

**Concrete Analytical Results  
East Acid Area and Oleum Plant  
UMore Park  
Rosemount, Minnesota**

Compound/Parameter	Sample Identifier						Residential Soil Reference Value (SRV)	Industrial Soil Reference Value (SRV)	Tier I Soil Leaching Value (SLV)
	CS-67-722Y	CS-68-305A	CS-69-303A-2	CS-70-303A	CS-71-303A	CS-72-1501-9			
	9/18/2006	9/18/2006	9/18/2006	9/18/2006	9/18/2006	9/18/2006			
<b>Volatile Organic Compounds (VOCs) reported in mg/kg</b>									
All Reported VOCs	ND	NA	NA	NA	NA	NA	NE	NE	NE
<b>Volatile Organic Compounds (VOCs) - Alcohols reported in mg/kg</b>									
All Reported VOCs - Alcohols	NA	NA	NA	NA	NA	NA	NE	NE	NE
<b>Base-Neutral Extractables (BNEs) reported in mg/kg</b>									
Benzyl Butyl Phthalate	< 0.07	< 0.07	< 0.07	<b>0.22</b>	NA	< 0.07	580	3,700	28
Bis(2-ethylhexyl)phthalate	< 0.18	< 0.18	< 0.18	<b>0.323</b>	NA	< 0.18	570	2,100	40
All Other Reported BNEs	ND	ND	ND	ND	NA	ND	NE	NE	NE
<b>Polychlorinated Biphenyls (PCBs) reported in mg/kg</b>									
Total PCBs	ND	NA	NA	NA	NA	NA	1.2	8	2.1
<b>Explosives reported in mg/kg</b>									
<i>No samples from the East Acid Area and Oleum Plant were run for explosive compounds.</i>									
<b>Diphenylamine (DPA) and Aniline reported in mg/kg</b>									
Aniline	< 1.6	< 1.6	< 1.6	< 1.6	NA	< 1.6	NE	NE	NE
Diphenylamine	< 0.108	< 0.108	< 0.108	< 0.108	NA	< 0.108	NE	NE	1.6
<b>Metals reported in mg/kg</b>									
Arsenic	<b>1.596</b>	<b>1.92</b>	<b>2.849</b>	<b>2.68</b>	<b>2.55</b>	<b>2.349</b>	5	20	15.1
Barium	<b>53.7</b>	<b>64.06</b>	<b>83.48</b>	<b>49.61</b>	<b>54.78</b>	<b>49.18</b>	1,200	18,000	842
Cadmium	<b>0.083</b>	<b>0.18</b>	<b>0.076</b>	<b>0.418</b>	<b>0.057</b>	< 0.049	25	200	4.4
Chromium	<b>14.8</b>	<b>22</b>	<b>23</b>	<b>18.6</b>	<b>18.2</b>	<b>23.8</b>	44,000 <sup>a</sup>	100,000 <sup>a</sup>	1,000,000 <sup>a</sup>
Lead	<b>1.49</b>	<b>4.38</b>	<b>5.31</b>	<b>3.79</b>	<b>5.83</b>	<b>1.73</b>	300	700	525
Mercury	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	0.5	1.5	1.6
Selenium	< 0.249	< 0.238	< 0.244	< 0.243	< 0.241	< 0.247	160	1,300	1.5
Silver	<b>0.23</b>	<b>0.311</b>	<b>0.318</b>	<b>0.233</b>	<b>0.203</b>	<b>0.317</b>	160	1,300	3.9
<b>Asbestos reported in percent</b>									
Asbestos	ND	ND	ND	ND	NA	ND	NE	NE	NE

**Notes:**

mg/kg = Milligrams per kilogram.

NA = Not analyzed for this parameter.

ND = Not detected.

NE = Not established.

< 0.025 = Compound not detected at or above the listed value.

<sup>a</sup> = No SRV or SLV is established for "total chromium"; the SRV/SLV listed is for chromium III and has been used because analysis of representative samples did not detect chromium VI (hexavalent chromium).

**Soil Analytical Results  
East Acid Area and Oleum Plant  
UMore Park  
Rosemount, Minnesota**

Compound/Parameter	Sample Identifier											Residential Soil Reference Value (SRV)	Industrial Soil Reference Value (SRV)	Tier I Soil Leaching Value (SLV)	
	TT-50(0-1')-1501-9	TT-51(0-1')-302A	TT-52(9.5')-302A	TT-53(0-1')-305A	TT-53(2')-305A	TT-54(0-1')-722Y	TT-54(2-5')-722Y	TT-55(0-1')-303A-2	TT-55(3.5')-303A-2	TT-55(4')-303A-2	TT-56(0-1')-303A				TT-56(4')-303A
	9/8/2006	9/8/2006	9/8/2006	9/8/2006	9/8/2006	9/8/2006	9/8/2006	9/11/2006	9/11/2006	9/11/2006	9/11/2006	9/11/2006			
<b>Volatile Organic Compounds (VOCs) reported in mg/kg</b>															
All Reported VOCs	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	NE	NE
<b>Volatile Organic Compounds (VOCs) - Alcohols reported in mg/kg</b>															
All Reported VOCs - Alcohols	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NE	NE	NE
<b>Base-Neutral Extractables (BNEs) reported in mg/kg</b>															
2-Methylnaphthalene	< 0.04	NA	< 0.04	NA	< 0.04	NA	< 0.04	NA	NA	< 0.04	<b>0.46</b>	< 0.04	100	369	NE
Acenaphthene	< 0.036	NA	< 0.036	NA	< 0.036	NA	< 0.036	NA	NA	< 0.036	<b>4.184</b>	< 0.036	1,200	5,260	50
Anthracene	< 0.032	NA	< 0.032	NA	< 0.032	NA	< 0.032	NA	NA	< 0.032	<b>11.65</b>	< 0.032	7,880	45,400	942
Benzo(a)anthracene	< 0.031	NA	< 0.031	NA	<b>0.036</b>	NA	<b>0.127</b>	NA	NA	<b>0.064</b>	<b>17.52</b>	< 0.031	a	a	a
Benzo(a)pyrene	< 0.038	NA	< 0.038	NA	< 0.038	NA	<b>0.129</b>	NA	NA	< 0.038	<b>12.39</b>	< 0.038	a	a	a
Benzo(b)fluoranthene	< 0.035	NA	< 0.035	NA	< 0.035	NA	<b>0.183</b>	NA	NA	<b>0.056</b>	<b>16.6</b>	< 0.035	a	a	a
Benzo(g,h,i)perylene	< 0.09	NA	< 0.09	NA	< 0.09	NA	< 0.09	NA	NA	< 0.09	<b>5.697</b>	< 0.09	NE	NE	NE
Benzo(k)fluoranthene	< 0.031	NA	< 0.031	NA	< 0.031	NA	<b>0.066</b>	NA	NA	< 0.031	<b>6.95</b>	< 0.031	a	a	a
Bis(2-ethylhexyl)phthalate	<b>0.461</b>	NA	<b>0.323</b>	NA	< 0.09	NA	<b>0.328</b>	NA	NA	<b>0.204</b>	< 0.9	< 0.09	570	2,100	40
Chrysene	< 0.034	NA	< 0.034	NA	< 0.034	NA	<b>0.135</b>	NA	NA	<b>0.068</b>	<b>18.16</b>	< 0.034	a	a	a
Dibenzo(a,h)anthracene	< 0.09	NA	< 0.09	NA	< 0.09	NA	< 0.09	NA	NA	< 0.09	<b>3.238</b>	< 0.09	a	a	a
Dibenzofuran	< 0.035	NA	< 0.035	NA	< 0.035	NA	< 0.035	NA	NA	< 0.035	<b>3.178</b>	< 0.035	104	810	NE
Di-n-butyl phthalate	< 0.08	NA	<b>0.108</b>	NA	< 0.08	NA	< 0.08	NA	NA	<b>0.082</b>	< 0.8	< 0.08	2,440	16,300	23
Fluoranthene	< 0.04	NA	< 0.04	NA	<b>0.063</b>	NA	<b>0.19</b>	NA	NA	<b>0.15</b>	<b>33.52</b>	< 0.04	1,080	6,800	295
Fluorene	< 0.036	NA	< 0.036	NA	< 0.036	NA	< 0.036	NA	NA	< 0.036	<b>6.03</b>	< 0.036	850	4,120	47
Indeno(1,2,3-cd)pyrene	< 0.08	NA	< 0.08	NA	< 0.08	NA	< 0.08	NA	NA	< 0.08	<b>6.65</b>	< 0.08	a	a	a
Naphthalene	< 0.033	NA	< 0.033	NA	< 0.033	NA	< 0.033	NA	NA	< 0.033	<b>0.62</b>	< 0.033	10	28	7.5
Phenanthrene	< 0.035	NA	< 0.035	NA	<b>0.039</b>	NA	<b>0.068</b>	NA	NA	<b>0.087</b>	<b>37.19</b>	< 0.035	NE	NE	NE
Pyrene	< 0.03	NA	< 0.03	NA	<b>0.053</b>	NA	<b>0.199</b>	NA	NA	<b>0.086</b>	<b>34.23</b>	< 0.03	890	5,800	272
Benzo(a)pyrene Equivalent <sup>a</sup>	0	NA	0	NA	<b>0.004</b>	NA	<b>0.168</b>	NA	NA	<b>0.013</b>	<b>19.162</b>	NA	2	3	10.2
<b>Polychlorinated Biphenyls (PCBs) reported in mg/kg</b>															
PCB-1260	NA	NA	NA	NA	NA	<b>0.258</b>	NA	NA	NA	NA	NA	NA	NE	NE	NE
Total PCBs	NA	NA	NA	NA	NA	<b>0.258</b>	NA	NA	NA	NA	NA	NA	1.2	8	2.1
<b>Explosives reported in mg/kg</b>															
<i>No samples from the East Acid Area and Oleum Plant were run for explosive compounds.</i>															
<b>Diphenylamine (DPA) and Aniline reported in mg/kg</b>															
Aniline	< 0.8	NA	< 0.8	NA	< 0.8	NA	< 0.8	NA	NA	< 0.8	< 8	< 0.8	NE	NE	NE
Diphenylamine	< 0.054	NA	< 0.054	NA	< 0.054	NA	< 0.054	NA	NA	< 0.054	< 0.54	< 0.054	NE	NE	1.6
<b>Metals reported in mg/kg</b>															
Arsenic	<b>2.396</b>	<b>0.871</b>	<b>0.782</b>	<b>1.21</b>	<b>1.842</b>	<b>2.303</b>	<b>2.396</b>	<b>1.623</b>	<b>3.062</b>	<b>1.79</b>	<b>1.297</b>	<b>1.58</b>	5	20	15.1
Barium	<b>48.7</b>	<b>12.84</b>	<b>20.96</b>	<b>18.1</b>	<b>28.72</b>	<b>38.33</b>	<b>37.32</b>	<b>36.51</b>	<b>19.46</b>	<b>35.71</b>	<b>47.76</b>	<b>32.68</b>	1,200	18,000	842
Cadmium	< 0.024	<b>0.045</b>	<b>0.034</b>	<b>0.066</b>	<b>0.028</b>	<b>0.116</b>	<b>0.196</b>	<b>0.205</b>	<b>47.6</b>	< 0.025	< 0.025	<b>0.034</b>	25	200	4.4
Chromium	<b>5.14</b>	<b>6.36</b>	<b>5.1</b>	<b>8.33</b>	<b>12.3</b>	<b>10.3</b>	<b>13.9</b>	<b>10.5</b>	<b>37.9</b>	<b>16.1</b>	<b>11.1</b>	<b>19.7</b>	44,000 <sup>b</sup>	100,000 <sup>b</sup>	1,000,000 <sup>b</sup>
Lead	<b>10.4</b>	<b>3.23</b>	<b>1.77</b>	<b>19.3</b>	<b>59.1</b>	<b>13</b>	<b>26</b>	<b>17.5</b>	<b>175</b>	<b>2.65</b>	<b>8,090</b>	<b>2.66</b>	300	700	525
Mercury	<b>0.02</b>	<b>1.2</b>	< 0.02	< 0.02	< 0.02	<b>0.05</b>	<b>0.1</b>	< 0.02	<b>0.02</b>	< 0.02	<b>0.08</b>	< 0.02	0.5	1.5	1.6
Selenium	< 0.12	< 0.122	< 0.121	< 0.12	< 0.122	<b>0.152</b>	< 0.123	< 0.117	< 0.121	< 0.125	< 0.123	< 0.123	160	1,300	1.5
Silver	<b>0.087</b>	<b>0.029</b>	<b>0.023</b>	<b>0.046</b>	<b>0.047</b>	<b>0.052</b>	<b>0.092</b>	<b>0.031</b>	<b>0.041</b>	<b>0.032</b>	<b>0.395</b>	<b>0.038</b>	160	1,300	3.9
<b>Asbestos reported in percent</b>															
Asbestos	ND	NA	NA	ND	NA	ND	NA	ND	NA	NA	ND	NA	NE	NE	NE

**Notes:**

mg/kg = Milligrams per kilogram.

NA = Not analyzed for this parameter.

ND = Not detected.

NE = Not established.

< 0.025 = Compound not detected at or above the listed value.

a = Benzo(a)pyrene (BaP) equivalent is a calculated value based on the weighted concentration and toxicity of the following compounds:

benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene.

<sup>b</sup> = No SRV or SLV is established for "total chromium"; the SRV/SLV listed is for chromium III and has been used because analysis of representative samples did not detect chromium VI (hexavalent chromium).