

DMR Summary Report

Mesabi Nugget Delaware LLC (MN0067687)

First DMR in Delta: 8/2005

Surface Discharge Station SD001

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/12</u>	<u>2/12</u>	<u>3/12</u>	<u>4/12</u>	<u>5/12</u>	<u>6/12</u>	<u>7/12</u>	<u>8/12</u>	<u>9/12</u>	<u>10/12</u>	<u>11/12</u>	<u>12/12</u>	<u>Ave</u>
Arsenic, Total (as As)	ug/L	SingleVal								NoDis					
Bicarbonates (HCO3)	268 mg/L	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	323	NoDis	343	333.0
Bicarbonates (HCO3)	301 mg/L	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	323	NoDis	344	333.5
Cadmium, Total (as Cd)	ug/L	SingleVal								NoDis					
Chloride, Total	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	15.6	NoDis	15.3	15.45
Chromium, Total (as Cr)	ug/L	SingleVal								NoDis					
Cobalt, Total (as Co)	ug/L	SingleVal								NoDis					
Copper, Total (as Cu)	ug/L	SingleVal								NoDis					
Flow	MG	CalMoTot	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	111	NoDis	6.58	58.79
Flow	mgd	DailyAve	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	3.57	NoDis	1.62	2.595
Flow	mgd	DailyMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	3.74	NoDis	1.65	2.695
Hardness, Calcium & Magnesium, Calculated (as CaCO3)	268 mg/L	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	771	NoDis	766	768.5
Hardness, Calcium & Magnesium, Calculated (as CaCO3)	301 mg/L	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	786	NoDis	780	783.0
Lead, Total (as Pb)	ug/L	SingleVal								NoDis					
Mercury, Total (as Hg)	0.000070 kg/day	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	.0000007	NoDis	0.000006	0.0
Mercury, Total (as Hg)	1.8 ng/L	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	0.54	NoDis	<0.75	0.54
Mercury, Total (as Hg)	3.2 ng/L	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	0.56	NoDis	1	0.78
Molybdenum, Total (as Mo)	ug/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	<10	NoDis	<20.0	
Nickel, Total (as Ni)	ug/L	SingleVal								NoDis					
Nickel, Total (as Ni)	ug/L	SingleVal								NoDis					
pH	8.5 SU	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	8.4	NoDis	8.14	8.27
pH	6.5 SU	CalMoMin	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	8.15	NoDis	7.4	7.775
Selenium, Total (as Se)	ug/L	SingleVal								NoDis					
Sodium, Total (as Na)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	36.4	NoDis	35.3	35.85
Solids, Total Dissolved (TDS)	752 mg/L	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	928	NoDis	954	941.0
Solids, Total Dissolved (TDS)	842 mg/L	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	963	NoDis	979	971.0
Solids, Total Suspended (TSS)	mg/L	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	<1.0	NoDis	<1.5	
Solids, Total Suspended (TSS)	mg/L	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	2.0	NoDis	2.0	2.0
Specific Conductance	1074 umh/cm	CalMoAvg	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	1340	NoDis	1326	1,333.0
Specific Conductance	1203 umh/cm	CalMoMax	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	1362	NoDis	1331	1,346.5
Sulfate, Total (as SO4)	mg/L	SingleVal	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	NoDis	462	NoDis	458	460.0
Thallium, Total (as Tl)	ug/L	SingleVal								NoDis					
Zinc, Total (as Zn)	ug/L	SingleVal								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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Surface Discharge Station SD001

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

Surface Water Station SW001 (Second Cr. - Upstream)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/12</u>	<u>2/12</u>	<u>3/12</u>	<u>4/12</u>	<u>5/12</u>	<u>6/12</u>	<u>7/12</u>	<u>8/12</u>	<u>9/12</u>	<u>10/12</u>	<u>11/12</u>	<u>12/12</u>	<u>Ave</u>
Bicarbonates (HCO3)	mg/L	SingleVal		340						355			300		331.667
Flow, Stream, Instantaneous	cfs	SingleVal	0.50	0.2	0.3	0.9		.6	NoFlo	0	0.0	0.0	9.79	9.42	2.171
Hardness, Calcium & Magnesium, Calculated (as CaCO3)	mg/L	SingleVal		857						456			416		576.333
Solids, Total Dissolved (TDS)	mg/L	SingleVal		1080						532			529		713.667
Specific Conductance	umh/cm	SingleVal		1503						824			859.1		1,062.033

Surface Water Station SW002 (Second Cr. - Downstream)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/12</u>	<u>2/12</u>	<u>3/12</u>	<u>4/12</u>	<u>5/12</u>	<u>6/12</u>	<u>7/12</u>	<u>8/12</u>	<u>9/12</u>	<u>10/12</u>	<u>11/12</u>	<u>12/12</u>	<u>Ave</u>
Bicarbonates (HCO3)	mg/L	SingleVal		836						304			301		480.333
Flow, Stream, Instantaneous	cfs	SingleVal	0.15	0.05	0.2	0.51		11.62	4.2	.7	8.02	0.21	7.35	7.47	3.68
Hardness, Calcium & Magnesium, Calculated (as CaCO3)	mg/L	SingleVal		1230						518			461		736.333
Solids, Total Dissolved (TDS)	mg/L	SingleVal		1310						567			549		808.667
Specific Conductance	umh/cm	SingleVal		1814						889.1			894.7		1,199.267

Surface Water Station SW003 (Area 1 Pit)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/12</u>	<u>2/12</u>	<u>3/12</u>	<u>4/12</u>	<u>5/12</u>	<u>6/12</u>	<u>7/12</u>	<u>8/12</u>	<u>9/12</u>	<u>10/12</u>	<u>11/12</u>	<u>12/12</u>	<u>Ave</u>
Bicarbonates (HCO3)	mg/L	SingleVal		351						304			326		327.0
Hardness, Calcium & Magnesium, Calculated (as CaCO3)	mg/L	SingleVal		788						712			744		748.0
Mercury, Total (as Hg)	ng/L	SingleVal		<0.5						.73			<0.50		0.73
pH	SU	SingleVal		8.2						8.15			8.08		8.143
Solids, Total Dissolved (TDS)	mg/L	SingleVal		952						871			987		936.667
Specific Conductance	umh/cm	SingleVal		1360						1323			1310		1,331.0

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Waste Stream Station WS001 (Influent to Wastewater Treatment System)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/12</u>	<u>2/12</u>	<u>3/12</u>	<u>4/12</u>	<u>5/12</u>	<u>6/12</u>	<u>7/12</u>	<u>8/12</u>	<u>9/12</u>	<u>10/12</u>	<u>11/12</u>	<u>12/12</u>	<u>Ave</u>
Flow	mgd	DailyAve	1.4	1.4	1.59	1.3	1.15	1.3	1.44	1.37	1.37	NoFlo	1.44	1.43	1.381
Mercury, Total (as Hg)	ng/L	SingleVal	363	228	553	671	31.3	168	1460	1150	0.69	NoFlo	461	236	483.817

Waste Stream Station WS002 (Influent to Tailings Filter #1)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/12</u>	<u>2/12</u>	<u>3/12</u>	<u>4/12</u>	<u>5/12</u>	<u>6/12</u>	<u>7/12</u>	<u>8/12</u>	<u>9/12</u>	<u>10/12</u>	<u>11/12</u>	<u>12/12</u>	<u>Ave</u>
Flow	mgd	DailyAve	0.75	0.72	0.82	0.83	.52	0.69	.41	.64	0.44	NoFlo	0.67	0.73	0.656
Mercury, Total (as Hg)	ng/L	SingleVal	51.2	93.4	3960	179	41.2	41.1	93.5	25.1	1.7	NoFlo	28.8	96.4	419.218

Waste Stream Station WS003 (Dschrgr fr Tailings Filter #1 to Pit 1)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/12</u>	<u>2/12</u>	<u>3/12</u>	<u>4/12</u>	<u>5/12</u>	<u>6/12</u>	<u>7/12</u>	<u>8/12</u>	<u>9/12</u>	<u>10/12</u>	<u>11/12</u>	<u>12/12</u>	<u>Ave</u>
Bicarbonates (HCO ₃)	mg/L	SingleVal	28.3	38.8	33.1	14.7	197	15.9	17.6	14.4	22.4	NoFlo	63.8	70.4	46.945
Chloride, Total	mg/L	SingleVal	112	110	112	119	16.3	156	144	175	204	NoFlo	172	174	135.845
Flow	mgd	DailyAve	0.72	0.70	0.71	0.86	.52	0.68	.28	.29	0.53	NoFlo	0.821	0.77	0.626
Hardness, Calcium & Magnesium, Calculated (as CaCO ₃)	mg/L	SingleVal	1220	1580	1540	1130	865	1550	2630	1210	814	NoFlo	1000	1030	1,324.455
Mercury, Total (as Hg)	ng/L	SingleVal	0.7	<0.5	13.4	36.7	3.6	2.4	2030	5.9	1.7	NoFlo	32.4	24.8	215.16
Molybdenum, Total (as Mo)	ug/L	SingleVal	27.9	43.3	27	<40.0	0	38	42	84	93	NoFlo	<20	26.8	42.444
Sodium, Total (as Na)	mg/L	SingleVal	270	287	252	250	43.2	305	233	546	955	NoFlo	343	439	356.655
Solids, Total Dissolved (TDS)	mg/L	SingleVal	2790	3100	3060	2530	1100	3340	3100	3300	4540	NoFlo	2690	2770	2,938.182
Specific Conductance	umh/cm	SingleVal	3654	3476	2954	2646		3825	3741	4306	5534	NoFlo	3589	4079	3,780.4
Sulfate, Total (as SO ₄)	mg/L	SingleVal	1700	1940	1710	1500	640	2010	2230	2050	2770	NoFlo	1640	1820	1,819.091

Waste Stream Station WS004 (Influent fr Pit 1 to Tailings Filter #2)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/12</u>	<u>2/12</u>	<u>3/12</u>	<u>4/12</u>	<u>5/12</u>	<u>6/12</u>	<u>7/12</u>	<u>8/12</u>	<u>9/12</u>	<u>10/12</u>	<u>11/12</u>	<u>12/12</u>	<u>Ave</u>
Flow	mgd	DailyAve	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	
Mercury, Total (as Hg)	ng/L	SingleVal	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	NoFlo	

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Waste Stream Station WS005 (Spent Tailings Disposal)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/12</u>	<u>2/12</u>	<u>3/12</u>	<u>4/12</u>	<u>5/12</u>	<u>6/12</u>	<u>7/12</u>	<u>8/12</u>	<u>9/12</u>	<u>10/12</u>	<u>11/12</u>	<u>12/12</u>	<u>Ave</u>
Mass Transported From Facility	ton/mo	SingleVal	NoMat	NoMat	NoMat	NoMat	NoMat	NoMat	NoMat	NoMat	NoMat	NoMat	NoMat	NoMat	

Waste Stream Station WS006 (Slag Disposal)

<u>Parameter Name</u>	<u>Limit and Units</u>	<u>Limit Type</u>	<u>1/12</u>	<u>2/12</u>	<u>3/12</u>	<u>4/12</u>	<u>5/12</u>	<u>6/12</u>	<u>7/12</u>	<u>8/12</u>	<u>9/12</u>	<u>10/12</u>	<u>11/12</u>	<u>12/12</u>	<u>Ave</u>
Mass Transported From Facility	ton/mo	SingleVal	NoMat	NoMat	NoMat	NoMat	NoMat	NoMat	NoMat	NoMat	NoMat	NoMat	NoMat	NoMat	

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