

DMR Summary Report

ArcelorMittal Minorca Mine Inc - Laurentian (MN0059633)

First DMR in Delta: 4/1999

Surface Discharge Station SD001 (Alt. Laurentian Mine Discharge (010))

<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	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Flow	mgd	CalMoAvg	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	
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Iron, Dissolved (as Fe)	2.0 mg/L	DailyMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Mercury, Total (as Hg)	1.8 ng/L	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Mercury, Total (as Hg)	3.2 ng/L	DailyMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Nitrogen, Nitrate, Total (as N)	mg/L	SingleVal			NoDis			NoDis			NoDis			NoDis	
pH	8.5 SU	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
pH	6.5 SU	CalMoMin	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Solids, Total Suspended (TSS)	30 mg/L	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	
Turbidity	25 NTU	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Turbidity	NTU	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	

Surface Discharge Station SD002 (Alt. Laurentian Mine Discharge (011))

<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	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Flow	mgd	CalMoAvg	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	
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Iron, Dissolved (as Fe)	2.0 mg/L	DailyMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Mercury, Total (as Hg)	1.8 ng/L	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Mercury, Total (as Hg)	3.2 ng/L	DailyMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Nitrogen, Nitrate, Total (as N)	mg/L	SingleVal			NoDis			NoDis			NoDis			NoDis	
pH	8.5 SU	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
pH	6.5 SU	CalMoMin	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Solids, Total Suspended (TSS)	30 mg/L	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	
Turbidity	25 NTU	CalMoAvg	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.

ArcelorMittal Minorca Mine Inc - Laurentian (MN0059633)

First DMR in Delta: 4/1999

Surface Discharge Station SD002 (Alt. Laurentian Mine Discharge (011))

<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>
Turbidity	NTU	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	

Surface Discharge Station SD003 (Primary Laurentian Mine Discharge (012))

<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	76.08	66.81	75.53	99.25	116.92	124.05	103	112	101	100	89	90	96.137
Flow	mgd	CalMoAvg	2.454	2.386	2.436	3.308	3.77	4.135	3.3	3.6	3.367	3.2	3	2.9	3.155
Flow	mgd	CalMoMax	2.454	2.386	2.436	3.308	3.77	4.135	3.3	3.6	3.367	3.2	3	2.9	3.155
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	<.05	<.05	<.05	<.05	<.05	<.05	
Iron, Dissolved (as Fe)	2.0 mg/L	DailyMax	<0.050	<0.050	<0.05	<0.05	<0.05	<0.05	<.05	<.05	<.05	<.05	<.05	<.05	
Mercury, Total (as Hg)	1.8 ng/L	CalMoAvg	0.731	0.697	0.712	1.015	0.627	1.8	1	.8	.7	1.2	.7	1.1	0.923
Mercury, Total (as Hg)	3.2 ng/L	DailyMax	0.750	0.778	0.801	1.20	1.17	1.92	1.1	1	.8	1.8	.8	2	1.177
Nitrogen, Nitrate, Total (as N)	mg/L	SingleVal			<0.20			0.58			0.94			0.36	0.627
pH	8.5 SU	CalMoMax	7.9	7.9	7.9	8.2	8.3	8.4	8.2	8.1	8	8	8.2	7.9	8.083
pH	6.5 SU	CalMoMin	7.6	7.4	7.8	8.2	8.0	8.4	8.2	8	7.8	7.9	8	7.8	7.925
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg	<1.0	<1.0	<1.2	3.2	<3.75	13.65	6.7	<1.45	<1	9.05	<1.05	<.9	8.15
Solids, Total Suspended (TSS)	30 mg/L	CalMoMax	<1.0	<1.0	1.6	6	8.0	27	17	2.8	<1	19	1.2	1.6	9.356
Sulfate, Total (as SO4)	mg/L	SingleVal	132	129	121	117	143	159	189	169	154	145	140	131	144.083
Turbidity	25 NTU	CalMoAvg	0.395	0.315	1.22	1.63	5.85	3.0	11	.48	.64	13	.82	1.6	3.329
Turbidity	NTU	CalMoMax	0.67	0.37	1.5	2.7	11.5	4.8	17	.56	1.1	26	1	2	5.767

Surface Discharge Station SD005 (East Pit #1 Discharge)

<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	NoDis	NoDis	2.33	32.428	27.66	27.727	20.736	15	6.2	3.7	.9	NoDis	15.187
Flow	mgd	CalMoAvg	NoDis	NoDis	2.16	1.757	1.584	0.99	0.864	.77	.36	.53	.9	NoDis	1.102
Flow	mgd	CalMoMax	NoDis	NoDis	2.16	1.757	1.584	0.99	0.864	.77	.36	.53	.9	NoDis	1.102
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg	NoDis	NoDis	<0.05	<0.05	<0.05	<0.05	<.05	<.05	.08	<.05	<.05	NoDis	0.08
Iron, Dissolved (as Fe)	2.0 mg/L	DailyMax	NoDis	NoDis	<0.05	<0.05	<0.05	<0.05	<.05	<.05	.08	<.05	<.05	NoDis	0.08
Mercury, Total (as Hg)	1.8 ng/L	CalMoAvg	NoDis	NoDis	2.00	2.37	0.99	1.20	1.4	1.1	3.1	.64	1.2	NoDis	1.556
Mercury, Total (as Hg)	3.2 ng/L	DailyMax	NoDis	NoDis	2.00	2.69	1.29	1.23	1.9	1.5	5.4	.8	1.3	NoDis	2.012
Nitrogen, Nitrate, Total (as N)	mg/L	SingleVal			0.75			14.0			16.5			NoDis	10.417
pH	8.5 SU	CalMoMax	NoDis	NoDis	7.6	8.3	8.3	8.6	8.6	8.3	8.4	8.2	8.3	NoDis	8.289
pH	6.5 SU	CalMoMin	NoDis	NoDis	7.6	8.3	8.2	8.3	8.1	8.2	8.3	8.2	8.3	NoDis	8.167

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

ArcelorMittal Minorca Mine Inc - Laurentian (MN0059633)

First DMR in Delta: 4/1999

Surface Discharge Station SD005 (East Pit #1 Discharge)

<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 Suspended (TSS)	20 mg/L	CalMoAvg	NoDis	NoDis	76.5	20.3	<1.5	2.85	5.1	4.2	33	1.3	13	NoDis	19.531
Solids, Total Suspended (TSS)	30 mg/L	CalMoMax	NoDis	NoDis	153	53	2.0	4	7.2	7	69	1.6	15	NoDis	34.644
Sulfate, Total (as SO4)	mg/L	SingleVal	NoDis	NoDis	114	140	219	240	352	438	309	310	280	NoDis	266.889
Turbidity	25 NTU	CalMoAvg	NoDis	NoDis	1.1	22.8	2.2	4.9	14	6.8	45	3.6	16	NoDis	12.933
Turbidity	NTU	CalMoMax	NoDis	NoDis	1.1	33.9	3.3	4.9	19	8.4	88	3.6	16	NoDis	19.8

Surface Discharge Station SD006 (East Pit #2 Discharge)

<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	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Flow	mgd	CalMoAvg	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	
Iron, Dissolved (as Fe)	1.0 mg/L	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Iron, Dissolved (as Fe)	2.0 mg/L	DailyMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Mercury, Total (as Hg)	1.8 ng/L	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Mercury, Total (as Hg)	3.2 ng/L	DailyMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Nitrogen, Nitrate, Total (as N)	mg/L	SingleVal			NoDis			NoDis			NoDis			NoDis	
pH	8.5 SU	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
pH	6.5 SU	CalMoMin	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Solids, Total Suspended (TSS)	20 mg/L	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Solids, Total Suspended (TSS)	30 mg/L	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	
Turbidity	25 NTU	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	
Turbidity	NTU	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	

Surface Water Station SW001 (McKinley Mine Pit Lake overflow/discharg)

<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				192			212			219			207.667
Chloride, Total	mg/L	SingleVal				4.9			6.8			6.3			6.0
Flow, Stream, Instantaneous	cfs	SingleVal				2.33			7.6			5.9			5.277
Hardness, Calcium & Magnesium, Calculated (as CaCO3)	mg/L	SingleVal				330			334			302			322.0
pH, Field	SU	SingleVal				7.51			8.3			8			7.937
Solids, Total Dissolved (TDS)	mg/L	SingleVal				396			440			395			410.333

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

ArcelorMittal Minorca Mine Inc - Laurentian (MN0059633)

First DMR in Delta: 4/1999

Surface Water Station SW001 (McKinley Mine Pit Lake overflow/discharg)

<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>
Specific Conductance, Field	umh/cm	SingleVal				626.2			1514			629			923.067
Sulfate, Total (as SO4)	mg/L	SingleVal				114			135			119			122.667

Surface Water Station SW002 (Unnamed Stream at Heritage Rd. crossing)

<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				115			275			370			253.333
Chloride, Total	mg/L	SingleVal				12.7			9.6			17			13.1
Flow, Stream, Instantaneous	cfs	SingleVal				18.94			10			2.4			10.447
Hardness, Calcium & Magnesium, Calculated (as CaCO3)	mg/L	SingleVal				147			339			335			273.667
pH, Field	SU	SingleVal				7.44			8			8.2			7.88
Solids, Total Dissolved (TDS)	mg/L	SingleVal				240			474			553			422.333
Specific Conductance, Field	umh/cm	SingleVal				311.3			775			789			625.1
Sulfate, Total (as SO4)	mg/L	SingleVal				42.9			122			120			94.967

Surface Water Station SW003 (Unnamed Stream at Judd Rd. crossing)

<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				104			238			224			188.667
Chloride, Total	mg/L	SingleVal				10.9			8.9			7			8.933
Flow, Stream, Instantaneous	cfs	SingleVal				45.11			15			12			24.037
Hardness, Calcium & Magnesium, Calculated (as CaCO3)	mg/L	SingleVal				141			302			221			221.333
pH, Field	SU	SingleVal				7.31			8.1			7.9			7.77
Solids, Total Dissolved (TDS)	mg/L	SingleVal				225			410			302			312.333
Specific Conductance, Field	umh/cm	SingleVal				349.1			662			469			493.367
Sulfate, Total (as SO4)	mg/L	SingleVal				36.3			94			50			60.1

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