NorskeCanada
Crofton Division
8541 Hay Road
P.O. Box 70
Crofton, British Columbia
Canada V0R 1R0

memorandum

NorskeCanada

to	Michelle Vessey	date	April 23,2003
copy	J. Poirier, R. Orser, P. Jones, R. Jellema, G. Kissack J. Lucas, S. Lundahl, S. Power, R. Young		
from	Cal Eurich		
subject	Executive Summary of Air Monitoring Report Submitted to the Ministry of Water, Land and Air Protection for the Period January to March 2003.		

SUMMARY

T.R.S. EMISSION - RECOVERIES

	PERMIT	ACHIEVED					
		January		February		March	
	DAILY MAX	DAILY MAX	MONTHLY AVG	DAILY MAX	MONTHLY AVG	DAILY MAX	MONTHLY AVG
No. 3 recovery TRS mg/m^3	<9.2	6.83	2.35	3.27	1.49	5.53	1.64
SO_2 ppm	NL	550	443	450	180	450	316
No. 4 recovery TRS mg/m^3	<9.2	3.47	0.55	0.72	0.11	11.92	1.80
SO_2 ppm	NL	500	375	100	50	440	218

NL = No Limit

PARTICULATE EMISSIONS

	QUARTER NO. 1	PERMIT
No. 3 Recovery mg/m^3	40.5	230
No. 4 Recovery mg/m^3	15.6	230
Lime Kilns mg/m^3	46.3	230
No. 3 Dis. Stack kg/ADUt	.06	0.20
No. 4 Dis. Stack kg/ADUt	.08	0.20
No. 4 P. Boiler January-		
Total mg/m3	67.0	230
Salt Free	31.5	
No. 4 P. Boiler February		
Total mg/m3	119	230
Salt Free	54.2	
No. 4 P. Boiler March		
Total mg/m3	107	230
Salt Free	48.4	
No. 4 P. Boiler - 4 month rolling average Total mg/m3	79	115

T.R.S. EMISSIONS

1. RECOVERY BOILERS

	AVERAGE TRS EMISSION (mg/m^3)		
	January	**February**	**March**
#3 Recovery	2.35	1.49	1.64
#4 Recovery	0.55	0.11	1.80

* new analyzer installed but the results are unreliable

2. MISCELLANEOUS SOURCES

January	**Kg Sulphur/day**	**ADUt/day**	**Kg S/ADUt**
#3 Dissolving stack	24.5	1411	.017
#4 Dissolving stack	23.5	1411	.017
Kilns	12.6	993	.013
Foam and Seal Tanks	9.1	1189	.008
A Brown Washers	40.1	1189	.034
B Seal Tanks	46.4	1189	.039
B&K Brown Washers	21.1	1189	.018
TRS EMISSIONS	(Permit 0.225 kg/ADUt)		.145

February	**Kg Sulphur/day**	**ADUt/day**	**Kg S/ADUt**
#3 Dissolving stack	26.0	1173	.022
#4 Dissolving stack	16.0	1173	.014
Kilns	13.5	1270	.011
Foam and Seal Tanks	6.7	1377	.005
A Brown Washers	66.6	1377	.048
B Seal Tanks	31.1	1377	.023
B&K Brown Washers	20.4	1377	.015
TRS EMISSIONS	(Permit 0.225 kg/ADUt)		.137

March	Kg Sulphur/day	ADUt/day	Kg S/ADUt
#3 Dissolving stack	29.1	1142	.025
#4 Dissolving stack	15.2	1142	.013
Kilns	12.8	1284	.010
Foam and Seal Tanks	13.4	1522	.009
A Brown Washers	70.4	1522	.046
B Seal Tanks	35.7	1522	.023
B&K Brown Washers	26.4	1522	.017
TRS EMISSIONS	(Permit 0.225 kg/ADUt)		.145

3. % NCG VENTING TIME

	Digesters	Concentrator *	Evaporators		
			No. 1 *	No. 2 *	No. 3 *
January	5.0	0	0	0	0
February	30.8	0	0	0	0
March	6.7	0	0	0	0

* NCG venting emissions from the concentrator and the No. 1, No. 2, and No. 3 evaporator trains are treated through the #3 recovery boiler dissolving tank scrubber using weak wash as the scrubber medium.

SULPHUR DIOXIDE EMISSIONS

1. RECOVERY BOILERS

	AVERAGE SO2 EMISSION (ppm)		
	January	**February**	**March**
#3 Recovery	443	180	316
#4 Recovery	375	50	218

2. POWER BOILER

	SO2 EMISSION (Kg SO2)		
	January	**February**	**March**
#4 Power Boiler	11408	39087	46538

3. KILNS

	SO2 EMISSION (Kg SO2)		
	January	**February**	**March**
Kiln	32441	17717	21333

PARTICULATE EMISSIONS

1. RECOVERY BOILERS

RECOVERY BOILER NO.	DATE	B.L. FIRING RATE SOLIDS t/day	FLOW m^3/min. (1)	$\%O_2$	PARTICULATE mg/m^3		
					TEST	AVG.	PERMIT
3	Feb. 4	986	3520	7.7	40.0	40.5	230
	Feb. 4	986	3570	7.7	36.2		
	Feb. 4	986	3550	7.7	45.3		
4	Feb. 5	1765	5730	6.7	17.5	15.6	230
	Feb. 5	1765	5720	6.8	16.4		
	Feb.5	1765	5660	6.8	12.8		

		QUARTER NO. 1	
		NO. 3 Boiler Average	NO. 4 Boiler Average
1	Average Firing Rate For Quarter (t/day)	777	1436
2	90th Percentile rate (t/day) For 90 Days Prior to Test	960	1636
3	Maximum Operating Rate in Quarter (t/day)	1036	1809

2. DISSOLVING STACKS

TANK NO.	DATE	PROD'N RATE		AIR FLOW	PARTICULATE (kg/ADUt)		
		SOLIDS FIRED t/day	PULP ADUt t/day	m^3/min (1)	TEST	AVG.	PERMIT
3	Jan. 15	906	868	495	.05	.06	.20
	Jan. 15	906	868	504	.06		
	Jan. 15	906	868	489	.07		
4	Feb. 6	1185	1016	519	.09	.08	.20
	Feb. 6	1185	1016	520	.07		
	Feb.6	1185	1016	519	.08		

3. LIME KILNS

DATE	PROD'N RATE t/day	90th percentile t/day	FLOW m^3/min	PARTICULATE mg/cu.m		
				TEST	AVERAGE	PERMIT
Mar. 19	344	348	846	41.6	46.3	230
Mar. 19	344	348	864	51.2		
Mar. 19	344	348	874	46.0		

4. POWER BOILERS

ITEM	TEST 1	TEST 2	TEST 3	AVG
No. 4 Power Boiler:	Jan.17	Jan.17	Jan.17	
Steam Flow LB/HR	329235	319021	323476	323911
Steam from Hog LB/HR	269000	261547	263247	264598
Air Flow m^3/min	4830	4870	4940	4880
% CO^2	10.8	9.3	9.3	9.8
90th percentile LB/HR	362000	362000	362000	362000
Particulate mg/m^3:				
Total	50.3	80.0	70.8	67.0
Salt Free	23.6	37.5	33.3	31.5

4. POWER BOILERS (continued)

ITEM	TEST 1	TEST 2	TEST 3	AVG
No. 4 Power Boiler:	Feb. 27	Feb. 27	Feb. 27	
Steam Flow LB/HR	480944	476324	465777	474348
Steam from Hog LB/HR	378850	366444	350985	365426
Air Flow m^3/min	5450	5330	5420	5400
% CO^2	13.0	12.7	12.3	12.6
90^{th} percentile LB/HR	358000	358000	358000	358000
Particulate mg/m^3:				
Total	116	129	113	119
Salt Free	52.1	60.5	49.9	54.2

ITEM	TEST 1	TEST 2	TEST 3	AVG
No. 4 Power Boiler:	Mar. 20	Mar. 20	Mar. 20	
Steam Flow LB/HR	409897	420227	421858	417327
Steam from Hog LB/HR	332878	366559	370140	256525
Air Flow m^3/min	5690	5650	5750	5700
% CO^2	10.0	10.0	9.0	9.7
90^{th} percentile LB/HR	362000	362000	362000	362000
Particulate mg/m^3:				
Total	95.7	112	114	107
Salt Free	44.2	51.8	49.3	48.4