SEATTLE PLANT

MILL PROCESS SUMMARY

	Aim	Prior Year	Y.T.D. 1976	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
CRUSHING ROCK															
Production, Tons		102,855	134,910	12,365	12,919	14,611	14,213	16,233	16,202	16,009	17,070	15,288			
Production Rate, TPH		75.5	75.8	62.7	65.9	73.0	63.4	79.3	79.4	75.1	89.8	93.8			
Rock Moisture, %				-	-					-					
Gypsum Purity, %	95 Min.	96.5	96.9	97.1	97.2	97.4	96.5	97.1	97.3	96.5	96.3	96.4			
GRINDING ROCK - ROLLER MILLS															
Production, Tons		77,158	100,837	8,968	9,867	10,832	10,633	12,328	12,109	12,266	12,499	11,335			
Operating Hours:		5,136		656	669										
Mill No. 1			3,406	281	301	370	488	421	415	373	380	377			
Mill No. 2			3,349	375	368	401	309	410	364	352	389	381			
Production Rate, TPH/Mill		15.7	14.6	13.6	14.74	14.04	13.34	12.7	15.5	16.9	16.2	14.95			
KWH/Ton															
Product Size (% -100M), Avg. %		94.4	93.1	93.7	93.7	94.2	93.2	93.7	92.2	91.2	91.8	94.6			
Range 3% Pts. Max.			14	14	13	16	14	13	16	14	12	10			
RECYCLE WASTE ADDED, TONS															
Wet															
Dry															
CALCINING (CONTINUOUS)															
Production, Tons, Stucco		54,847	80,691	7,176	7,950	8,622	8,531	9,811	9,682	9,733	10,032	9,154			
Operating Hours:															
Kettle No. 1			5,820	508	501	680	666	701	709	716	692	647			
Kettle No. 2			6,044	542	626	725	509	731.5	613	688	744	686			
Production Rate, TPH, Ave./Kettle		6.2	6.8	6.8	7.0	5.74	7.26	6.85	7.1	6.93	7.0	6.86			
M BTU/Ton, Stucco			1.08	1.30	1.188	1.12	1.07	1.08	1.09	1.00	.96	1.00			
Kettle No. 1	1.0	1.23													
Kettle No. 2	1.0	1.22													
Kettle Temp. °F.		317	315	320	320	320	315	315	315	315	315	300			
Calcium Chloride, #/T Gypsum			0.8	0	0	0	0	0	0	0	0	0.8			
HOT PIT															
Normal Cons. Ave., cc	71	71	70	71	72	71	70	71	70	69	70	68			
Range, cc	2 Max.		7	7	4	8	8	6	7	7	3	9			
Set Time, Minutes	15 - 30	21	21	20	21	20	22	20	21	21	19	25			
% Comb. H_2O	5.6 -6.1	5.84	5.96	5.84	5.96	5.84	5.97	6.01	6.00	6.02	5.98	5.98			
REGRINDING STUCCO: (BALL MILL)															
Production Rate, TPH			17.3	18	18	18	18	18	18	16	16	16			
Operating Hours			4,662	380	441	479	473	545	537	608	627	572			
KWH/Ton															
STUCCO QUALITY															
Fineness (Blaine S.A.) Ave.	7200	5,892	6,058	6,564	6,292	6,368	6,006	6,164	5,790	5,790	5,952	5,598			
Range	700		1,390	1,361	2,343	961	1,529	1,066	977	932	1,812	1,529			
Normal Cons. Avg.,cc	72	72	71	72	72	72	71	71	70	70	70	71			
Range, cc	2 Max.		4	4	6	3	4	4	4	4	3	3			
Set Time, Minutes	20 - 30	26	25	28	26	26	25	25	25	24	21	27			
Comp. Str.,psi,dry	1100 Min.		1,468	1,427	1,488	1,536	1,458	1,500	1,408	1,400	0	1,529			
Cube Density Lbs./Cu ft.			67.5	68.4	66.5	66.7	68.6	66.7	67.8	66.7	0	68.5			

KG2003772

SEATTLE PLANT

BOARD PROCESS SUMMARY

	Prior Year	Y.T.D. 1976	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
PRODUCTION, ACTUAL MSF														
1/2"	46,392	72,453	6,087	6,474	8,018	6,998	10,422	7,997	8,635	8,265	8,557			
5/8"X	22,145	31,755	2,249	3,770	3,640	3,613	2,679	4,289	3,585	4,267	3,663			
1" NAF	304	93	93	0	-	0	8	0	-	-	0			
Other	13,759	10,937	1,366	1,199	774	1,203	1,092	1,106	1,867	1,682	648			
Total Actual MSF	82,502	114,239	9,796	11,443	12,432	11,814	14,194	13,392	14,087	14,213	12,868			
Total MSF, Eq. 1/2"	88,211	122,108	10,427	12,363	13,256	12,808	14,784	14,530	14,950	15,184	13,806			
OPERATING HOURS, GROSS	4,911	6,381	576	696	744	720	741	720	744	744	696			
DOWNTIME, (% OF TOTAL HRS./MONTH)														
Scheduled (Full Inventory)	49.2	5.47	22.58	2.0	1.34	11.62	.45	3.14	3.49	.99	3.62			
Transition (Start,Stop,Change)	1.06	.32	1.3	.1	.1	.34	0	.25	.15	0	.7			
Operational	.60	1.56	1.25	.29	.55	5.51	.46	2.50	2.00	.80	.73			
Maintenance	.20	3.09	0	2.72	.93	19.4	.71	.39	1.34	.19	2.19			
PRODUCTION RATE BELT MSF/NET HR.														
1/2"	18.9	19.5	18.7	18.4	17.7	19.4	20.1	20.7	20.7	20.4	19.8			
5/8"X	16.0	17.0	15.5	15.7	15.9	17.1	17.5	18.0	17.8	18.1	17.7			
1" NAF	10.3	7.1	7.1	0	-	0	0	0	-	-	-			
LINESPEED, FPM														
1/2"	78.2	81.4	77.8	76.5	73.9	80.8	83.7	86.2	86.2	85.0	82.7			
5/8"X	67.0	71.0	64.4	65.6	66.4	71.4	73	75.1	74.2	75.4	73.6			
1" NAF	64.0	59.4	59.4	0	-	0	-	0	-	-	-			
BOARD FORMULATION, 1/2", #/MSF														
Stucco	1,374	1,371	1,380	1,377	1,366	1,377	1,373	1,358	1,370	1,363	1,374			
Paper Fiber	12.9	12.2	12.3	12.3	12.3	12.2	12.6	12.1	11.8	12.4	11.9			
Glass Fiber		-	-	-	-	0	-	0	-	-	-			
Starch	11.1	10.1	11.0	11.3	11.5	10.6	9.4	8.7	8.5	9.0	10.5			
Sugar	1.1	0.5	0.9	0.8	0.7	0.5	0.5	0.5	0.1	0	0.7			
Foaming Agent	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4			
Lignin	5.9	5.2	5.4	5.7	6.0	5.7	5.2	5.0	5.0	4.6	4.0			
End Trim	27.2	29.1	23.6	26.1	22.5	28.3	30.6	31.1	31.5	31.6	36.3			
Potassium Sulfate		-	-	-	-	0	-	0	0.7	0	-			
Paper (Face & Back)	123.0	122.0	120.	120.0	120.0	120.0	120.0	126.0	123.0	123.0	126.0			
Boric Acid		-	-	-	-	0	-	0	-	0	-			
Other		-	-	-	-	0	-	0	-	0	-			
BOARD FORMULATION, 5/8"X, #/MSF														
Stucco	1,729	1,725	1,719	1,725	1,737	1,735	1,720	1,705	1,713	1,728	1,742			
Paper Fiber		0	0	0	-	0	0	0	0	0	0			
Glass Fiber	4.0	4.0	4.1	4.0	4.1	4.1	4.0	4.0	4.1	4.0	4.0			
Starch	13.0	11.7	13.2	12.5	12.8	12.1	11.1	10.5	10.3	11.2	12.0			
Sugar	1.2	0.5	1.1	0.8	0.6	0.5	0.5	0.5	0.2	0	0.5			
Foaming Agent	0.6	0.4	0.5	0.4	0.4	0.4	0.4	0.5	0.5	0.4	0.5			
Lignin	6.9	5.7	5.7	6.6	6.8	6.4	5.8	5.1	5.4	5.2	4.5			
End Trim	25.4	28.6	25.3	25.8	20.1	27.5	30.4	31.5	32.8	29.8	34.5			
Potassium Sulfate		-	-	-	-	0	0	0	0.6	8	-			
Vermiculite	23.1	24.3	23.3	23.4	23.4	23.6	23.4	24.7	25.9	25.2	25.7			
Paper (Face & Back)	124.0	122.0	120.	120.0	120.0	120.0	120.0	126.0	123.0	123.0	126.0			
Boric Acid		-	-	-	-	0	-	0	-	0	-			
Other		-	-	-	-	0	-	0	-	0	-			

KG2003773

SEATTLE PLANT

BOARD PROCESS SUMMARY

	Aim	Prior Year	Y.T.D. 1976	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
MIXER															
Slurry Temp., °F.	100 - 120	98	96	98	97	97	96	92	95	96	96	96			
Slump, inches 1/2"	4.5 - 6	5.3	5.3	5.5	5.4	5.3	5.4	5.3	5.3	5.3	5.3	5.3			
Set Time (Min. & Sec)1/2"	2 -4:30	3:03	2.9	3.0	3.0	2.9	2.9	2.8	2.9	3.0	2.9	2.9			
Comp. Str.,psi,wet	200 - 400	247	236	253	253	253	239	240	226	218	214	230			
DRYING BOARD															
Lb. H_2O Evap./Hr., 1/2"		16,586	16,697	16,119	16,137	15,346	16,897	17,025	17,057	17,326	17,136	17,226			
Steam Usage, Lbs./Hr., 1/2"		245	21,197	21,644	22,059	22,196	21,990	21,584	20,560	20,660	20,525	19,553			
Dryer Exit Temp.,°F.,1/2"	220 Max.	243	245	241	243	245	245	245	245	245	246	247			
$\overline{M}$ BTU/MSF, 1/2", Belt	1.8	1.793	1.833	1.897	1.897	1.879	1.791	1.918	1.787	1.782	1.770	1.772			
$\overline{M}$ BTU/MSF, 5/8"X, Belt	1.9	2.038	2.105	2.289	2.224	2.091	2.032	2.202	2.055	2.072	1.995	1.982			
Board Moisture, %,1/2"			-	-	-	-	-	-	-	-	-	-			
BTU/#H_2O Evap. (1/2")		1,977	2,144	2,201	2,163	2,167	2,055	2,264	2,169	2,129	2,107	2,037			
Lb. H_2O Evap./MSF (1/2")		872	855	862	877	867	871	847	824	837	840	870			
Lb. H_2O Evap./MSF (5/8"X)		984	958	985	984	990	971	924	925	946	952	946			
Lb. H_2O Evap./MSF (1")		1,942	1,980	1,980	-	-	-	-	-	-	0	-			
AVE. WEIGHT, DRY #/MSF															
1/2"	1750	1,782	1,756	1,761	1,760	1,744	1,762	1,758	1,746	1,757	1,749	1,770			
5/8"X	2150	2,209	2,181	2,170	2,178	2,186	2,190	2,174	2,164	2,173	2,186	2,211			
1" NAF	4500	4,534	4,709	4,709	-	-	-	-	0	-	-	-			
WEIGHT RANGE, DRY, #/MSF, 1/2"															
Maximum Range	50	181	168	201	203	274	131	170	114	119	117	181			
Minimum Range		42	65	93	49	62	57	60	57	69	52	83			
PERCENT NO. 1															
1/2"		97.1	97.4	97.5	97.7	97.5	96.7	97.4	97.2	97.5	97.7	97.4			
5/8"X		96.2	96.9	97.1	96.6	96.6	97.5	96.2	97.0	97.3	96.6	97.1			
1" NAF		94.7	97.1	97.1	-	-	-	-	-	-	-	-			
END TRIM + WET WASTE (% OF BELT MSF) 1/2"		1.0	1.04	1.19	0.7	1.17	.79	.94	1.07	1.19	1.14	1.25			
CULLS, TOTAL MSF, ALL PRODUCTS		1,369	2,266	142	339	196	303	268	251	266	282	219			
% TOTAL CULLS, ALL PRODUCTS:															
Paper		16	29.0	8.0	23	24	16	28.3	43.1	34.6	40.6	44.1			
Equipment		17	18.9	41.25	18	20	22	12.5	12.0	14.7	20.1	10.1			
Transition		5.6	19.7	16.0	21	15	19	5.5	30.0	29.5	13.4	28.3			
Operational:															
Poor Bond		32.6	10.0	11.0	8	12	12	24.1	9.0	6.5	6.1	8.0			
Bad Edge		15.8	11.8	7.0	13	16	18	15.0	5.0	11.0	15.77	7.0			
Other		11.6	13.2	15.0	17	13	13	14.6	1.0	3.7	40.2	2.5			
$\overline{M}$ BTU/MSF Belt (Total)	3.0	2.897	2.775	2.994	2.913	2.793	2.874	2.777	2.752	2.647	2.603	2.620			
KWHr./MSF Belt (Total)		54.81	45.33	53.6	47.82	47.49	47.27	39.90	44.68	41.80	40.75	44.64			
LBS. STEAM/MSF Belt (total			1,239	1,450	1,449	1,505	1,246	1,159	1,116	1,058	1,093	1,072			

KG2003774

SEATTLE PLANT

QUALITY SUMMARY

BOARD QUALITY	Specs.	Prior Year	Y.T.D. 1976	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Bond, Cooled Board Peel (Inch)															
1/2"	Max. 1.0		0.32	0.1	0.2	0.1	0.1	0.1	0.1	0.2	1.0	1.0			
5/8"X	Max. 1.0		0.4	0.1	0.3	0.1	0.1	0.1	0.1	0.3	1.0	1.5			
Bond, % Compliance			97	99	96	98	98	99	99	97	93	92			
Parallel Flexural Str. (Pounds)															
1/2"	Min. 40	57	59	60	61	57	58	58	57	58	63	58			
5/8"X	Min. 62	76	77	80	78	77	75	75	73	77	78	76			
Parallel Deflection (Inch)															
1/2"	Min. .20	.29	.39	.43	.39	.32	.33	.37	.39	.39	.43	.43			
5/8"X	Min. .15	.26	.35	.43	.33	.33	.33	.35	.32	.34	.36	.35			
Punch Test (Pounds)															
1/2"	550 - 900	849	822	830	879	856	898	825	810	754	723	827			
5/8"X	600 -1000	797	751	756	814	781	800	737	729	700	695	743			
Edge Hardness (Pounds)															
1/2"	10 - 18	11.9	10.2	9.9	10.1	10.7	10.1	10.6	9.9	9.7	10.3	10.2			
5/8"X	10 - 18	11.1	9.2	9.4	9.1	9.4	9.4	8.9	9.0	8.9	9.2	9.2			

COMMENTS:

1. High dry weight variation due changeovers and problems with line speed variation.
2. Changed to batch calcining, on 9/7/76, from continuous calcining. 300°F dump 20 lbs of dry $CaCl_2$ per kettle.
3. Reduced dry $Cacl_2$ to 16 lbs per kettle on 9/10/76.
4. Started using 4 gals liquid $Cacl_2$/kettle on No. 2 on 9/17/76.
5. Started using 4 gals liquid $CaCl_2$/kettle on No. 1 on 9/24/76.
6. Reduced kettle cycle times from 2½-2-3/4 hrs to 2¼-2½ hrs on 9/13/76.
7. 1/2" board quality has shown some improvement; 5/8" board quality still not up to par.

KG2003775