

DMR Summary Report

Cliffs Erie - HL Tailings Basin Area (MN0054089)

First DMR in Delta: 7/1999

Ground Water Station GW001 (Well ST-2, off NE side of Tailings Basin)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Boron, Dissolved (as B)	600 ug/L	InstantMax				273			308			293			291.333
Chloride, Total	*250* mg/L	InstMaxInt				27.8			27.9			28.1			27.933
Elevation of GW Relative to Mean Sea Level	feet	SingleVal				1485			1484.7			1484.7			1,484.8
Fluoride, Total (as F)	4.0 mg/L	InstantMax				.2			.1			.2			0.167
Manganese, Dissolved (as Mn)	1000 ug/L	InstantMax				3710			3550			3600			3,620.0
Molybdenum, Dissolved (as Mo)	30 ug/L	InstantMax				9			9			9			9.0
pH, Field	SU	SingleVal				6.9			6.8			7			6.9
Solids, Total Dissolved (TDS)	*500* mg/L	InstMaxInt				490			514			500			501.333
Specific Conductance, Field	umh/cm	SingleVal				892			873			846			870.333
Sulfate, Total (as SO4)	*250* mg/L	InstMaxInt				29.2			28.8			30.1			29.367
Temperature, Water (C)	Deg C	SingleVal				8.9			11			8.6			9.5

Ground Water Station GW002 (Well MW-6S, N of Private Landfill)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Boron, Dissolved (as B)	ug/L	SingleVal				<50			<50			<50			
Chloride, Total	mg/L	SingleVal				.59			<5			<1			0.59
Elevation of GW Relative to Mean Sea Level	feet	SingleVal				1784			1785			1784.7			1,784.567
Fluoride, Total (as F)	mg/L	SingleVal				<.1			<.1			<.1			
Manganese, Dissolved (as Mn)	ug/L	SingleVal				3.9			2.9			6.4			4.4
Molybdenum, Dissolved (as Mo)	ug/L	SingleVal				.31			<.3			<.3			0.31
pH, Field	SU	SingleVal				7.4			7.4			7.3			7.367
Solids, Total Dissolved (TDS)	mg/L	SingleVal				82			83			90			85.0
Specific Conductance, Field	umh/cm	SingleVal				64			57			69			63.333
Sulfate, Total (as SO4)	mg/L	SingleVal				5.5			5.2			6.7			5.8
Temperature, Water (C)	Deg C	SingleVal				14.7			21.7			13.5			16.633

Ground Water Station GW003 (Tailings Basin West Cell Well H-1)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Copper, Dissolved (as Cu)	ug/L	SingleVal				NoDis			NoDis			NoDis			
Elevation of GW Relative to Mean Sea Level	feet	SingleVal				NoDis			NoDis			NoDis			
Nickel, Dissolved (as Ni)	ug/L	SingleVal				NoDis			NoDis			NoDis			
pH, Field	SU	SingleVal				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.

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Cliffs Erie - HL Tailings Basin Area (MN0054089)

First DMR in Delta: 7/1999

Ground Water Station GW003 (Tailings Basin West Cell Well H-1)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Specific Conductance, Field	umh/cm	SingleVal				NoDis			NoDis			NoDis			
Sulfate, Total (as SO4)	mg/L	SingleVal				NoDis			NoDis			NoDis			
Temperature, Water (C)	Deg C	SingleVal				NoDis			NoDis			NoDis			

Ground Water Station GW004 (Tailings Basin West Cell Well H-2)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Copper, Dissolved (as Cu)	ug/L	SingleVal				NoDis			NoDis			NoDis			
Elevation of GW Relative to Mean Sea Level	feet	SingleVal				NoDis			NoDis			NoDis			
Nickel, Dissolved (as Ni)	ug/L	SingleVal				NoDis			NoDis			NoDis			
pH, Field	SU	SingleVal				NoDis			NoDis			NoDis			
Specific Conductance, Field	umh/cm	SingleVal				NoDis			NoDis			NoDis			
Sulfate, Total (as SO4)	mg/L	SingleVal				NoDis			NoDis			NoDis			
Temperature, Water (C)	Deg C	SingleVal				NoDis			NoDis			NoDis			

Ground Water Station GW005 (Tailings Basin West Cell Well H-3)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Copper, Dissolved (as Cu)	ug/L	SingleVal				.8			1.2			1.4			1.133
Elevation of GW Relative to Mean Sea Level	feet	SingleVal				1600.8			1601.1			1601.4			1,601.1
Nickel, Dissolved (as Ni)	ug/L	SingleVal				3.2			2.1			4.6			3.3
pH, Field	SU	SingleVal				7.6			7.9			7.8			7.767
Specific Conductance, Field	umh/cm	SingleVal				1214			1280			1210			1,234.667
Sulfate, Total (as SO4)	mg/L	SingleVal				337			343			342			340.667
Temperature, Water (C)	Deg C	SingleVal				8.6			22.6			8.4			13.2

Ground Water Station GW006 (New well NNW of tailings basin)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Boron, Dissolved (as B)	600 ug/L	InstantMax				464			441			494			466.333
Chloride, Total	*250* mg/L	InstMaxInt				14.6			10.7			13.7			13.0
Elevation of GW Relative to Mean Sea Level	feet	SingleVal				1487.2			1487.6			1486.7			1,487.167
Fluoride, Total (as F)	4.0 mg/L	InstantMax				1.7			1.3			1.7			1.567
Manganese, Dissolved (as Mn)	1000 ug/L	InstantMax				1100			702			1180			994.0

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Cliffs Erie - HL Tailings Basin Area (MN0054089)
First DMR in Delta: 7/1999

Ground Water Station GW006 (New well NNW of tailings basin)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Molybdenum, Dissolved (as Mo)	30 ug/L	InstantMax				27.5			20			27			24.833
pH, Field	SU	SingleVal				7.1			7			7.1			7.067
Solids, Total Dissolved (TDS)	*500* mg/L	InstMaxInt				1610			1320			1610			1,513.333
Specific Conductance, Field	umh/cm	SingleVal				2260			1860			2310			2,143.333
Sulfate, Total (as SO4)	*250* mg/L	InstMaxInt				633			478			659			590.0
Temperature, Water (C)	Deg C	SingleVal				4.6			12.2			14.3			10.367

Ground Water Station GW007 (New well WNW of tailings basin)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Boron, Dissolved (as B)	600 ug/L	InstantMax				371			443			381			398.333
Chloride, Total	*250* mg/L	InstMaxInt				29.7			28.6			30.4			29.567
Elevation of GW Relative to Mean Sea Level	feet	SingleVal				1506.1			1505.8			1506.9			1,506.267
Fluoride, Total (as F)	4.0 mg/L	InstantMax				1.9			1.8			1.8			1.833
Manganese, Dissolved (as Mn)	1000 ug/L	InstantMax				1300			1210			1200			1,236.667
Molybdenum, Dissolved (as Mo)	30 ug/L	InstantMax				29			29			31			29.667
pH, Field	SU	SingleVal				7.6			7.4			7.5			7.5
Solids, Total Dissolved (TDS)	*500* mg/L	InstMaxInt				549			608			566			574.333
Specific Conductance, Field	umh/cm	SingleVal				905			981			897			927.667
Sulfate, Total (as SO4)	*250* mg/L	InstMaxInt				163			171			168			167.333
Temperature, Water (C)	Deg C	SingleVal				2.1			11.2			11.6			8.3

Ground Water Station GW008 (New well SW of tailings basin)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Boron, Dissolved (as B)	600 ug/L	InstantMax				<50			<50			<50			
Chloride, Total	*250* mg/L	InstMaxInt				.56			.64			1.3			0.833
Elevation of GW Relative to Mean Sea Level	feet	SingleVal				1557			1558.6			1557.2			1,557.6
Fluoride, Total (as F)	4.0 mg/L	InstantMax				.1			<.1			<.1			0.1
Manganese, Dissolved (as Mn)	1000 ug/L	InstantMax				5			8			9			7.333
Molybdenum, Dissolved (as Mo)	30 ug/L	InstantMax				<1			<1			<1			
pH, Field	SU	SingleVal				6.5			6.5			6.6			6.533
Solids, Total Dissolved (TDS)	*500* mg/L	InstMaxInt				218			187			211			205.333
Specific Conductance, Field	umh/cm	SingleVal				278			266			282			275.333

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 - HL Tailings Basin Area (MN0054089)

First DMR in Delta: 7/1999

Ground Water Station GW008 (New well SW of tailings basin)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Sulfate, Total (as SO4)	*250* mg/L	InstMaxInt				15.2			13.6			15.7			14.833
Temperature, Water (C)	Deg C	SingleVal				2.7			10.1			10			7.6

Surface Discharge Station SD001 (NW Seepage Collection Ditch)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Bicarbonates (HCO3)	305 mg/L	CalMoAvg			486			272			422			416	399.0
Bicarbonates (HCO3)	mg/L	CalMoMax			486			272			422			416	399.0
Boron, Total (as B)	500 ug/L	CalMoAvg			267			284			319			255	281.25
Boron, Total (as B)	ug/L	CalMoMax			267			284			319			255	281.25
Calcium, Total (as Ca)	mg/L	CalMoMax									59.1				59.1
Cations, Total	meq/L	CalMoMax									12.1				12.1
Cobalt, Total (as Co)	ug/L	CalMoMax			.35			<.2			<.2			.21	0.28
Fluoride, Total (as F)	mg/L	CalMoMax			.94			.92			1.2			.98	1.01
Hardness, Carbonate (as CaCo3)	250 mg/L	CalMoAvg			486			272			422			416	399.0
Hardness, Carbonate (as CaCo3)	mg/L	CalMoMax			486			272			422			416	399.0
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg			.2			.2			.1			.1	0.15
Iron, Dissolved (as Fe)	2.0 mg/L	CalMoMax			.2			.2			.1			.1	0.15
Magnesium, Total (as Mg)	mg/L	CalMoMax									85.3				85.3
Manganese, Total (as Mn)	ug/L	CalMoMax			360			91.1			57.4			125	158.375
Mercury, Total (as Hg)	ug/L	CalMoMax				.0024		1.2		.00084		.00088			0.301
pH, Field	8.5 SU	InstantMax			7			7.3			7.6			7.3	7.3
pH, Field	6.5 SU	InstantMin			7			7.3			7.6			7.3	7.3
Potassium, Total (as K)	mg/L	CalMoMax									4.5				4.5
Salinity, Total	mg/L	CalMoMax			<100			400			500			600	500.0
Sodium, % Total Cations in meq/L	%	CalMoMax									24.1				24.1
Sodium, Total (as Na)	mg/L	CalMoMax									47.2				47.2
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg			3			3			2			<1	2.667
Solids, Total Suspended (TSS)	30 mg/L	CalMoMax			3			3			2			<1	2.667
Specific Conductance, Field	1000 umh/cm	CalMoAvg			1511			856			1020			1160	1,136.75
Specific Conductance, Field	umh/cm	CalMoMax			1511			856			1020			1160	1,136.75
Turbidity	25 NTU	CalMoAvg			3			1			.4			.54	1.235
Turbidity	NTU	CalMoMax			3			1			.4			.54	1.235

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 - HL Tailings Basin Area (MN0054089)

First DMR in Delta: 7/1999

Surface Discharge Station SD002 (NE Seepage Collection Ditch)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Bicarbonates (HCO3)	305 mg/L	CalMoAvg			476			436			492			524	482.0
Bicarbonates (HCO3)	mg/L	CalMoMax			476			436			492			524	482.0
Boron, Total (as B)	500 ug/L	CalMoAvg			286			282			330			267	291.25
Boron, Total (as B)	ug/L	CalMoMax			286			282			330			267	291.25
Calcium, Total (as Ca)	mg/L	CalMoMax									81.4				81.4
Cations, Total	meq/L	CalMoMax									15				15.0
Cobalt, Total (as Co)	ug/L	CalMoMax			.46			.36			.26			.28	0.34
Fluoride, Total (as F)	mg/L	CalMoMax			1.4			1.2			1.3			1.3	1.3
Hardness, Carbonate (as CaCo3)	250 mg/L	CalMoAvg			476			436			492			524	482.0
Hardness, Carbonate (as CaCo3)	mg/L	CalMoMax			476			436			492			524	482.0
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg			.4			<.1			<.1			.1	0.25
Iron, Dissolved (as Fe)	2.0 mg/L	CalMoMax			.4			<.1			<.1			.1	0.25
Magnesium, Total (as Mg)	mg/L	CalMoMax									94.7				94.7
Manganese, Total (as Mn)	ug/L	CalMoMax			2420			1270			1780			2740	2,052.5
Mercury, Total (as Hg)	ug/L	CalMoMax				.0014		.96		.001		.00091			0.241
pH, Field	8.5 SU	InstantMax			7			7.2			7.3			7.5	7.25
pH, Field	6.5 SU	InstantMin			7			7.2			7.3			7.5	7.25
Potassium, Total (as K)	mg/L	CalMoMax									5.7				5.7
Salinity, Total	mg/L	CalMoMax			600			600			600			700	625.0
Sodium, % Total Cations in meq/L	%	CalMoMax									27.8				27.8
Sodium, Total (as Na)	mg/L	CalMoMax									70				70.0
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg			4			<2			3			<3	3.5
Solids, Total Suspended (TSS)	30 mg/L	CalMoMax			4			<2			3			<3	3.5
Specific Conductance, Field	1000 umh/cm	CalMoAvg			1190			1320			1270			1330	1,277.5
Specific Conductance, Field	umh/cm	CalMoMax			1190			1320			1270			1330	1,277.5
Turbidity	25 NTU	CalMoAvg			6.1			1			2.6			3.9	3.4
Turbidity	NTU	CalMoMax			6.1			1			2.6			3.9	3.4

Surface Discharge Station SD004 (Tailings Basin Cell 2W Seep A)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Bicarbonates (HCO3)	305 mg/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Bicarbonates (HCO3)	mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Boron, Total (as B)	500 ug/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Boron, Total (as B)	ug/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	

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Surface Discharge Station SD004 (Tailings Basin Cell 2W Seep A)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Calcium, Total (as Ca)	mg/L	CalMoMax									NoDis				
Cations, Total	meq/L	CalMoMax									NoDis				
Cobalt, Total (as Co)	ug/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Flow	MG	CalMoTot			NoDis			NoDis			NoDis			NoDis	
Flow	mgd	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Fluoride, Total (as F)	mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Hardness, Carbonate (as CaCo3)	250 mg/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Hardness, Carbonate (as CaCo3)	mg/L	CalMoMax			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	
Magnesium, Total (as Mg)	mg/L	CalMoMax									NoDis				
Manganese, Total (as Mn)	ug/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Mercury, Total (as Hg)	ug/L	CalMoMax				NoDis		NoDis		<.0005		NoDis			
pH, Field	8.5 SU	InstantMax			NoDis			NoDis			NoDis			NoDis	
pH, Field	6.5 SU	InstantMin			NoDis			NoDis			NoDis			NoDis	
Potassium, Total (as K)	mg/L	CalMoMax									NoDis				
Salinity, Total	mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Sodium, % Total Cations in meq/L	%	CalMoMax									NoDis				
Sodium, Total (as Na)	mg/L	CalMoMax									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	1000 umh/cm	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Specific Conductance, Field	umh/cm	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Turbidity	25 NTU	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Turbidity	NTU	CalMoMax			NoDis			NoDis			NoDis			NoDis	

Surface Discharge Station SD005 (Tailings Basin Cell 2W Seep B)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Bicarbonates (HCO3)	305 mg/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Bicarbonates (HCO3)	mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Boron, Total (as B)	500 ug/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Boron, Total (as B)	ug/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Calcium, Total (as Ca)	mg/L	CalMoMax									NoDis				
Cations, Total	meq/L	CalMoMax									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 - HL Tailings Basin Area (MN0054089)

First DMR in Delta: 7/1999

Surface Discharge Station SD005 (Tailings Basin Cell 2W Seep B)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Cobalt, Total (as Co)	ug/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Flow	MG	CalMoTot			NoDis			NoDis			NoDis			NoDis	
Flow	mgd	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Fluoride, Total (as F)	mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Hardness, Carbonate (as CaCo3)	250 mg/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Hardness, Carbonate (as CaCo3)	mg/L	CalMoMax			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	
Magnesium, Total (as Mg)	mg/L	CalMoMax									NoDis				
Manganese, Total (as Mn)	ug/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Mercury, Total (as Hg)	ug/L	CalMoMax				NoDis		NoDis		NoDis		NoDis			
pH, Field	8.5 SU	InstantMax			NoDis			NoDis			NoDis			NoDis	
pH, Field	6.5 SU	InstantMin			NoDis			NoDis			NoDis			NoDis	
Potassium, Total (as K)	mg/L	CalMoMax									NoDis				
Salinity, Total	mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Sodium, % Total Cations in meq/L	%	CalMoMax									NoDis				
Sodium, Total (as Na)	mg/L	CalMoMax									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	1000 umh/cm	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Specific Conductance, Field	umh/cm	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Turbidity	25 NTU	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Turbidity	NTU	CalMoMax			NoDis			NoDis			NoDis			NoDis	

Surface Discharge Station SD006 (Power Line Access Road Culvert)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Bicarbonates (HCO3)	305 mg/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Bicarbonates (HCO3)	mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Boron, Total (as B)	500 ug/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Boron, Total (as B)	ug/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Calcium, Total (as Ca)	mg/L	CalMoMax									NoDis				
Cations, Total	meq/L	CalMoMax									NoDis				
Cobalt, Total (as Co)	ug/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Flow	MG	CalMoTot			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 - HL Tailings Basin Area (MN0054089)

First DMR in Delta: 7/1999

Surface Discharge Station SD006 (Power Line Access Road Culvert)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Flow	mgd	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Fluoride, Total (as F)	mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Hardness, Carbonate (as CaCo3)	250 mg/L	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Hardness, Carbonate (as CaCo3)	mg/L	CalMoMax			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	
Magnesium, Total (as Mg)	mg/L	CalMoMax									NoDis				
Manganese, Total (as Mn)	ug/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Mercury, Total (as Hg)	ug/L	CalMoMax				NoDis		NoDis		NoDis		NoDis			
pH, Field	8.5 SU	InstantMax			NoDis			NoDis			NoDis			NoDis	
pH, Field	6.5 SU	InstantMin			NoDis			NoDis			NoDis			NoDis	
Potassium, Total (as K)	mg/L	CalMoMax									NoDis				
Salinity, Total	mg/L	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Sodium, % Total Cations in meq/L	%	CalMoMax									NoDis				
Sodium, Total (as Na)	mg/L	CalMoMax									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	1000 umh/cm	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Specific Conductance, Field	umh/cm	CalMoMax			NoDis			NoDis			NoDis			NoDis	
Toxicity, Whole Effluent (Chronic)	1.0 TUc	InstantMax									NoDis				
Turbidity	25 NTU	CalMoAvg			NoDis			NoDis			NoDis			NoDis	
Turbidity	NTU	CalMoMax			NoDis			NoDis			NoDis			NoDis	

Surface Water Station SW003 (Site 3, unnamed crk trib to Embarrass R)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Chloride, Total	mg/L	SingleVal			31.5			8			12.7			23.2	18.85
Flow, Stream, Instantaneous	cfs	SingleVal			.16			5.68			.62			.08	1.635
pH, Field	SU	SingleVal			7.2			7.2			7.6			7.3	7.325
Solids, Total Dissolved (TDS)	mg/L	SingleVal			848			292			409			643	548.0
Specific Conductance, Field	umh/cm	SingleVal			1210			428			720			984	835.5
Sulfate, Total (as SO4)	mg/L	SingleVal			231			54.1			36.5			164	121.4
Temperature, Water (C)	Deg C	SingleVal			3			14.6			17.7			5.2	10.125

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 - HL Tailings Basin Area (MN0054089)

First DMR in Delta: 7/1999

Surface Water Station SW004 (Embarrass R at CR 620 [Salo Rd] bridge)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Chloride, Total	mg/L	CalMoMax			5.1			2.2			3.9			4.2	3.85
Flow, Stream, Instantaneous	cfs	CalMoMax			.21			9.98			.37			1.9	3.115
Manganese, Total (as Mn)	ug/L	CalMoMax			704			44.5			883			176	451.875
pH, Field	SU	InstantMax			7.3			6.1			7			7.2	6.9
pH, Field	SU	InstantMin			7.3			6.1			7			7.2	6.9
Specific Conductance, Field	umh/cm	CalMoMax			452			49			134			112	186.75
Sulfate, Total (as SO4)	mg/L	CalMoMax			102			1.2			<1			<2	51.6
Temperature, Water (C)	Deg C	CalMoMax			4.1			13.1			17.1			2.6	9.225

Surface Water Station SW005 (Embarrass R at Hwy 135 Bridge, White Twp)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Chloride, Total	mg/L	CalMoMax			9.2			4.2			3.5			8.7	6.4
Flow, Stream, Instantaneous	cfs	CalMoMax			9.8			90.6			8.9			12	30.325
pH, Field	SU	InstantMax			7			6.7			7.5			6.8	7.0
pH, Field	SU	InstantMin			7			6.7			7.5			6.8	7.0
Specific Conductance, Field	umh/cm	CalMoMax			732			131			243			380	371.5
Sulfate, Total (as SO4)	mg/L	CalMoMax			181			15.1			15.5			68	69.9
Temperature, Water (C)	Deg C	CalMoMax			3.2			13.5			17.7			2	9.1

Waste Stream Station WS001 (NW side of Emergency Basin)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Elevation of Water Level Relative to Ref Point	feet	CalMoAvg	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo
Elevation of Water Level Relative to Ref Point	feet	CalMoMax	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo

Waste Stream Station WS002 (NW Seepage Coll Return Pumping to TB)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Flow	MG	CalMoTot	NoFlo	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 - HL Tailings Basin Area (MN0054089)

First DMR in Delta: 7/1999

Waste Stream Station WS003 (NE Seepage Coll Return Pumping to TB)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Flow	MG	CalMoTot	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	

Waste Stream Station WS007 (Treated sewage to Emergency Basin)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
BOD, Carbonaceous 05 Day (20 Deg C)	9.9 kg/day	CalMoAvg	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
BOD, Carbonaceous 05 Day (20 Deg C)	16 kg/day	MxCaIWkAvg	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
BOD, Carbonaceous 05 Day (20 Deg C)	25 mg/L	CalMoAvg	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
BOD, Carbonaceous 05 Day (20 Deg C)	40 mg/L	MxCaIWkAvg	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
Chlorine, Total Residual	mg/L	DailyMax	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
Fecal Coliform, MPN or Membrane Filter 44.5C	200 #100ml	CalMoGeoMn					NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo			
Fecal Coliform, MPN or Membrane Filter 44.5C	#100ml	MxCaIWkAvg					NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo			
Flow	MG	CalMoTot	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
Flow	mgd	CalMoAvg	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	
pH, Field	9.0 SU	InstantMax	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
pH, Field	6.0 SU	InstantMin	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
Solids, Total Suspended (TSS)	12 kg/day	CalMoAvg	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
Solids, Total Suspended (TSS)	18 kg/day	MxCaIWkAvg	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
Solids, Total Suspended (TSS)	30 mg/L	CalMoAvg	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
Solids, Total Suspended (TSS)	45 mg/L	MxCaIWkAvg	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	

Waste Stream Station WS008 (Ligninsulfonate applied for dust control)

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

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 - HL Tailings Basin Area (MN0054089)

First DMR in Delta: 7/1999

Waste Stream Station WS008 (Ligninsulfonate applied for dust control)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
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 WS009 (Culvert under RR grade, NE side Cell 1E)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Boron, Total (as B)	ug/L	CalMoMax				25.5			44.1			NoFlo			34.8
Flow	MG	CalMoTot				48.5			11.68			NoFlo			30.09
Flow	mgd	CalMoMax				1.62			.38			NoFlo			1.0
Molybdenum, Total (as Mo)	ug/L	CalMoMax				.44			1.6			NoFlo			1.02
Specific Conductance, Field	umh/cm	CalMoMax				81			279			NoFlo			180.0
Sulfate, Total (as SO4)	mg/L	CalMoMax				5.5			15			NoFlo			10.25

Waste Stream Station WS011 (Tailings Basin Seep 1)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Flow	MG	CalMoTot				NoFlo			NoFlo			.26			0.26
Flow	mgd	CalMoMax				NoFlo			NoFlo			.0084			0.008
pH, Field	SU	InstantMax				NoFlo			NoFlo			7.3			7.3
pH, Field	SU	InstantMin				NoFlo			NoFlo			7.3			7.3
Specific Conductance, Field	umh/cm	CalMoMax				NoFlo			NoFlo			1240			1,240.0

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 - HL Tailings Basin Area (MN0054089)

First DMR in Delta: 7/1999

Waste Stream Station WS012 (Tailings Basin Seep 2)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Flow	MG	CalMoTot				NoFlo			NoFlo			1.6			1.6
Flow	mgd	CalMoMax				NoFlo			NoFlo			.052			0.052
pH, Field	SU	InstantMax				NoFlo			NoFlo			8.1			8.1
pH, Field	SU	InstantMin				NoFlo			NoFlo			8.1			8.1
Specific Conductance, Field	umh/cm	CalMoMax				NoFlo			NoFlo			1760			1,760.0

Waste Stream Station WS013 (Tailings Basin Seep 3)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Bicarbonates (HCO3)	mg/L	CalMoMax				NoFlo			NoFlo			574			574.0
Boron, Total (as B)	ug/L	CalMoMax				NoFlo			NoFlo			309			309.0
Calcium, Total (as Ca)	mg/L	CalMoMax							NoFlo						
Cations, Total	meq/L	CalMoMax							NoFlo						
Cobalt, Total (as Co)	ug/L	CalMoMax				NoFlo			NoFlo			.69			0.69
Copper, Total (as Cu)	ug/L	CalMoMax				NoFlo			NoFlo			1.8			1.8
Flow	MG	CalMoTot				NoFlo			NoFlo			.16			0.16
Flow	mgd	CalMoMax				NoFlo			NoFlo			.0052			0.005
Fluoride, Total (as F)	mg/L	CalMoMax				NoFlo			NoFlo			.99			0.99
Hardness, Carbonate (as CaCo3)	mg/L	CalMoMax				NoFlo			NoFlo			614			614.0
Magnesium, Total (as Mg)	mg/L	CalMoMax							NoFlo						
Manganese, Total (as Mn)	ug/L	CalMoMax				NoFlo			NoFlo			38			38.0
Mercury, Total (as Hg)	ug/L	CalMoMax				NoFlo			NoFlo			.00074			0.001
Molybdenum, Total (as Mo)	ug/L	CalMoMax				NoFlo			NoFlo			11.7			11.7
Nickel, Total (as Ni)	ug/L	CalMoMax				NoFlo			NoFlo			.55			0.55
Nickel, Total (as Ni)	ug/L	CalMoMax				NoFlo			NoFlo			.55			0.55
pH, Field	SU	InstantMax				NoFlo			NoFlo			8.1			8.1
pH, Field	SU	InstantMin				NoFlo			NoFlo			8.1			8.1
Potassium, Total (as K)	mg/L	CalMoMax							NoFlo						
Salinity, Total	mg/L	CalMoMax				NoFlo			NoFlo			800			800.0
Sodium, % Total Cations in meq/L	%	CalMoMax							NoFlo						
Sodium, Total (as Na)	mg/L	CalMoMax							NoFlo						
Solids, Total Suspended (TSS)	mg/L	CalMoMax				NoFlo			NoFlo			1.2			1.2
Specific Conductance, Field	umh/cm	CalMoMax				NoFlo			NoFlo			1630			1,630.0

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 - HL Tailings Basin Area (MN0054089)

First DMR in Delta: 7/1999

Waste Stream Station WS013 (Tailings Basin Seep 3)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/13</u>	<u>2/13</u>	<u>3/13</u>	<u>4/13</u>	<u>5/13</u>	<u>6/13</u>	<u>7/13</u>	<u>8/13</u>	<u>9/13</u>	<u>10/13</u>	<u>11/13</u>	<u>12/13</u>	<u>Ave</u>
Sulfate, Total (as SO4)	mg/L	CalMoMax				NoFlo			NoFlo			397			397.0

Waste Stream Station WS014 (Coherex applied for dust control)

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

Waste Stream Station WS015 (Nalco Dust-Ban 8803 for dust control)

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

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 - HL Tailings Basin Area (MN0054089)

First DMR in Delta: 7/1999

Waste Stream Station WS015 (Nalco Dust-Ban 8803 for dust control)

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