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)

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
Bicarbonates (HCO3)	mg/L	SingleVal	336	334	321	32.3	322	284	NoDis	NoDis	NoDis	NoDis	297	298	**278.038**
Chloride, Total	mg/L	SingleVal	38.8	38.6	38.8	39.3	38.1	34.3	NoDis	NoDis	NoDis	NoDis	35.1	34.5	**37.188**
Flow	MG	CalMoTot	159.4	151.8	154.9	155.9	159.5	107	NoDis	NoDis	NoDis	NoDis	69.05	177.8	**141.919**
Flow	mgd	CalMoMax	5.17	5.4	5.2	5.25	5.27	5.73	NoDis	NoDis	NoDis	NoDis	5.8	5.985	**5.476**
Hardness, Carbonate (as CaCo3)	mg/L	SingleVal	338	334	461	323	325	305	NoDis	NoDis	NoDis	NoDis	315	321	**340.25**
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg			<			<.1			NoDis			<.1	
Iron, Dissolved (as Fe)	2.0 mg/L	CalMoMax			<			<.1			NoDis			<.1	
Mercury, Total (as Hg)	ng/L	SingleVal	<.5	<.5	.5	.19	.82	.43	NoDis	NoDis	NoDis	NoDis	.31	.4	**0.442**
pH	8.5 SU	InstantMax			7.6			8			NoDis			8.5	**8.033**
pH	6.5 SU	InstantMin			7.6			8			NoDis			8.5	**8.033**
Solids, Total Dissolved (TDS)	mg/L	SingleVal	537	501	535	522	563	515	NoDis	NoDis	NoDis	NoDis	511	479	**520.375**
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg			1			<1			NoDis			1	**1.0**
Solids, Total Suspended (TSS)	30 mg/L	CalMoMax			1			<1			NoDis			1	**1.0**
Specific Conductance, Field	umh/cm	SingleVal	902	896	886	913	890	838	NoDis	NoDis	NoDis	NoDis	859	874	**882.25**
Sulfate, Total (as SO4)	mg/L	SingleVal	127	127	129	130	126	117	NoDis	NoDis	NoDis	NoDis	123	120	**124.875**

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

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
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	
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	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.

Cliffs Erie - Hoyt Lakes Mining Area (MN0042536)

First DMR in Delta: 7/1999

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

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
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)

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
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)

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
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)

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
Arsenic, Total (as As)	ug/L	SingleVal			5.6			4.6			5.5			4.6	**5.075**
Bicarbonates (HCO3)	mg/L	SingleVal	195	197	194	194	180	166	160	157	160	170	169	173	**176.25**
Chloride, Total	mg/L	SingleVal	1.6	1.5	1.4	1.6	1.3	1.2	1.1	1.1	1.5	1.5	.94	1.2	**1.328**
Cobalt, Total (as Co)	ug/L	SingleVal			.014			<.1			<.1			<.1	**0.014**
Fibers, Ambiguous	MF/L	SingleVal				<.19								<.12	

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)

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
Fibers, Amphibole	MF/L	SingleVal				<.19								<.12	
Fibers, Chrysotile	MF/L	SingleVal				<.19								<.12	
Fibers, Non-Amphibole Non Chrysotile	MF/L	SingleVal				<.19								<.12	
Fibers, Total	MF/L	SingleVal				<.19								<.12	
Flow	MG	CalMoTot	1.8	1	1	6.6	47	39.4	60.6	23.3	32	5.7	6.1	4.9	**19.117**
Flow	mgd	CalMoMax	.06	.03	.03	.22	1.52	1.31	1.96	.75	1.1	.18	.2	.16	**0.627**
Hardness, Carbonate (as CaCo3)	mg/L	SingleVal	195	197	194	194	183	173	165	164	164	171	176	181	**179.75**
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg			0			.2			<.1			<.1	**0.1**
Iron, Dissolved (as Fe)	2.0 mg/L	CalMoMax			0			.2			<.1			<.1	**0.1**
Mercury, Total (as Hg)	ng/L	SingleVal	<.5	<.5	.056	.2	.41	.44	.45	.4	.41	.44	.77	.19	**0.377**
pH	8.5 SU	InstantMax			8			7.7			8.2			7.4	**7.825**
pH	6.5 SU	InstantMin			8			7.7			8.2			7.4	**7.825**
Solids, Total Dissolved (TDS)	mg/L	SingleVal	286	269	300	304	295	264	254	267	275	244	268	286	**276.0**
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg			<1			2			3			<1	**2.5**
Solids, Total Suspended (TSS)	30 mg/L	CalMoMax			<1			2			3			<1	**2.5**
Specific Conductance, Field	umh/cm	CalMoMax	427	489	494	503	499	454	450	456	450	453	459	494	**469.0**
Sulfate, Total (as SO4)	mg/L	SingleVal	80.8	81.5	80.8	81.5	77.2	70.5	67.3	72	72.4	74.7	75	72	**75.475**
Temperature Difference Between Sample & Reference Point in F	0 Deg F	InstantMax			.6			-2			6.1			4.9	**2.4**
Temperature Difference Between Sample & Reference Point in F	0 Deg F	InstantMax			.6			-2			6.1			4.9	**2.4**
Temperature, Water (C)	Deg C	CalMoMax			.4			14.3			20.4			2.7	**9.45**

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

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
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.

Cliffs Erie - Hoyt Lakes Mining Area (MN0042536)

First DMR in Delta: 7/1999

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

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
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)

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
1,2-Dichloroethylene (cis-)	ug/L	SingleVal									<.23				
Benzene	ug/L	SingleVal									<.24				
Bicarbonates (HCO3)	mg/L	SingleVal	449	478	447	344	210	214	233	280	315	351	336	351	**334.0**
Boron, Total (as B)	ug/L	SingleVal			166			121			143			117	**136.75**
Calcium, Total (as Ca)	mg/L	SingleVal									72.2				**72.2**
Cations, Total	meq/L	SingleVal									10.1				**10.1**
Chloride, Total	mg/L	SingleVal	13.6	12.9	12.1	12.1	9.8	8.1	6	7.3	9.4	10.6	11.4	10.2	**10.292**
Chloroform	ug/L	SingleVal									<.27				
Cobalt, Total (as Co)	ug/L	SingleVal			.76			.19			.29			.39	**0.408**
Ethylbenzene	ug/L	SingleVal									<.24				
Flow	MG	CalMoTot	2.8	1.8	2.8	.3	10.6	12.4	8	1.8	4.4	4.7	2.4	.87	**4.406**
Flow	mgd	CalMoMax	.09	.06	.09	.01	.34	.41	.26	.06	.15	.15	.08	.028	**0.144**
Fluoride, Total (as F)	mg/L	SingleVal			1.1			.58			.72			.66	**0.765**
Hardness, Carbonate (as CaCo3)	mg/L	SingleVal	449	478	447	344	210	214	233	280	315	351	336	351	**334.0**
Magnesium, Total (as Mg)	mg/L	SingleVal									67.4				**67.4**
Manganese, Total (as Mn)	ug/L	SingleVal			1380			495			1010			1180	**1,016.25**
Mercury, Total (as Hg)	ng/L	SingleVal				.47		.38		.69		<.18			**0.513**
Molybdenum, Total (as Mo)	ug/L	SingleVal			14			5.1			8.4			7.7	**8.8**
Organics, Diesel Range as diesel, Total	ug/L	SingleVal	<100	<100	21	90	<35	55	33	29	61	<20	55	39	**47.875**
pH	8.5 SU	InstantMax	7.6	7.6	7.4	7.3	7.1	7.2	7.1	7.6	7.3	7.6	7.7	7.4	**7.408**
pH	6.5 SU	InstantMin	7.6	7.6	7.4	7.3	7.1	7.2	7.1	7.6	7.3	7.6	7.7	7.4	**7.408**
Potassium, Total (as K)	mg/L	SingleVal									4.9				**4.9**
Sodium, % Total Cations in meq/L	%	SingleVal									12.1				**12.1**
Sodium, Total (as Na)	mg/L	SingleVal									19.8				**19.8**

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)

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
Solids, Total Dissolved (TDS)	mg/L	SingleVal	780	748	748	594	395	419	428	485	593	595	583	633	**583.417**
Solids, Total Suspended (TSS)	30 mg/L	CalMoAvg	3	3	9	4	2	4	3	2	5	3	3	4	**3.75**
Solids, Total Suspended (TSS)	60 mg/L	CalMoMax	3	3	9	4	2	4	3	2	5	3	3	4	**3.75**
Specific Conductance, Field	1000 umh/cm	CalMoAvg	1173	1129	1110	925	621	630	660	766	822	967	890	984	**889.75**
Specific Conductance, Field	umh/cm	CalMoMax	1204	1139	1110	925	621	630	660	766	822	967	890	984	**893.167**
Sulfate, Total (as SO4)	mg/L	SingleVal	251	243	230	173	126	126	118	129	150	193	191	199	**177.417**
Tetrachloroethylene (Perchloroethylene)	ug/L	SingleVal									<.29				
Toluene	ug/L	SingleVal									<.23				
Trichloroethylene (TCE or Trichloroethene)	ug/L	SingleVal									<.12				
Xylenes, Total	ug/L	SingleVal									<.72				

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

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
Arsenic, Total (as As)	ug/L	SingleVal	4	3.9	3.4	3	2.9	3.2	3.1	3.7	3.5	3.7	3.2	2.9	**3.375**
Bicarbonates (HCO3)	mg/L	SingleVal	183	185	176	172	107	149	138	144	147	189	166	176	**161.0**
Chloride, Total	mg/L	SingleVal	2.3	2.3	2.2	2.1	1.2	1.7	1.5	1.8	1.8	1.9	1.5	1.8	**1.842**
Cobalt, Total (as Co)	ug/L	SingleVal	<.2	<.2	.014	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1	**0.014**
Fibers, Ambiguous	MF/L	SingleVal				<.19								<.12	
Fibers, Amphibole	MF/L	SingleVal				<.19								<.12	
Fibers, Chrysotile	MF/L	SingleVal				<.19								<.12	
Fibers, Non-Amphibole Non Chrysotile	MF/L	SingleVal				<.19								<.12	
Fibers, Total	MF/L	SingleVal				<.19								<.12	
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	183	185	176	172	107	150	144	147	150	195	170	181	**163.333**
Iron, Dissolved (as Fe)	mg/L	SingleVal	<.05	<.1	.0055	.0153	.0227	.021	.0203	.0219	.0192	.0187	.0311	.0231	**0.02**
Mercury, Total (as Hg)	ng/L	SingleVal	<.5	<.5	.056	<.5	.85	.47	.87	.58	.84	.55	.44	.39	**0.561**
pH	SU	InstantMax	8	7.7	7.3	7.4	7.2	8	8.2	8.3	8.2	8.3	8.3	8.2	**7.925**
pH	SU	InstantMin	8	7.7	7.3	7.4	7.2	8	8.2	8.3	8.2	8.3	8.3	8.2	**7.925**
Solids, Total Dissolved (TDS)	mg/L	SingleVal	304	326	321	312	185	251	272	256	312	257	282	315	**282.75**
Solids, Total Suspended (TSS)	mg/L	SingleVal		<1		2		4.8		<1		<1		1.2	**2.667**
Specific Conductance, Field	umh/cm	SingleVal	438	503	494	472	304	432	432	434	430	438	458	509	**445.333**
Sulfate, Total (as SO4)	mg/L	SingleVal	96.5	98.2	96.1	92.5	53.2	79.1	75	76.5	77.5	80.5	86.8	88.4	**83.358**

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 SD030 (Pit 5S overflow channel [unauthorized])

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
Temperature Difference Between Sample & Reference Point in F	Deg F	InstantMax			.9	1.3	-11.5	2	4.1	5.5	10.3	6.1	7.7		**2.933**
Temperature Difference Between Sample & Reference Point in F	Deg F	InstantMax			.9	1.3	-11.5	2	4.1	5.5	10.3	6.1	7.7		**2.933**
Temperature, Water (C)	Deg C	InstantMax			.5	.7	5.5	16.5	23	21.1	22.7	16.5	6.1		**12.511**
Turbidity	NTU	SingleVal	1.4	2.2	.3	.45	.6	1.4	.9	.3	.27	1.1	.41	.33	**0.805**

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

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
Bicarbonates (HCO3)	mg/L	SingleVal	346	328	336	323	247	312	332	354	335	342	355	322	**327.667**
Chloride, Total	mg/L	SingleVal	4.8	4.5	4.3	4.5	2.4	3.4	3.2	3.7	4.1	3.6	3.5	3.7	**3.808**
Flow	MG	CalMoTot		7.1		44.8		22.1		11.8		26		16	**21.3**
Flow	mgd	CalMoMax		.25		1.6		.74		.38		.84		.53	**0.723**
Hardness, Carbonate (as CaCo3)	mg/L	SingleVal	346	328	336	323	247	315	332	354	335	342	366	322	**328.833**
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg		<.1		0		0		<.1		<.1		.4	**0.133**
Iron, Dissolved (as Fe)	2.0 mg/L	CalMoMax		<.1		0		0		<.1		<.1		.4	**0.133**
Mercury, Total (as Hg)	ng/L	SingleVal	.63	<.5	.62	<.55	1.2	.97	1.3	1.2	.98	.96	1.7	.83	**1.039**
pH	8.5 SU	InstantMax		7.6		7		7.6		7.9		7.9		7.7	**7.617**
pH	6.5 SU	InstantMin		7.6		7		7.6		7.9		7.9		7.7	**7.617**
Silver, Total (as Ag)	ug/L	SingleVal			<.1			<.1			<.1			<.1	
Solids, Total Dissolved (TDS)	mg/L	SingleVal	1890	1960	1980	1790	1210	1680	1630	1810	1920	1850	1870	3770	**1,946.667**
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg		8		3		3		<1		4		7	**5.0**
Solids, Total Suspended (TSS)	30 mg/L	CalMoMax		8		3		3		<1		4		7	**5.0**
Specific Conductance, Field	umh/cm	SingleVal	2672	2359	2357	2270	1581	2120	2190	2340	2310	2160	2300	2300	**2,246.583**
Sulfate, Total (as SO4)	mg/L	SingleVal	1200	1230	1180	1150	717	993	957	1130	1140	1140	1130	1140	**1,092.25**
Turbidity	25 NTU	CalMoAvg		.75		.75		<1		.5		.32		3	**1.064**
Turbidity	NTU	CalMoMax		.75		.75		<1		.5		.32		3	**1.064**

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

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
Fibers, Ambiguous	MF/L	SingleVal				<.2								<.2	
Fibers, Amphibole	MF/L	SingleVal				<.2								<.2	
Fibers, Chrysotile	MF/L	SingleVal				<.2								<.2	

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)

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
Fibers, Non-Amphibole Non Chrysotile	MF/L	SingleVal				<.2								<.2	
Fibers, Total	MF/L	SingleVal				<.2								<.2	
Flow, Stream, Instantaneous	cfs	SingleVal				2.75								3.7	**3.225**
Solids, Total Suspended (TSS)	mg/L	SingleVal				3.3								<1.7	**3.3**
Turbidity	NTU	SingleVal				10								6.8	**8.4**

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

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
Fibers, Ambiguous	MF/L	SingleVal				<.49								<.2	
Fibers, Amphibole	MF/L	SingleVal				<.49								<.2	
Fibers, Chrysotile	MF/L	SingleVal				<.49								<.2	
Fibers, Non-Amphibole Non Chrysotile	MF/L	SingleVal				<.49								<.2	
Fibers, Total	MF/L	SingleVal				<.49								<.2	
Flow	mgd	SingleVal				0								0	**0.0**
Solids, Total Suspended (TSS)	mg/L	SingleVal				7								3	**5.0**
Turbidity	NTU	SingleVal				6.2								5	**5.6**

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

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
Flow, Stream, Instantaneous	cfs	CalMoAvg	.43	.77	3.84	50	9.88	12.3	22.6	4.06	2.5	3.8	6.3	2.5	**9.915**
Flow, Stream, Instantaneous	cfs	CalMoMax	.43	.77	3.84	50	9.88	12.3	22.6	4.06	2.5	3.8	6.3	2.5	**9.915**
Temperature, Water (C)	Deg C	CalMoAvg	.9	0	0	.1	11.9	15.4	20.7	18	17	13.1	1.8	0	**8.242**
Temperature, Water (C)	Deg C	CalMoMax	.9	0	0	.1	11.9	15.4	20.7	18	17	13.1	1.8	0	**8.242**

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

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
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)

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
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)

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
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)

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
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.

Cliffs Erie - Hoyt Lakes Mining Area (MN0042536)

First DMR in Delta: 7/1999

Waste Stream Station WS003 (Coherex as applied)

Parameter Name	Limit and Units	Limit Type	1/13	2/13	3/13	4/13	5/13	6/13	7/13	8/13	9/13	10/13	11/13	12/13	Ave
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.