U	5.4 U	6.8 U
Ethylbenzene	µg/kg	3.4 U	2.8 U	0.56 J	2.3 U	2.7 U	22 J
Isopropyl benzene	µg/kg	0.44 J	90 J	490	320 J	460	30
m&p-Xylenes	µg/kg	3.4 U	0.43 J	2.7 J	1.5 J	2.7 U	90
Methyl acetate	µg/kg	17 U	14 U	14 U	12 U	14 U	17 U
Methyl cyclohexane	µg/kg	6.9 U	5.6 U	5.5 U	4.7 U	5.4 U	0.39 J
Methyl tert butyl ether (MTBE)	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
Methylene chloride	µg/kg	1.3 J	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
o-Xylene	µg/kg	3.4 U	54 J	52 J	2.0 J	2.7 U	44
Styrene	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
Tetrachloroethene	µg/kg	24 J	35 J	96 J	46 J	2.7 U	120
Toluene	µg/kg	0.73 J	2.8 U	67 J	60 J	2.7 U	7.3 J
trans-1,2-Dichloroethene	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
trans-1,3-Dichloropropene	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
Trichloroethene	µg/kg	12 J	1.4 J	0.69 J	1.3 J	2.7 U	19
Trichlorofluoromethane (CFC-11)	µg/kg	0.52 J	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
Trifluorotrchloroethane (Freon 113)	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	-
Vinyl chloride	µg/kg	3.4 U	2.8 U	2.8 U	2.3 U	2.7 U	3.4 U
Xylenes (total)	µg/kg	6.9 U	89 J	91 J	3.5 J	5.4 U	73

TABLE 5.10

**TENORM WASTE CHARACTERIZATION
ANALYTICAL RESULTS
FRONTIER CHEMICAL SITE**

<i>Sample Location:</i>	<i>TENORM (non-source soil)</i>	<i>TENORM (source soil)</i>	<i>TENORM (non-source soil)</i>	<i>TENORM (non-source soil)</i>	<i>TENORM (non-source soil)</i>	<i>TENORM (non-source soil)</i>
<i>Sample #:</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
<i>Sample Date:</i>	<i>11/07/2013</i>	<i>11/07/2013</i>	<i>11/07/2013</i>	<i>11/07/2013</i>	<i>11/07/2013</i>	<i>11/21/2013</i>
<i>Parameters</i>	<i>Units</i>					
<i>TCLP Volatile Organic Compounds</i>						
1,1-Dichloroethene	µg/L	50 U	50 U	50 U	50 U	50 U
1,2-Dichloroethane	µg/L	50 U	50 U	50 U	50 U	50 U
1,4-Dichlorobenzene A TIC)	µg/L	-	-	26 J	21 J	63 J
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	50 U	50 U	50 U	50 U	50 U
2-Chlorotoluene	µg/L	50 U	6.8 J	21 J	18 J	61
4-Chlorotoluene	µg/L	50 U	7.4 J	15 J	10 J	27 J
Benzene	µg/L	50 U	50 U	50 U	50 U	50 U
Carbon tetrachloride	µg/L	50 U	50 U	50 U	50 U	50 U
Chlorobenzene	µg/L	50 U	50 U	50 U	50 U	50 U
Chloroform (Trichloromethane)	µg/L	50 U	50 U	50 U	50 U	50 U
Tetrachloroethene	µg/L	110	27 J	50 U	360	50 U
Toluene	µg/L	50 U	50 U	50 U	50 U	50 U
Trichloroethene	µg/L	50 U	50 U	50 U	50 U	50 U
Vinyl chloride	µg/L	100 U	100 U	100 U	100 U	100 U

Notes:

- J Estimated concentration
- TIC Tentatively Identified Compound
- U Not detected at the associated reporting limit

TABLE 5.11

**BOILING POINT OF CHEMICALS OF CONCERN
FRONTIER CHEMICAL SITE**

<i>Contaminant of Concern</i>	<i>Boiling Point</i>	
	<i>(°C)</i>	<i>(°F)</i>
Monochlorotoluene	160	320
Tetrachloroethene	121	250
Chlorobenzene	132	270
1,2-dichlorobenzene	179	354
1,3-dichlorobenzene	172	342
1,4-dichlorobenzene	173	343
1,2,4-trichlorobenzene	213	415
1,1-dichloroethane	57	135
Trichloroethene	87	189
Toluene	110	230
Benzene	80	176