



memorandum

NorskeCanada

to Michelle Vessey date October 30, 2003

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from Cal Eurich

subject Executive Summary of Air Monitoring Report Submitted to the Ministry of Water,
 Land and Air Protection for the Period July to September 2003.

SUMMARY

T.R.S. EMISSION - RECOVERIES

		ACHIEVED					
	PERMIT	July		August		September	
		MAX DAILY AVG	MONTHLY AVG	MAX DAILY AVG	MONTHLY AVG	MAX DAILY AVG	MONTHLY AVG
No. 3 recovery TRS mg/m ³	<9.2	N/A	N/A	N/A	N/A	N/A	N/A
SO ₂ ppm	NL	480	365	350	305	360	175
No. 4 recovery TRS mg/m ³	<9.2	6.16	2.23	3.66	1.12	5.05	0.69
SO ₂ ppm	NL	450	269	300	178	400	174

NL = No Limit

PARTICULATE EMISSIONS

	QUARTER NO. 3	PERMIT
No. 3 Recovery mg/m ³	56.9	230
No. 4 Recovery mg/m ³	32.0	230
Lime Kilns mg/m ³	47.8	230
No. 3 Dis. Stack kg/ADUt	.05	0.20
No. 4 Dis. Stack kg/ADUt	.07	0.20
No. 4 P. Boiler July		
Total mg/m ³	37.4	230
Salt Free	14.8	
No. 4 P. Boiler August		
Total mg/m ³	69.0	230
Salt Free	41.8	
No. 4 P. Boiler September		
Total mg/m ³	89.0	230
Salt Free	41.5	
No. 4 P. Boiler - 4 month rolling average Total mg/m ³	57.9	115

T.R.S. EMISSIONS

1. RECOVERY BOILERS

	AVERAGE TRS EMISSION (mg/m ³)		
	July	August	September
#3 Recovery*			
#4 Recovery	2.23	1.12	0.69

* new analyzer installed but the results are unreliable

2. MISCELLANEOUS SOURCES

July	Kg Sulphur/day	ADUt/day	Kg S/ADUt
#3 Dissolving stack	7.6	1488	.005
#4 Dissolving stack	6.7	1488	.004
Kilns	316.1	1218	.259
Foam and Seal Tanks	21.4	849	.025
A Brown Washers	54.4	849	.064
B Seal Tanks	28.8	849	.034
B&K Brown Washers	30.9	849	.036
TRS EMISSIONS	(Permit 0.225 kg/ADUt)		.429

August	Kg Sulphur/day	ADUt/day	Kg S/ADUt
#3 Dissolving stack	14.7	1355	.011
#4 Dissolving stack	10.3	1355	.008
Kilns	4.2	1204	.003
Foam and Seal Tanks	11.4	1077	.011
A Brown Washers	59.3	1077	.055
B Seal Tanks	33.6	1077	.031
B&K Brown Washers	39.7	1077	.037
TRS EMISSIONS	(Permit 0.225 kg/ADUt)		.156

September	Kg Sulphur/day	ADUt/day	Kg S/ADUt
#3 Dissolving stack	16.6	1157	.014
#4 Dissolving stack	26.1	1157	.023
Kilns	11.2	1221	.009
Foam and Seal Tanks	16.1	1107	.015
A Brown Washers	48.4	1107	.044
B Seal Tanks	15.1	1107	.014
B&K Brown Washers	38.9	1107	.035
TRS EMISSIONS	(Permit 0.225 kg/ADUt)		.153

3. % NCG VENTING TIME

	Digesters	Concentrator *	Evaporators		
			No. 1 *	No. 2 *	No. 3 *
July	3.2	0	0	0	0
August	6.1	0	0	0	0
September	4.9	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)		
	July	August	September
#3 Recovery	365	305	175
#4 Recovery	269	178	174

2. POWER BOILER

	SO2 EMISSION (Kg SO2)		
	July	August	September
#4 Power Boiler	0	0	8685

3. KILNS

	SO2 EMISSION (Kg SO2)		
	July	August	September
Kiln	42522	43640	37488

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	July 15	1037	3630	7.7	56.9	56.9	230
	July 15	1037	3680	7.7	57.4		
	July 15	1037	3670	7.7	56.4		
4	July 16	1697	5180	7.5	31.5	32.0	230
	July 16	1697	5020	7.3	22.4		
	July 16	1697	4970	6.8	42.2		

		QUARTER NO. 3	
		NO. 3 Boiler Average	NO. 4 Boiler Average
1	Average Firing Rate For Quarter (t/day)	767	1500
2	90 th Percentile rate (t/day) For 90 Days Prior to Test	1003	1639
3	Maximum Operating Rate in Quarter (t/day)	1020	2155

2. DISSOLVING STACKS

TANK NO.	DATE	PROD'N RATE		AIR FLOW	PARTICULATE (kg/ADU _t)		
		SOLIDS FIRED t/day	PULP ADU _t t/day	m ³ /min (1)	TEST	AVG.	PERMIT
3	July 14	1023	1176	570	.06	.05	.20
	July 14	1023	1176	519	.06		
	July 14	1023	1176	548	.04		
4	July 16	1697	1249	529	.07	.07	.20
	July 16	1697	1249	515	.07		
	July 16	1697	1249	505	.07		

3. LIME KILNS

DATE	PROD'N RATE t/day	90 th percentile t/day	FLOW m ³ /min	PARTICULATE mg/cu.m		
				TEST	AVERAGE	PERMIT
July 18	329	343	677	57.3	47.8	230
July 18	329	343	689	43.1		
July 18	329	343	699	43.0		

4. POWER BOILERS

ITEM	TEST 1	TEST 2	TEST 3	AVG
No. 4 Power Boiler:	July 17	July 17	July 17	
Steam Flow LB/HR	329978	338897	330170	333015
Steam from Hog LB/HR	310513	320292	310082	313619
Air Flow m ³ /min	4940	4890	4970	4930
% CO ²	11.3	10.9	10.4	10.9
90 th percentile LB/HR	366000	366000	366000	366000
Particulate mg/m ³ :				
Total	44.9	31.2	36.1	37.4
Salt Free	9.7	17	17.8	14.8

4. POWER BOILERS (continued)

ITEM	TEST 1	TEST 2	TEST 3	AVG
No. 4 Power Boiler:	August 7	August 7	August 7	
Steam Flow LB/HR	334741	334436	334871	335683
Steam from Hog LB/HR	302829	302407	302368	302534
Air Flow m ³ /min	4560	4600	4670	4610
% CO ²	11.7	11.3	12.0	11.7
90 th percentile LB/HR	358000	358000	358000	358000
Particulate mg/m ³ :				
Total	49.6	82.2	75.1	69.0
Salt Free	32.5	50.5	42.3	41.8

ITEM	TEST 1	TEST 2	TEST 3	AVG
No. 4 Power Boiler:	Sept. 29	Sept. 29	Sept. 29	
Steam Flow LB/HR	348606	386771	382653	372677
Steam from Hog LB/HR	343621	383754	380691	369355
Air Flow m ³ /min	5210	5300	5260	5260
% CO ²	10.2	11.0	11.0	10.8
90 th percentile LB/HR	343000	343000	343000	343000
Particulate mg/m ³ :				
Total	95.4	109	63.2	89.0
Salt Free	39.7	57.4	27.5	41.5