

DMR Summary Report

Cliffs Erie - Hoyt Lakes Mining Area (MN0042536)

First DMR in Delta: 7/1999

Surface Discharge Station SD008 (Pit 2W dewatering pipe outfall 070)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Bicarbonates (HCO ₃)	mg/L	SingleVal	315	326	297	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	295	288	313	305.667
Chloride, Total	mg/L	SingleVal	38.1	37.1	36.6	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	29.8	32	32	34.267
Flow	MG	CalMoTot	175.87	162.9	170.1	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	120	150	156	155.812
Flow	mgd	CalMoMax	6	5.74	5.75	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	5.6	5.6	5.55	5.707
Hardness, Carbonate (as CaCO ₃)	mg/L	SingleVal	323	326	331	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	295	288	318	313.5
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg			.1			NoDis			NoDis			<.1	0.1
Iron, Dissolved (as Fe)	2.0 mg/L	CalMoMax			.1			NoDis			NoDis			<.1	0.1
Mercury, Total (as Hg)	ng/L	SingleVal	<.18	.31	.2	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	<.19	.31	.26	0.27
pH	8.5 SU	InstantMax			8.3			NoDis			NoDis			8.4	8.35
pH	6.5 SU	InstantMin			8.3			NoDis			NoDis			8.4	8.35
Solids, Total Dissolved (TDS)	mg/L	SingleVal	482	513	568	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	487	524	511	514.167
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg			<1			NoDis			NoDis			<1	
Solids, Total Suspended (TSS)	30 mg/L	CalMoMax			<1			NoDis			NoDis			<1	
Specific Conductance, Field	umh/cm	SingleVal	873	891	871	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	808	818	837	849.667
Sulfate, Total (as SO ₄)	mg/L	SingleVal	134	133	132	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	113	116	115	123.833

Surface Discharge Station SD009 (Pit 2W dewatering pipe outfall 080)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Bicarbonates (HCO ₃)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Chloride, Total	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Flow	MG	CalMoTot	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Flow	mgd	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Hardness, Carbonate (as CaCO ₃)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Iron, Dissolved (as Fe)	2.0 mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Mercury, Total (as Hg)	ng/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
pH	8.5 SU	InstantMax			NoDis			NoDis			NoDis			NoDis	
pH	6.5 SU	InstantMin			NoDis			NoDis			NoDis			NoDis	
Solids, Total Dissolved (TDS)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Solids, Total Suspended (TSS)	30 mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Specific Conductance, Field	umh/cm	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	

Note: a limit in the Limit and Units column which is demarcated by asterisks is an Intervention limit, not a hard, violation-causing limit.

DMR Summary Report

Cliffs Erie - Hoyt Lakes Mining Area (MN0042536)

First DMR in Delta: 7/1999

Surface Discharge Station SD009 (Pit 2W dewatering pipe outfall 080)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Sulfate, Total (as SO4)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	

Surface Discharge Station SD010 (Pits 2/2E/3 dewatering pipe outfall 090)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Arsenic, Total (as As)	ug/L	SingleVal			NoDis			NoDis			NoDis			NoDis	
Bicarbonates (HCO3)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Chloride, Total	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Cobalt, Total (as Co)	ug/L	SingleVal			NoDis			NoDis			NoDis			NoDis	
Fibers, Ambiguous	MF/L	SingleVal				NoDis								NoDis	
Fibers, Amphibole	MF/L	SingleVal				NoDis								NoDis	
Fibers, Chrysotile	MF/L	SingleVal				NoDis								NoDis	
Fibers, Non-Amphibole Non Chrysotile	MF/L	SingleVal				NoDis								NoDis	
Fibers, Total	MF/L	SingleVal				NoDis								NoDis	
Flow	MG	CalMoTot	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Flow	mgd	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Hardness, Carbonate (as CaCo3)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Iron, Dissolved (as Fe)	2.0 mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Mercury, Total (as Hg)	ng/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
pH	8.5 SU	InstantMax			NoDis			NoDis			NoDis			NoDis	
pH	6.5 SU	InstantMin			NoDis			NoDis			NoDis			NoDis	
Solids, Total Dissolved (TDS)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Solids, Total Suspended (TSS)	30 mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Specific Conductance, Field	umh/cm	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Sulfate, Total (as SO4)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Temperature Difference Between Sample & Reference Point in F	0 Deg F	InstantMax			NoDis			NoDis			NoDis			NoDis	
Temperature Difference Between Sample & Reference Point in F	0 Deg F	InstantMax			NoDis			NoDis			NoDis			NoDis	
Temperature, Water (C)	Deg C	CalMoMax			NoDis			NoDis			NoDis			NoDis	

Note: a limit in the Limit and Units column which is demarcated by asterisks is an Intervention limit, not a hard, violation-causing limit.

Cliffs Erie - Hoyt Lakes Mining Area (MN0042536)

First DMR in Delta: 7/1999

Surface Discharge Station SD011 (Pits 2/2E/3 dewatering pipe outfall 100)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Arsenic, Total (as As)	ug/L	SingleVal			NoDis			NoDis			NoDis			NoDis	
Bicarbonates (HCO3)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Chloride, Total	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Cobalt, Total (as Co)	ug/L	SingleVal			NoDis			NoDis			NoDis			NoDis	
Fibers, Ambiguous	MF/L	SingleVal				NoDis								NoDis	
Fibers, Amphibole	MF/L	SingleVal				NoDis								NoDis	
Fibers, Chrysotile	MF/L	SingleVal				NoDis								NoDis	
Fibers, Non-Amphibole Non Chrysotile	MF/L	SingleVal				NoDis								NoDis	
Fibers, Total	MF/L	SingleVal				NoDis								NoDis	
Flow	MG	CalMoTot	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Flow	mgd	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Hardness, Carbonate (as CaCo3)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Iron, Dissolved (as Fe)	2.0 mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Mercury, Total (as Hg)	ng/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
pH	8.5 SU	InstantMax			NoDis			NoDis			NoDis			NoDis	
pH	6.5 SU	InstantMin			NoDis			NoDis			NoDis			NoDis	
Solids, Total Dissolved (TDS)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Solids, Total Suspended (TSS)	30 mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Specific Conductance, Field	umh/cm	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Sulfate, Total (as SO4)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Temperature Difference Between Sample & Reference Point in F	0 Deg F	InstantMax			NoDis			NoDis			NoDis			NoDis	
Temperature Difference Between Sample & Reference Point in F	0 Deg F	InstantMax			NoDis			NoDis			NoDis			NoDis	
Temperature, Water (C)	Deg C	CalMoMax			NoDis			NoDis			NoDis			NoDis	

Surface Discharge Station SD012 (Pit 3 overflow channel outfall 110)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Arsenic, Total (as As)	ug/L	SingleVal			4.6			5.7			5.9			5.2	5.35
Bicarbonates (HCO3)	mg/L	SingleVal	184	180	171	164	181	168	167	167	169	176	180	187	174.5
Chloride, Total	mg/L	SingleVal	1.7	1.3	1.3	1.1	1	.93	.79	1.1	1.1	.96	1.1	1.2	1.132
Cobalt, Total (as Co)	ug/L	SingleVal			<.11			.049			.14			.061	0.083
Fibers, Ambiguous	MF/L	SingleVal				<.2								.37	0.37

Note: a limit in the Limit and Units column which is demarcated by asterisks is an Intervention limit, not a hard, violation-causing limit.

Cliffs Erie - Hoyt Lakes Mining Area (MN0042536)

First DMR in Delta: 7/1999

Surface Discharge Station SD012 (Pit 3 overflow channel outfall 110)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Fibers, Amphibole	MF/L	SingleVal				<.2								<.19	
Fibers, Chrysotile	MF/L	SingleVal				<.2								<.19	
Fibers, Non-Amphibole Non Chrysotile	MF/L	SingleVal				<.2								<.19	
Fibers, Total	MF/L	SingleVal				<.2								.37	0.37
Flow	MG	CalMoTot	2.8	.92	.2	14	61	87	23	4.2	15	1.1	1.3	.08	17.55
Flow	mgd	CalMoMax	.091	.033	.0066	.48	2	2.9	.75	.13	.5	.037	.044	.0026	0.581
Hardness, Carbonate (as CaCo3)	mg/L	SingleVal	184	180	171	164	181	168	168	167	170	176	180	192	175.083
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg			<.1			<.1			<.1			<.1	
Iron, Dissolved (as Fe)	2.0 mg/L	CalMoMax			<.1			<.1			<.1			<.1	
Mercury, Total (as Hg)	ng/L	SingleVal	1	<.18	<.19	.24	.33	.51	.214	.427	.442	.215	.245	.579	0.42
pH	8.5 SU	InstantMax			7.7			8.2			8.3			8.4	8.15
pH	6.5 SU	InstantMin			7.7			8.2			8.3			8.4	8.15
Solids, Total Dissolved (TDS)	mg/L	SingleVal	254	248	269	300	276	238	250	261	293	281	316	297	273.583
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg			<1			2			1			2	1.667
Solids, Total Suspended (TSS)	30 mg/L	CalMoMax			<1			2			1			2	1.667
Specific Conductance, Field	umh/cm	CalMoMax	470	481	495	465	457	440	448	450	463	455	454	480	463.167
Sulfate, Total (as SO4)	mg/L	SingleVal	80.2	79.6	77.8	74.4	69.2	65.6	65.8	71.7	65.8	67.8	68.4	70.4	71.392
Temperature Difference Between Sample & Reference Point in F	0 Deg F	InstantMax			7.2			-5.6			5.7			0.0	1.825
Temperature Difference Between Sample & Reference Point in F	0 Deg F	InstantMax			7.2			-5.6			5.7			0.0	1.825
Temperature, Water (C)	Deg C	CalMoMax			4.8			15.7			21.3			0.0	10.45

Surface Discharge Station SD013 (Pit 2W dewatering pipe outfall 120)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Arsenic, Total (as As)	ug/L	SingleVal			NoDis			NoDis			NoDis			NoDis	
Bicarbonates (HCO3)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Chloride, Total	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Cobalt, Total (as Co)	ug/L	SingleVal			NoDis			NoDis			NoDis			NoDis	
Flow	MG	CalMoTot	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Flow	mgd	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Hardness, Carbonate (as CaCo3)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Iron, Dissolved (as Fe)	2.0 mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Mercury, Total (as Hg)	ng/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	

Note: a limit in the Limit and Units column which is demarcated by asterisks is an Intervention limit, not a hard, violation-causing limit.

DMR Summary Report

Cliffs Erie - Hoyt Lakes Mining Area (MN0042536)

First DMR in Delta: 7/1999

Surface Discharge Station SD013 (Pit 2W dewatering pipe outfall 120)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
pH	8.5 SU	InstantMax			NoDis			NoDis			NoDis			NoDis	
pH	6.5 SU	InstantMin			NoDis			NoDis			NoDis			NoDis	
Solids, Total Dissolved (TDS)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Solids, Total Suspended (TSS)	30 mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Specific Conductance, Field	umh/cm	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Sulfate, Total (as SO4)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	

Surface Discharge Station SD026 (2nd Creek headwaters culvert outfall 251)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
1,2-Dichloroethylene (cis-)	ug/L	SingleVal									<.13				
Benzene	ug/L	SingleVal									<.15				
Bicarbonates (HCO3)	mg/L	SingleVal	397	433	389	211	181	217	260	360	348	398	391	442	335.583
Boron, Total (as B)	ug/L	SingleVal			159			134			132			140	141.25
Calcium, Total (as Ca)	mg/L	SingleVal									77.4				77.4
Cations, Total	meq/L	SingleVal									10.7				10.7
Chloride, Total	mg/L	SingleVal	11.6	11.3	11.2	7.6	5.9	5	3.8	6.3	7.4	8.9	10.3	9.2	8.208
Chloroform	ug/L	SingleVal									<.16				
Cobalt, Total (as Co)	ug/L	SingleVal			.5			.25			.22			.27	0.31
Ethylbenzene	ug/L	SingleVal									<.16				
Flow	MG	CalMoTot	.47	2.7	12	9	11	9	4.4	1.4	2.7	1.9	1.5	1.6	4.806
Flow	mgd	CalMoMax	.015	.095	.38	.3	.35	.3	.14	.045	.09	.062	.051	.051	0.157
Fluoride, Total (as F)	mg/L	SingleVal			.82			.41			.67			.83	0.683
Hardness, Carbonate (as CaCo3)	mg/L	SingleVal	184	433	389	211	181	217	260	360	348	398	391	442	317.833
Magnesium, Total (as Mg)	mg/L	SingleVal									70.8				70.8
Manganese, Total (as Mn)	ug/L	SingleVal			981			550			924			936	847.75
Mercury, Total (as Hg)	ng/L	SingleVal				.95		.32		.907		.19			0.592
Molybdenum, Total (as Mo)	ug/L	SingleVal			9.9			4.9			7.7			7.1	7.4
Organics, Diesel Range as diesel, Total	ug/L	SingleVal	61	<19	28	270	99	140	160	200	.12	50	71	.048	98.106
pH	8.5 SU	InstantMax	7.7	7.9	7.7	7.5	7.3	7.4	7.5	7.6	7.6	7.9	8	7.2	7.608
pH	6.5 SU	InstantMin	7.7	7.4	7.7	7.5	7.3	7.4	7.5	7.6	7.6	7.9	8	7.2	7.567
Potassium, Total (as K)	mg/L	SingleVal									4.3				4.3
Sodium, % Total Cations in meq/L	%	SingleVal									12.4				12.4
Sodium, Total (as Na)	mg/L	SingleVal									21.5				21.5

Note: a limit in the Limit and Units column which is demarcated by asterisks is an Intervention limit, not a hard, violation-causing limit.

Cliffs Erie - Hoyt Lakes Mining Area (MN0042536)

First DMR in Delta: 7/1999

Surface Discharge Station SD026 (2nd Creek headwaters culvert outfall 251)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Solids, Total Dissolved (TDS)	mg/L	SingleVal	478	706	708	426	350	368	460	572	639	680	710	741	569.833
Solids, Total Suspended (TSS)	30 mg/L	CalMoAvg	6	3	3	4	2	3	2	5	1	4	2	3	3.167
Solids, Total Suspended (TSS)	60 mg/L	CalMoMax	6	3	3	4	2	3	2	5	1	4	2	3	3.167
Specific Conductance, Field	1000 umh/cm	CalMoAvg	1070	1130	1040	664	550	619	679	926	918	1040	1010	980	885.5
Specific Conductance, Field	umh/cm	CalMoMax	1080	1150	1130	664	550	619	679	926	918	1050	1010	1090	905.5
Sulfate, Total (as SO4)	mg/L	SingleVal	226	239	227	115	105	101	104	140	175	196	194	195	168.083
Tetrachloroethylene (Perchloroethylene)	ug/L	SingleVal									<.16				
Toluene	ug/L	SingleVal									.11				0.11
Trichloroethylene (TCE or Trichloroethene)	ug/L	SingleVal									<.091				
Xylenes, Total	ug/L	SingleVal									<.4				

Surface Discharge Station SD030 (Pit 5S overflow channel [unauthorized])

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Arsenic, Total (as As)	ug/L	SingleVal	2.6	2.8	2.8	3.4	2.7	3.5	3.5	3.3	4.4	3.4	3	2.9	3.192
Bicarbonates (HCO3)	mg/L	SingleVal	180	178	162	142	155	149	148	155	151	168	174	186	162.333
Chloride, Total	mg/L	SingleVal	2.3	2.4	2.2	2.5	1.3	1.4	1.2	1.7	1.4	1.4	1.7	2.4	1.825
Cobalt, Total (as Co)	ug/L	SingleVal	<.1	<.1	<.11	.21	.052	.098	.07	.051	<.011	.023	.07	.024	0.075
Fibers, Ambiguous	MF/L	SingleVal				.2								<.19	0.2
Fibers, Amphibole	MF/L	SingleVal				<.2								<.19	
Fibers, Chrysotile	MF/L	SingleVal				<.2								<.19	
Fibers, Non-Amphibole Non Chrysotile	MF/L	SingleVal				<.2								<.19	
Fibers, Total	MF/L	SingleVal				.2								<.19	0.2
Flow	0 MG	CalMoTot	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Flow	mgd	CalMoMax	0	0	0	0	0	0	0	0	0	0	0	0	0.0
Hardness, Carbonate (as CaCo3)	mg/L	SingleVal	180	178	162	142	155	149	148	155	153	168	174	186	162.5
Iron, Dissolved (as Fe)	mg/L	SingleVal	<.025	<.025	<.1	<.1	<.1	<.1	<.1	<.025	<.1	<.1	<.1	<.1	
Mercury, Total (as Hg)	ng/L	SingleVal	<.18	.34	.34	2.8	.6	1	.396	.844	.42	.327	.413	.396	0.716
pH	SU	InstantMax	8.2	8.4	7.6	8.2	8.4	8.2	8.3	8.1	8.3	8.2	8.4	8.3	8.217
pH	SU	InstantMin	8.2	8.4	7.6	8.2	8.4	8.2	8.3	8.1	8.3	8.2	8.4	8.3	8.217
Solids, Total Dissolved (TDS)	mg/L	SingleVal	268	297	317	311	284	266	291	270	297	300	330	333	297.0
Solids, Total Suspended (TSS)	mg/L	SingleVal		<1		2		3		1.2		2		<1	2.05
Specific Conductance, Field	umh/cm	SingleVal	491	478	475	477	441	430	432	436	442	454	457	549	463.5
Sulfate, Total (as SO4)	mg/L	SingleVal	93.3	95.5	88.1	89.2	73.9	73.5	73.9	78.1	74.7	77	79.6	86.3	81.925

Note: a limit in the Limit and Units column which is demarcated by asterisks is an Intervention limit, not a hard, violation-causing limit.

DMR Summary Report

Cliffs Erie - Hoyt Lakes Mining Area (MN0042536)

First DMR in Delta: 7/1999

Surface Discharge Station SD030 (Pit 5S overflow channel [unauthorized])

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Temperature Difference Between Sample & Reference Point in F	Deg F	InstantMax			2	1.4	.1	.9	3.1	7.2	5.2	8.1	6.1		3.789
Temperature Difference Between Sample & Reference Point in F	Deg F	InstantMax			2	1.4	.1	.9	3.1	7.2	5.2	8.1	6.1		3.789
Temperature, Water (C)	Deg C	InstantMax			1.9	.8	6.8	19.3	20.6	23.4	21	11.1	7		12.433
Turbidity	NTU	SingleVal	.26	.5	.61	2.6	.35	1.5	.44	.57	.44	.5	.66	.43	0.738

Surface Discharge Station SD033 (Rail Culvert NE of Pit 5N Loadout Pocket)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Bicarbonates (HCO3)	mg/L	SingleVal	372	315	294	248	284	313	331	329	327	333	334	328	317.333
Chloride, Total	mg/L	SingleVal	4.8	4.1	3.9	3.6	2.5	2.8	3.1	3.6	<5	3.1	3.5	4	3.545
Flow	MG	CalMoTot		12		24		93		13		10		9.3	26.883
Flow	mgd	CalMoMax		.44		.79		3.1		.41		.33		.3	0.895
Hardness, Carbonate (as CaCo3)	mg/L	SingleVal	327	315	294	248	284	313	331	329	327	333	334	328	313.583
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg		<.1		.1		.1		.1		.1		.1	0.1
Iron, Dissolved (as Fe)	2.0 mg/L	CalMoMax		<.1		.1		.1		.1		.1		.1	0.1
Mercury, Total (as Hg)	ng/L	SingleVal	.46	.65	.53	.76	2.1	1.1	.995	1.51	.706	.598	.582	.379	0.864
pH	8.5 SU	InstantMax		8.1		7.5		7.8		7.7		7.9		8	7.833
pH	6.5 SU	InstantMin		8.1		7.5		7.8		7.7		7.9		8	7.833
Silver, Total (as Ag)	ug/L	SingleVal			<.1			<.1			<.1			<.1	
Solids, Total Dissolved (TDS)	mg/L	SingleVal	1750	1810	1990	1750	1370	1470	1730	1800	1740	1720	1830	1750	1,725.833
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg		2		1		2		11		2		3	3.5
Solids, Total Suspended (TSS)	30 mg/L	CalMoMax		2		1		2		11		2		3	3.5
Specific Conductance, Field	umh/cm	SingleVal	2360	2320	2320	2150	1870	1887	2210	2330	2170	2210	2230	2160	2,184.75
Sulfate, Total (as SO4)	mg/L	SingleVal	1190	1190	1160	1050	866	926	1040	1110	1010	1050	1080	1040	1,059.333
Turbidity	25 NTU	CalMoAvg		1		1.6		1.4		9.4		1.5		.57	2.578
Turbidity	NTU	CalMoMax		1		1.6		1.4		9.4		1.5		.57	2.578

Surface Water Station SW002 (Wyman Ck, DMIRR grade at CR 666, stn 702)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Fibers, Ambiguous	MF/L	SingleVal				<.2								<.19	
Fibers, Amphibole	MF/L	SingleVal				<.2								<.19	
Fibers, Chrysotile	MF/L	SingleVal				<.2								<.19	

Note: a limit in the Limit and Units column which is demarcated by asterisks is an Intervention limit, not a hard, violation-causing limit.

DMR Summary Report

Cliffs Erie - Hoyt Lakes Mining Area (MN0042536)

First DMR in Delta: 7/1999

Surface Water Station SW002 (Wyman Ck, DMIRR grade at CR 666, stn 702)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Fibers, Non-Amphibole Non Chrysotile	MF/L	SingleVal				<.2								<.19	
Fibers, Total	MF/L	SingleVal				<.2								<.19	
Flow, Stream, Instantaneous	cfs	SingleVal				.84								2	1.42
Solids, Total Suspended (TSS)	mg/L	SingleVal				7								4	5.5
Turbidity	NTU	SingleVal				11.8								8.4	10.1

Surface Water Station SW006 (Untreated HL city water supply, stn 700)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Fibers, Ambiguous	MF/L	SingleVal				<.2								<.19	
Fibers, Amphibole	MF/L	SingleVal				<.2								<.19	
Fibers, Chrysotile	MF/L	SingleVal				<.2								<.19	
Fibers, Non-Amphibole Non Chrysotile	MF/L	SingleVal				<.2								<.19	
Fibers, Total	MF/L	SingleVal				<.2								<.19	
Flow	mgd	SingleVal				0								0	0.0
Solids, Total Suspended (TSS)	mg/L	SingleVal				3								2	2.5
Turbidity	NTU	SingleVal				2.2								2.1	2.15

Surface Water Station SW007 (E Branch Wyman Creek at FR 117)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Flow, Stream, Instantaneous	cfs	CalMoAvg	.8	.06	6.2	35	35	27	7.3	2.5	4.2	4.8	3.1	.045	10.5
Flow, Stream, Instantaneous	cfs	CalMoMax	.8	.06	6.2	35	35	27	7.3	2.5	4.2	4.8	3.1	.045	10.5
Temperature, Water (C)	Deg C	CalMoAvg	0.0	.4	.8	0.0	6.8	18.8	18.9	19.4	18.1	6.6	3.6	0	7.783
Temperature, Water (C)	Deg C	CalMoMax	0.0	.4	.8	0.0	6.8	18.8	18.9	19.4	18.1	6.6	3.6	0	7.783

Waste Stream Station WS001 (Knox Refueling Area pipe station 801)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Flow	MG	CalMoTot	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
Flow	mgd	CalMoMax	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
Organics, Diesel Range as diesel, Total	ug/L	CalMoMax	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
Solids, Total Suspended (TSS)	mg/L	CalMoMax	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	

Note: a limit in the Limit and Units column which is demarcated by asterisks is an Intervention limit, not a hard, violation-causing limit.

Cliffs Erie - Hoyt Lakes Mining Area (MN0042536)

First DMR in Delta: 7/1999

Waste Stream Station WS001 (Knox Refueling Area pipe station 801)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Water Level At Sample Collection Time	feet	CalMoMax	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	

Waste Stream Station WS002 (Ligninsulfonate as applied)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
2,3,7,8,-Tetrachlorodibenzofuran	ug/L	SingleVal												NoFlo	
2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)	ug/L	SingleVal												NoFlo	
Bicarbonates (HCO3)	mg/L	SingleVal												NoFlo	
BOD, Carbonaceous 05 Day (20 Deg C)	mg/L	SingleVal												NoFlo	
Calcium, Total (as Ca)	mg/L	SingleVal												NoFlo	
Chloride, Total	mg/L	SingleVal												NoFlo	
COD (Chemical Oxygen Demand)	mg/L	SingleVal												NoFlo	
Flow	0.1 MG	CalYrMax												NoFlo	
Magnesium, Total (as Mg)	mg/L	SingleVal												NoFlo	
Mercury, Total (as Hg)	ug/L	SingleVal												NoFlo	
Nitrogen, Ammonia, Total (as N)	mg/L	SingleVal												NoFlo	
pH, Field	SU	SingleVal												NoFlo	
Phenols, Total	ug/L	SingleVal												NoFlo	
Phosphorus, Total (as P)	mg/L	SingleVal												NoFlo	
Sodium, Total (as Na)	mg/L	SingleVal												NoFlo	
Solids, Total Dissolved (TDS)	mg/L	SingleVal												NoFlo	
Specific Conductance, Field	umh/cm	SingleVal												NoFlo	
Sulfate, Total (as SO4)	mg/L	SingleVal												NoFlo	
Zinc, Total (as Zn)	mg/L	SingleVal												NoFlo	

Waste Stream Station WS003 (Coherex as applied)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
BOD, Carbonaceous 05 Day (20 Deg C)	mg/L	SingleVal												NoFlo	
Chloride, Total	mg/L	SingleVal												NoFlo	
COD (Chemical Oxygen Demand)	mg/L	SingleVal												NoFlo	
Flow	0.1 MG	CalYrMax												NoFlo	
Mercury, Total (as Hg)	ug/L	SingleVal												NoFlo	
Methylene Blue Active Substances (Surfactants)	mg/L	SingleVal												NoFlo	

Note: a limit in the Limit and Units column which is demarcated by asterisks is an Intervention limit, not a hard, violation-causing limit.

DMR Summary Report

Cliffs Erie - Hoyt Lakes Mining Area (MN0042536)

First DMR in Delta: 7/1999

Waste Stream Station WS003 (Coherex as applied)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/14</u>	<u>2/14</u>	<u>3/14</u>	<u>4/14</u>	<u>5/14</u>	<u>6/14</u>	<u>7/14</u>	<u>8/14</u>	<u>9/14</u>	<u>10/14</u>	<u>11/14</u>	<u>12/14</u>	<u>Ave</u>
Naphthalene	ug/L	SingleVal												NoFlo	
Organics, Diesel Range as diesel, Total	ug/L	SingleVal												NoFlo	
Phosphorus, Total (as P)	mg/L	SingleVal												NoFlo	
Pyrene	ug/L	SingleVal												NoFlo	
Solids, Total Dissolved (TDS)	mg/L	SingleVal												NoFlo	
Specific Conductance, Field	umh/cm	SingleVal												NoFlo	
Sulfate, Total (as SO4)	mg/L	SingleVal												NoFlo	

Note: a limit in the Limit and Units column which is demarcated by asterisks is an Intervention limit, not a hard, violation-causing limit.