

Florida Department of
Environmental Protection

Memorandum

TO: A.A. Linero
FROM: Russell Wider
DATE: July 17, 2000
SUBJECT: Florida Rock Cement

I visited Florida Rock Industries Newberry Cement Plant in Alachua County during the week of July 11th (specifically, the dates of July 11 - July 13). The site is approximately 10 miles west of I-75 and Gainesville.

I managed to contact Lalit Lalwani of DEP's Gainesville office prior to visiting the plant and confirmed that the plant at Newberry was currently undergoing stack tests. Inspectors from the DEP's Jacksonville office were scheduled to observe the stack tests on both July 11 and July 13.

The plant manager, Mr. Cary Cohrs gave me a tour of the facility. It would appear that the site is nearly fully constructed. I believe the only equipment that currently has not been addressed is the mechanism by which the site will burn tires and tire derived fuel (TDF). George Townsend, one of FRI's engineers, replied that they are six months away from being able to use tires and TDF as fuel, since, at this time, they do not have a plans finalized for their use. The stack tests were conducted while firing only coal. Mr. Cohrs stated that the coal's sulfur content shall not exceed 1.25% by weight.

Currently testing shows that the NOx emission rate is 3.0 lbs/ton of clinker. George Townsend provided me with a listing of the facilities emission limits and process rates. As well, I was provided printouts of the process control equipment screens for the Polcid NT systems that monitors the equipment. These items are attached.

Attachment

Facility Emission Limits & Process Rates

Kiln/Raw Mill Stack:	Emission Rates				
	Opacity	Lbs./ Ton of Clinker	Lbs./Ton Kiln Feed Dry Basis	Lbs./Hr.	Tons/Year
Particulate Matter (PM)		0.31	0.2	30	110.5
Particulate Matter (PM ₁₀)		0.26	0.17	25.5	93.93
Visible Emissions (VE)	10%				
Sulfur Dioxide (SO ₂) *		0.28	0.18	28.82	108.55
Sulfuric Acid Mist (H ₂ SO ₄)	To Be Determined By Future Stack Test				
Nitrogen Oxides (NO _x) ** Year 1 & 2		3.8	2.4	364	1,353.80
Nitrogen Oxides (NO _x) ** Year 3 & ~		2.8	1.8	268.3	1,018.00
Carbon Monoxide (CO)		3.6	2.3	346.38	1,288.60
Volatile Organic Compounds (VOCs)		0.12	0.08	11.55	42.9
Beryllium (Be)	To Be Determined By Future Stack Test				
Dioxin	No limit Stated				

Kiln Clinker Production Rates				
Max. TPH	Max. TPD	Max. TPY	Max. Oper. Hours	Max. Op.. Days At Max. Prod.
95.80	2,300.00	712,500.00	8,760.00	309.78

* Sulfur Dioxide as 24 hour rolling average (interim), final limit will be set based on initial stack test results

** NO_x 30 Day Rolling Average and emission rates for years 1 & 2

8760 Hours/Year is allowed as long as the 712,500 TPY Clinker production is not exceeded

The stack test should be conducted while firing fuels (coal 70% & used tires 30%), when tires are used. All continuous monitoring system must be operational, and certified where applicable, during the compliance test. The certified monitors must be operated in accordance with 40 CFR 60 Appendix F or other approved QA/QC Plan and 40CFR 60 Appendix B Performance Specifications 1,2, and3. The temperature monitor must be installed, operated and maintained in accordance with 40CFR 60.253. Plant operating logs shall be established and maintained to log the process(s) material inputs and fuel(s) fired.

File: Emission & Process Limits.xls

Facility Emission Limits & Process Rates

Clinker Cooler Stack:	Emission Rates				
	Opacity	Lbs./Ton of Clinker	Lbs./Ton Kiln Feed Dry Basis	Lbs./Hr.	Tons/Year
Pollutant					
Particulate Matter (PM)		0.16	0.1	14.99	55.7
Particulate Matter (PM10)		0.13	0.09	12.71	47.34
Visible Emissions (VE)	10%				

Preheater Process Input Rates, Dry Basis*				
Max. TPH	Max. TPD	Max. TPY	Allowable Operating Hours	Allowable Op.. Days At Max. Prod.
149.90	3,598	1,114,350	8,760	309.71
No definition or stated moisture given for "dry Basis"				
63.91% Feed to clinker shrinkage factor				

Material Handling & Storage:	Emission Rates				
	Opacity	Lbs./Ton of Clinker	Lbs./Ton Kiln Feed Dry Basis	Lbs./Hr.	Tons/Year
Handling	5%				
Storage	5%				
Conveyance	5%				
Coal Removal From Pile	20%				

Note: List all baghouses by unique name or ID number and the serial number for each baghouse

Process Fuel(s) Usage Rates

Kiln Fuel Usage:	TPH	MMBtu/Hr	TPD	TPY	MMBtu/Ton Of Clinker*
	Coal	14	364	336	122,640
Tires	4.2	109.2	100.8	36,792	
* - Based on total fuel(s) consumption	Coal Sulfur content shall not exceed 1.25% by weight, Certificate of analysis				
	Gals./Hr.	Gals./Day	Gals./Year		
No. 2 Fuel Oil - Start Up Only	14	342	125,000		
	Sulfur content shall not exceed 0.05% by weight - Certificate of analysis				

Raw Mill Air Heater	Gals./Hr.	Gals./Day	Gals./Year
No. 2 Fuel Oil	284	6,811	2,486,000
	Sulfur content shall not exceed 0.05% by weight - Certificate of analysis		

Total input of mercury compounds, Hg, in the raw materials and fuels may not exceed 200 Lbs./Year. This will be demonstrated through monthly sampling and analysis of raw mill feed, coal, and tires.

Clinker Silos - Two @ 25,000 Tons
 Cement Silo 1 - 7,000 ST, NW
 Cement Silo 2 - 7,000 ST, NE

Cement Silo 3 - 2,500 ST, Middle
 Cement Silo 4 - 8,000 ST, SW
 Cement Silo 1 - 8,000 ST, SE

Baghouses Specifications & Design Data

Emission Control Unit		Equip. No.	Unit Model No.	Bag Material All 16 Oz./Yard	No. of Bags	Bag Size	Bag Area	Cloth Area	Design ACFM	A-C Ratio	Temp. Deg. F	Delta P INWG	Stack Dia.
Finish mill Baghouse No. 1 (W) *	1	NO9-01	2M1088TA10	Duo-Density Poly.	2,176	5" X 10'	13.09	28,484	128,600	4.51	175	21	7.5
Finish mill Baghouse No. 2 (E)	2	N12-01	608TA10	Duo-Density Poly.	608	5" X 10'	13.09	7,959	26,500	3.33	111	15	4
Finish mill Baghouse No. 3 (S)	3	N91-01	100TA10	Polyester	100	5" X 10'	13.09	1,309	6,000	4.58	200	10	
Aeroplo @ Homogenizing Silo	4	E28-01	48TA10	Singed Nomex	48	5" X 10'	13.09	628	3,000	4.77	300	10	
Homogenizing Silo, Inlet	5	G07-01	224TA10	Singed Polyester	224	5" X 10'	13.09	2,932	15,000	5.12	200	10	
Poldos, Homogen. Silo Outlet	6	H08-01	48TA10	Singed Polyester	48	5" X 10'	13.09	628	3,000	4.77	200	10	
Coal Mill No. 1, North	7	S17-01	980183	Singed Ploy. Ept.	144	6" X 14'	21.99	3,167	12,000	3.79	150	16	
Coal Mill No. 2, South	8	S17-01	980183	Singed Ploy. Ept.	144	6" X 14'	21.99	3,167	12,000	3.79	150	16	
Coal Mill No. 3, East	9	S21-01	52FR8TA	Polyester	52	5" X 8'	10.47	545	2,000	3.67	150	10	
Clinker Cooler Conveyor	10	LO3-01	48TA10	Singed Nomex	48	5" X 10'	13.09	628	3,000	4.77	300	10	
Clinker Silo, Inlet	11	LO6-01	64TA10	Singed Nomex	64	5" X 10'	13.09	838	4,000	4.77	300	10	
Lime/Gyp. Conveyor Discharge	12	MO8-01	64TA10	Singed Polyester	64	5" X 10'	13.09	838	4,000	4.77	212	10	
Cement Silo Input No. 1 (E)	13	Q25-01	168TA10	Singed Polyester	168	5" X 10'	13.09	2,199	12,000	5.46	150	10	
Cement Silo Input No. 2 (W)	14	Q26-01	168TA10	Singed Polyester	168	5" X 10'	13.09	2,199	12,000	5.46	150	10	
Truck Load-out No. 1 (N)	15	Q14-01	48TA10	Singed Polyester	48	5" X 10'	13.09	628	3,000	4.77	150	8	
Truck Load-out No. 2 (S)	16	Q17-01	48TA10	Singed Polyester	48	5" X 10'	13.09	628	3,000	4.77	150	8	
Railcar Load-out	17	Q21-01	81TA10	Singed Polyester	81	5" X 10'	13.09	1,060	3,000	2.83	150	8	
Packing Plant	18	R12-01	168TA10	Singed Polyester	168	5" X 10'	13.09	2,199	12,000	5.46	150	10	
Totals					4,401			60,036					

The visible emissions (VE) limit on all baghouses is 5%

* - Two 1,088 bag units, A & B

Coal Mill No. 1 & No. 2 have Stainless Steel cages and venturi's and Singed Polyester Eptropic (Grounded) Bags

Bag Area Square Feet=(Dia." X 3.1416 X Length")/144 In^2/Ft^2

Compliance Test CEM Certification Requirements

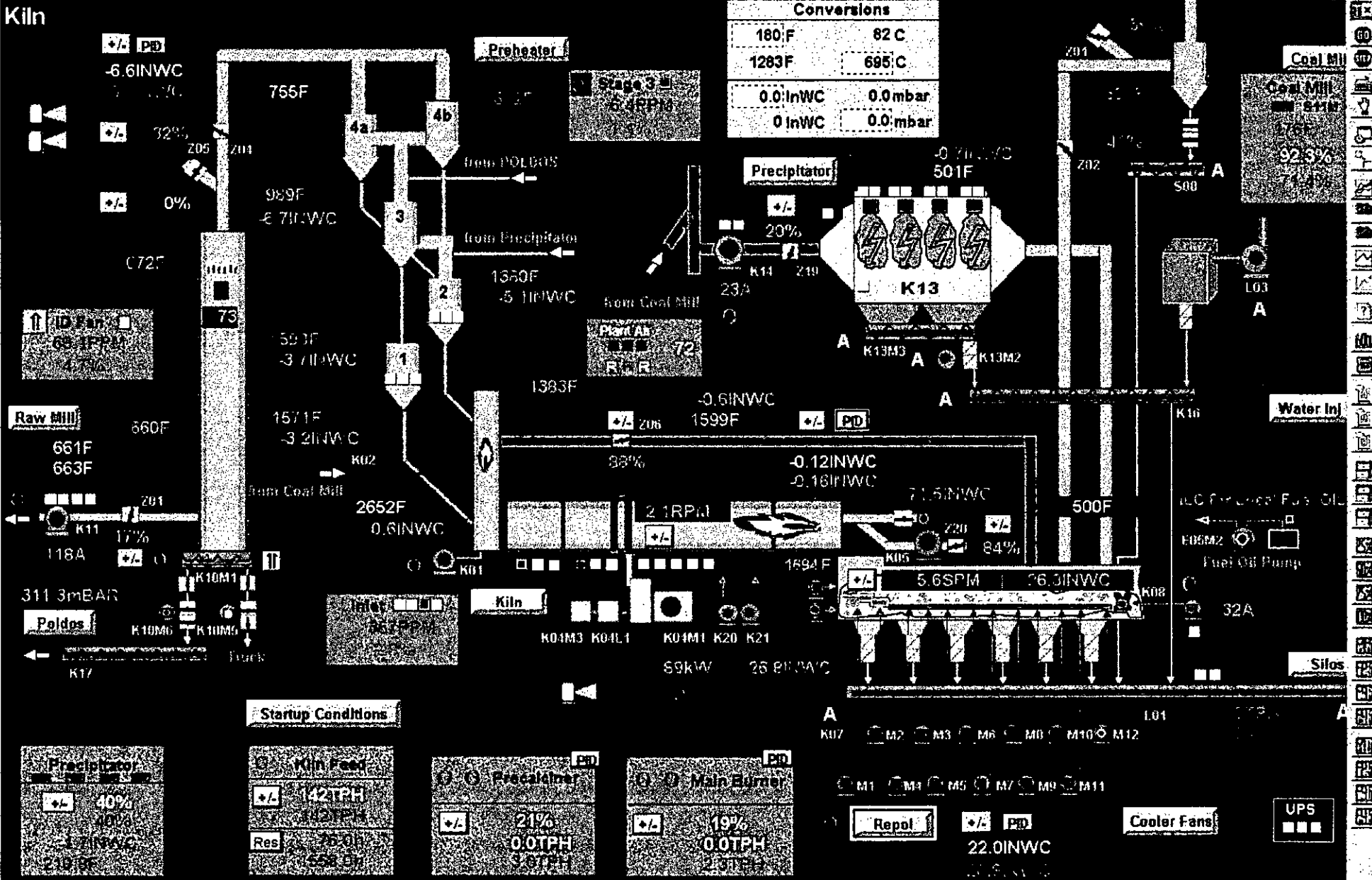
	Emission Control Unit	Equip. No.	Stack or Exist. Ht.	Design Parameters				Compliance Test Parameters									
				ACFM	Temp. F	Delta P INWG	Stack Dia.	VE	PM	PM10	SO2	NOx	H2SO4	CO	VOC	Be	Dioxin
				1	Kiln/Raw Mill ESP Stack	E19-01	251	200,000	300	9	9.42	X	X	X	X	X	X
2	Clinker Cooler ESP Stack	K13-01	251	172,000	550	8	6.5	X	X	X							
3	Finish Mill Baghouse No.1 (E)	N09-01	126	128,600	175	21	7.5	X	X	X							
4	Finish Mill Baghouse No.2 (W)	N12-01	126	26,500	111	15	4	X	X	X							
5	Finish Mill Baghouse No. 3 (S)	N91-01	44	6,000	200	10		X									
6	Aeropol @ Homogenizing Silo	E28-01	70	3,000	300	10		X									
7	Homogenizing Silo Inlet	G07-01	237	15,000	200	10		X									
8	Poldos Homogenizing Silo Outlet	H08-01	53	3,000	200	10		X									
9	Coal Mill No. 1, North	S17-01	*	12,000	150	16		Discharges into the Clinker Cooler Stack									
10	Coal Mill No. 2, South	S17-01	*	12,000	150	16		Discharges into the Clinker Cooler Stack									
11	Coal Mill No. 3, East	S21-01	65	2,000	150	10		X									
12	Clinker Cooler Conveyor	LO3-01	24	3,000	300	10		X									
13	Clinker Silo, Inlet	LO6-01	190	6,000	300	10		X									
14	Lime/Gyp. Conveyor Discharge	MO8-01	17	4,000	212	10		X									
15	Cement Silo Input No. 1 (E)	Q25-01	190	12,000	150	10		X									
16	Cement Silo Input No. 2 (W)	Q26-01	190	12,000	150	10		X									
17	Truck Load-out No. 1 (N)	Q14-01	34	3,000	150	8		X									
18	Truck Load-out No. 2 (S)	Q17-01	34	3,000	150	8		X									
19	Railcar Load-out	Q21-01	46	3,000	150	8		X									
20	Packing Plant	R12-01	48	12,000	150	10		X									

Continuous Emission Monitor Certifications	Compliance				Process	
	Opacity	SO2	NOx	Flow	CO	O2
Kiln/Raw Mill ESP Stack	X	X	X	X	X	X
Clinker Cooler ESP Stack w/Coal Mill	X					
Coal Mill Outlet		Temp. F (Process)				

Dioxins sampling shall be:

Quarterly - Year One
 Annually - Year Two & Three
 Every Five Years Thereafter

U2MD Main



trendc_h



142.331	K11G14H1F02A1	K115: Preh Stage 4a Outlet Temp	0.000	200.0	°F
-0.46	K11RPV\K1P14A1	H1F02: Kiln Feed Rate	0.000	220.0	TPH
3.441	K11RPV\K1P19A1	K1P14: Preh Stage 4 Exit Pressure	-30.0	0.000	INWC
0	K11RPV\K1A05A1	K1P19: Kiln Feed Inlet Pressure	-6.00	0.000	INWC
		K1A05: Kiln Inlet Gas Analyzer Oxygen	0.000	10.00	%

11:47:10 AM 13-Jul-2000

Reset X-Axis

Resumed

Time > 1 h.

Time Range (minute)

60

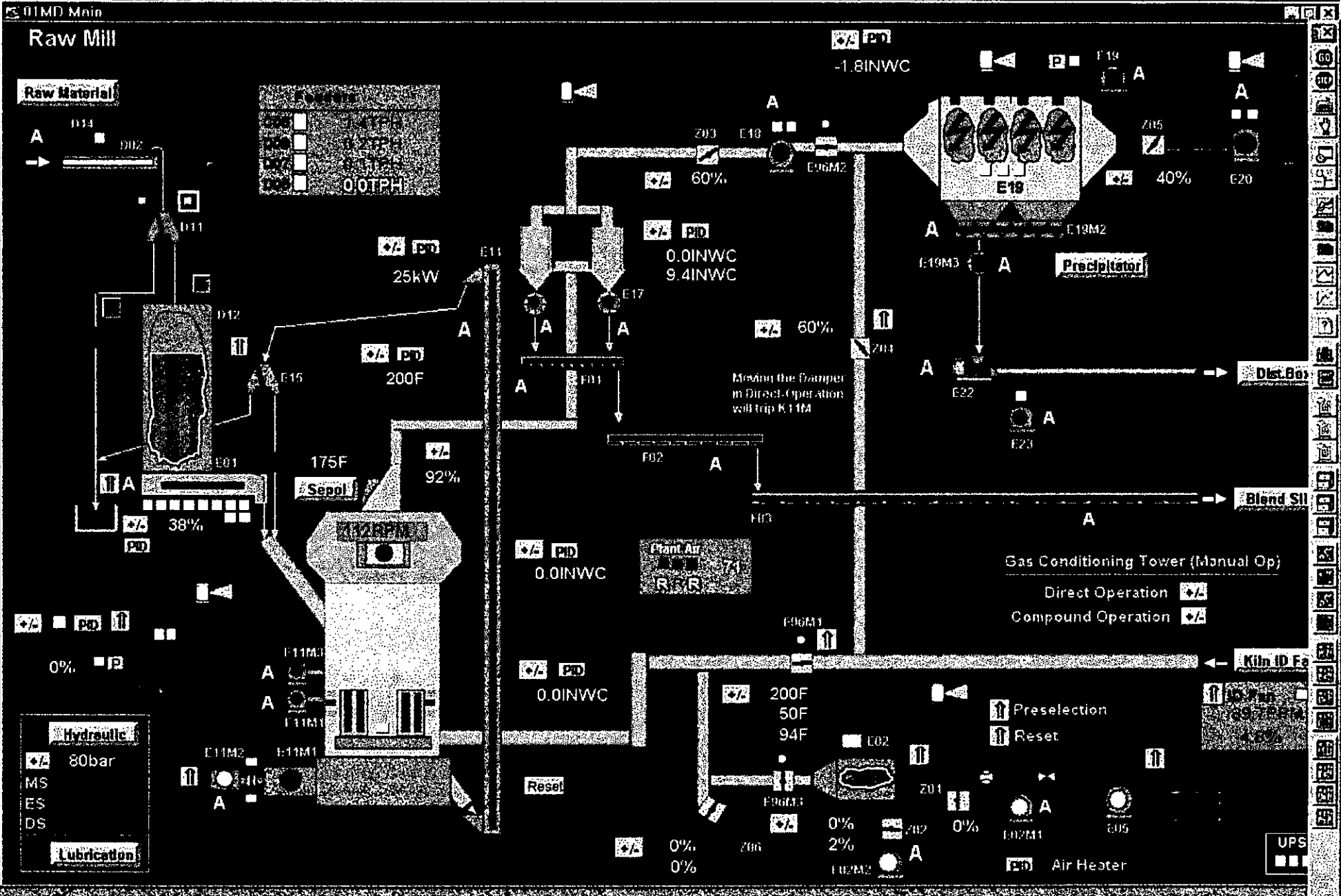
Reset Y-Axis

Show Only Selected

Hide Selected

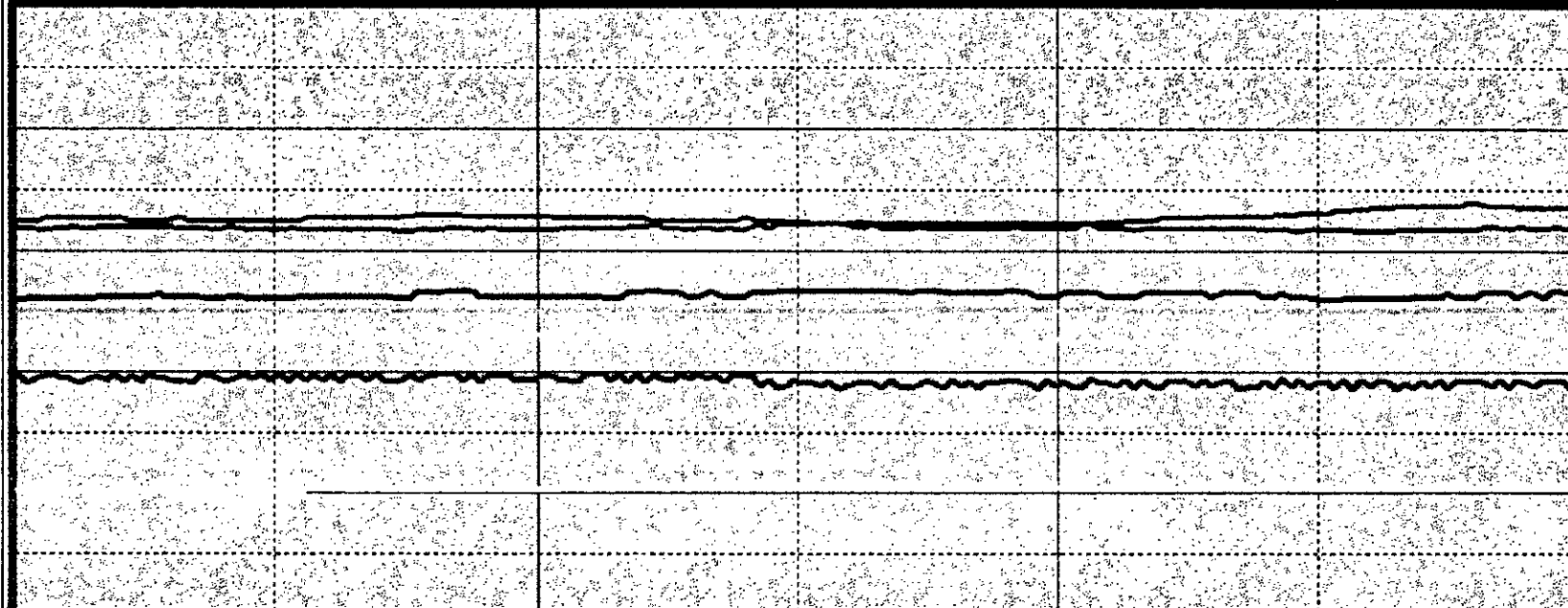
Show All Pens

Trend Starttime





trendc_h



Reset Y-Axis

Show Only Selected

Hide Selected

Show All Pens

Trend Starttime

	E1R2VIE1T03A1	E1T03: RM Inlet Temperature	0.000	1000.	F
	E1R2VIE1T07A1	E1T07: Precip Inlet Temp	0.000	1000.	F
-3.089	E1R1PVIE1P01A1	E1P01: RM Inlet Pressure	-10.0	3.000	INWC
	E1R1PVIE1P02A1	E1P02: RM Outlet Pressure	-40.0	3.000	INWC
-1.698	K1R1PVIE1P08A1	E1P08: Precip Inlet Pressure	-10.0	3.000	INWC
200.689	E1R1PVIE1T04A1	E1T04: RM Outlet Temperature	0.000	300.0	F
507.181	E1R1PVIE1T03A1	E1T03: RM Inlet Temperature	0.000	1000.	F
0	K1R1PVIE1T07A1	E1T07: Precip Inlet Temp	0.000	1000.	F

11:45:27 AM 13-Jul-2000

Reset X-Axis

Resumed

Time > 1 h.



Time Range (minute)

60

**Florida Rock Industries, Inc.
Thompson S. Baker Cement Plant
Kiln/Raw Mill CEM Data Report**

Daily Report for 07/11/2000

Time	O2 1 hr % Avg	NO 1 hr ppm Avg	NO2 1 hr ppm Avg	NOx 1 hr ppm Avg	NOxMass 1 hr lbs/hr Avg	SO2 1 hr ppm Avg	SO2Mass 1 hr lbs/hr Avg	StkFlow 1 hr scfm Avg	ClrTemp 1 hr deg F Avg	KilnTemp 1 hr deg F Avg
00:00	11.0	381	8	389	342	0	0	130409	172	179
01:00	12.0	399	9	408	358	0	0	130409	172	179
02:00	12.0	401	10	411	367	0	0	132542	174	176
03:00	12.0	403	12	415	371	0	0	132788	174	175
04:00	10.0	496	15	511	457	0	0	132788	174	175
05:00	8.0	586	12	598	436	0	0	108267	173	224
06:00	8.0	653	20	673	491	0	0	108267	173	224
07:00	7.0	623	16	639	386	0	0	89772	172	237
08:00	9.0	497	15	512	339	0	0	98371	172	212
09:00	10.0	446	14	460	305	0	0	98371	174	212
10:00	10.0	468	13	481	344	0	0	106128	173	189
11:00	10.0	453	13	466	333	0	0	106128	173	189
12:00	10.0	438	13	451	351	0	0	115639	173	199
13:00	10.0	436	13	449	371	0	0	122730	173	194
14:00	10.0	358	8	366	302	0	0	122730	173	194
15:00	10.0	370	8	378	321	0	0	125956	173	193
16:00	10.0	442	13	455	386	0	0	125956	175	193
17:00	9.0	516	19	535	459	0	0	127312	169	197
18:00	9.0	553	24	577	492	0	0	126712	169	200
19:00	10.0	433	15	448	382	0	0	126712	170	200
20:00	10.0	455	12	467	398	0	0	126416	167	200
21:00	11.0	502	18	520	443	0	0	126416	167	200
22:00	12.0	444	15	459	389	0	0	125767	162	187
23:00	9.0	559	14	573	430	0	0	111497	162	214
Total					9253		0	2858083		
Average	10.0	471	14	485	386	0	0	119087	171	198
Maximum	12.0	653	24	673	492	0	0	132788	175	237
Minimum	7.0	358	8	366	302	0	0	89772	162	175
Rolling	7.9	391	7	390	282	1	1	97285	229	4480
Uptm %	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
# Per	24	24	24	24	24	24	24	24	24	24
MNR	0	0	0	0	0	0	0	0	0	0
ND	0	0	0	0	0	0	0	0	0	0
OC	0	0	0	0	0	0	0	0	0	0
CAL	0	0	0	0	0	0	0	0	0	0
Bad Per					0	0	0	0	0	0

Key: N or ND No Data F or IF Instrument Failure
 U or UD User Disable C or CAL Calibration
 R or OC Out of Control MNR Monitoring Not Required
 I or INS Insufficient Data *** Format Error
 X Excess

Florida Rock Industries, Inc.
Thompson S. Baker Cement Plant
Kiln/Raw Mill Stack Opacity Report

Daily Report for 07/11/2000

Time	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 1 Hr % Avg
00:00	8	8	8	7	7	7	7	7	7	7	7	7
01:00	6	6	6	6	6	6	6	6	6	6	6	7
02:00	6	6	6	7	7	7	7	7	7	7	7	7
03:00	7	7	8	19	15	15	24	49	49	49	49	6
04:00	49	47	42	42	42	46	47	47	47	47	45	6
05:00	52	63	63	57	54	54	54	56	78	72	72	29
06:00	72	72	35	39	69	69	69	69	82	82	82	56
07:00	59	18	14	14	14	13	10	10	10	10	10	56
08:00	9	9	9	9	9	9	9	9	10	10	11	38
09:00	11	11	12	14	14	14	14	12	12	12	12	38
10:00	11	11	11	11	11	10	11	11	11	11	10	10
11:00	9	9	9	9	9	9	9	9	9	9	9	11
12:00	9	9	9	9	9	9	9	8	8	8	8	11
13:00	8	8	8	8	8	3	3	3	3	3	4	8
14:00	9	10	10	10	9	9	9	9	9	9	9	8
15:00	9	9	10	11	11	11	11	10	10	10	10	7
16:00	10	10	10	10	10	11	10	10	10	10	11	7
17:00	12	13	13	13	12	12	12	12	13	12	12	10
18:00	12	12	11	11	11	11	11	11	11	11	11	10
19:00	11	12	12	12	12	10	9	9	9	9	9	10
20:00	9	8	8	8	8	7	7	7	6	6	6	11
21:00	6	6	4	4	4	4	5	5	6	6	6	7
22:00	6	12	19	20	20	21	20	20	20	20	20	7
23:00	22	21	21	21	22	21	21	21	42	81	81	12
Total	4122											379
Average	17											16
Maximum	82											56
Minimum	3											6
Uptm %	100.00											100.00
# Per	240											24
MNR	0											0
ND	0											0
OC	0											0
CAL	0											0
Bad Per	0											0

Key: N or ND No Data F or IF Instrument Failure
U or UD User Disable C or CAL Calibration
R or OC Out of Control MNR Monitoring Not Required
I or INS Insufficient Data *** Format Error
X Excess

**Florida Rock Industries, Inc.
Thompson S. Baker Cement Plant
Clinker Cooler Stack Opacity Report**

Daily Report for 07/11/2000

Time	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 1 Hr % Avg
00:00	7	7	7	7	7	7	7	7	7	7	7	6
01:00	7	7	7	7	7	7	7	7	7	7	7	6
02:00	7	7	7	7	7	7	7	7	7	7	7	6
03:00	7	7	7	7	6	6	6	6	6	6	6	7
04:00	5	5	6	6	6	6	5	5	4	4	4	6
05:00	4	4	4	4	4	4	4	4	4	4	4	6
06:00	4	4	3	3	2	2	2	2	3	3	3	4
07:00	2	2	2	2	2	2	2	2	2	2	2	4
08:00	3	3	3	3	2	1	1	1	1	2	2	3
09:00	2	2	3	3	3	3	3	3	3	3	3	2
10:00	4	4	4	4	4	4	4	4	4	4	4	2
11:00	5	5	5	5	5	5	5	5	5	4	4	4
12:00	4	4	5	5	5	5	5	5	4	4	4	4
13:00	4	4	4	4	4	4	4	4	4	4	3	5
14:00	3	2	2	2	2	3	1	1	1	2	2	4
15:00	2	2	2	2	1	1	1	1	2	2	2	4
16:00	2	1	0	0	0	0	1	2	2	2	2	1
17:00	2	2	2	2	2	2	2	2	2	2	3	1
18:00	3	3	2	2	2	2	2	2	1	1	1	1
19:00	0	1	1	1	1	1	1	1	1	1	1	2
20:00	2	3	3	4	5	6	6	6	6	8	8	2
21:00	8	8	8	8	7	7	7	7	7	7	7	3
22:00	7	8	8	8	8	8	8	7	7	7	7	3
23:00	7	7	7	7	7	7	7	7	7	6	5	8
Total	995											94
Average	4											4
Maximum	8											8
Minimum	0											1
Uptm %	100.00											100.00
# Per	240											24
MNR	0											0
ND	0											0
OC	0											0
CAL	0											0
Bad Per	0											0

Key: N or ND No Data F or IF Instrument Failure
 U or UD User Disable C or CAL Calibration
 R or OC Out of Control MNR Monitoring Not Required
 I or INS Insufficient Data *** Format Error
 X Excess

Florida Rock Industries, Inc.
Thompson S. Baker Plant
Calibration Report

Calibration Report for 07/11/2000

Parameter	Date	Time	Cal Point	Cal Value	Cal Ref	% Cal Dev	Full Scale	Cal Stat
SO2 1	07/11/2000	07:28	ZERO	-20.7	0.0	-41.40	50.0	OK
SO2 1	07/11/2000	07:29	SPAN1	-2.0	50.0	-104.00	50.0	OK
O2 1	07/11/2000	07:29	SPAN1	20.9	21.0	-0.48	21.0	OK
O2 1	07/11/2000	07:31	ZERO	0.0	0.0	0.00	21.0	OK
NO 1	07/11/2000	07:29	ZERO	5.1	0.0	0.95	539.0	OK
NO 1	07/11/2000	08:00	SPAN1	538.0	539.0	-0.19	539.0	OK
NO2 1	07/11/2000	07:28	SPAN1	11.2	2.0	460.00	2.0	OK
NO2 1	07/11/2000	07:29	ZERO	0.4	0.0	20.00	2.0	OK

Table of Calibration Status Flags

- OK = Pass Calibration
- W = Pass Calibration, drift warning
- OC1 = Fail Calibration, excess one day cal drift, monitor out of control
- OC5 = Fail Calibration, excess five day cal drift, monitor out of control

**Florida Rock Industries, Inc.
Thompson S. Baker Cement Plant
Kiln/Raw Mill CEM Data Report**

Daily Report for 07/10/2000

Time	O2 1 hr % Avg	NO 1 hr ppm Avg	NO2 1 hr ppm Avg	NOx 1 hr ppm Avg	NOxMass 1 hr lbs/hr Avg	SO2 1 hr ppm Avg	SO2Mass 1 hr lbs/hr Avg	StkFlow 1 hr scfm Avg	ClrTemp 1 hr deg F Avg	KilnTemp 1 hr deg F Avg
00:00	9.0	555	18	573	343	0	0	88969	171	231
01:00	8.0	558	17	575	329	0	0	84919	170	227
02:00	8.0	581	17	598	324	0	0	80565	171	230
03:00	8.0	588	17	605	328	0	0	80565	171	230
04:00	10.0	481	14	495	285	0	0	85412	169	213
05:00	11.0	374	9	383	220	0	0	85412	169	213
06:00	11.0	349	9	358	239	0	0	99140	169	174
07:00	13.0	306	7	313	152	0	0	72005	168	195
08:00	15.0	162	3	165	80	0	0	72005	168	195
09:00	14.0	203	12	215	90	0	0	62425	163	226
10:00	9.0	445	8	453	190	0	0	62425	163	226
11:00	9.0	540	15	555	375	0	0	100238	167	240
12:00	10.0	459	13	472	434	0	0	136395	175	200
13:00	10.0	450	15	465	427	0	0	136395	175	200
14:00	10.0	399	11	410	379	0	0	137337	177	192
15:00	10.0	416	11	427	395	0	0	137337	177	192
16:00	10.0	437	13	450	408	0	0	134547	177	203
17:00	10.0	425	12	437	387	0	0	131569	177	202
18:00	10.0	441	11	452	400	0	0	131569	178	202
19:00	10.0	390	10	400	355	0	0	131648	178	195
20:00	10.0	383	7	390	346	0	0	131648	178	195
21:00	11.0	388	8	396	359	0	0	134545	176	188
22:00	12.0	343	6	349	308	0	0	131115	176	183
23:00	12.0	339	5	344	304	0	0	131115	173	183
Total					7457		0	2579300		
Average	10.4	417	11	428	311	0	0	107471	172	206
Maximum	15.0	588	18	605	434	0	0	137337	178	240
Minimum	8.0	162	3	165	80	0	0	62425	163	174
Rolling	7.8	389	7	386	276	1	1	96283	229	4481
Uptm %	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
# Per	24	24	24	24	24	24	24	24	24	24
MNR	0	0	0	0	0	0	0	0	0	0
ND	0	0	0	0	0	0	0	0	0	0
OC	0	0	0	0	0	0	0	0	0	0
CAL	0	0	0	0	0	0	0	0	0	0
Bad Per					0	0	0	0	0	0

Key: N or ND No Data F or IF Instrument Failure
 U or UD User Disable C or CAL Calibration
 R or OC Out of Control MNR Monitoring Not Required
 I or INS Insufficient Data *** Format Error
 X Excess

Florida Rock Industries, Inc.
Thompson S. Baker Cement Plant
Kiln/Raw Mill Stack Opacity Report

Daily Report for 07/10/2000

Time	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 1 Hr % Avg
00:00	10	10	11	12	11	11	11	12	12	12	12	12
01:00	12	12	12	12	12	13	13	13	14	13	13	12
02:00	14	14	14	14	15	50	50	50	13	13	20	12
03:00	20	20	28	3	3	3	3	3	3	3	3	12
04:00	3	3	3	3	3	2	2	2	2	2	2	14
05:00	2	2	2	2	2	2	2	2	2	15	15	14
06:00	15	15	14	12	12	12	12	10	10	10	10	2
07:00	22	14	14	14	14	14	17	17	17	17	14	6
08:00	13	12	12	18	26	26	26	30	36	37	37	6
09:00	37	37	32	29	50	50	50	17	19	19	19	13
10:00	28	34	41	41	41	14	10	10	10	10	9	13
11:00	9	9	9	9	8	8	8	7	7	6	6	27
12:00	6	6	6	6	6	6	7	7	8	8	8	12
13:00	7	7	7	7	7	3	4	4	4	4	4	12
14:00	7	8	8	8	8	8	9	9	11	9	9	6
15:00	9	9	9	9	9	9	9	9	9	9	9	6
16:00	9	9	9	9	9	8	8	8	8	8	8	6
17:00	9	9	9	9	9	9	9	9	11	10	10	8
18:00	10	10	10	10	10	10	10	10	10	10	10	8
19:00	10	10	10	10	10	10	10	11	11	10	11	9
20:00	10	10	10	10	10	9	9	9	8	8	8	10
21:00	8	8	7	7	7	7	7	7	7	7	7	10
22:00	6	6	7	7	7	7	7	7	7	7	8	8
23:00	8	8	8	8	9	9	9	9	8	8	8	8
Total	2819											246
Average	12											10
Maximum	50											27
Minimum	2											2
Uptm %	100.00											100.00
# Per	240											24
MNR	0											0
ND	0											0
OC	0											0
CAL	0											0
Bad Per	0											0

Key: N or ND No Data F or IF Instrument Failure
U or UD User Disable C or CAL Calibration
R or OC Out of Control MNR Monitoring Not Required
I or INS Insufficient Data *** Format Error
X Excess

**Florida Rock Industries, Inc.
Thompson S. Baker Cement Plant
Clinker Cooler Stack Opacity Report**

Daily Report for 07/10/2000

Time	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 1 Hr % Avg
00:00	2	2	2	2	3	3	3	3	3	3	3	2
01:00	3	2	2	2	2	2	2	2	2	3	3	2
02:00	3	3	3	3	3	3	3	3	3	3	3	2
03:00	3	3	3	2	2	2	1	1	1	1	1	2
04:00	1	1	1	1	1	1	2	2	2	2	2	3
05:00	1	1	1	1	1	1	1	1	1	2	1	3
06:00	1	1	1	2	2	2	2	2	3	3	3	1
07:00	4	4	4	4	4	4	5	5	5	5	5	1
08:00	7	7	7	7	7	7	7	7	7	8	8	1
09:00	8	8	7	6	6	6	6	6	5	5	5	5
10:00	5	5	4	4	4	2	1	1	1	1	1	5
11:00	0	0	0	0	0	0	0	0	0	0	0	6
12:00	0	0	0	0	0	0	0	0	0	0	0	1
13:00	0	0	0	0	0	0	0	0	0	0	0	1
14:00	0	0	0	0	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	1	1	0	1	1	0
18:00	1	1	1	1	1	1	1	1	2	1	1	0
19:00	1	1	1	1	1	1	0	0	0	0	0	0
20:00	0	0	0	0	1	2	2	2	2	4	5	1
21:00	5	5	6	7	7	7	7	7	7	7	7	1
22:00	7	7	7	7	7	7	6	6	6	6	5	2
23:00	5	5	5	5	5	5	6	6	6	6	7	6
Total	573											45
Average	2											2
Maximum	8											6
Minimum	0											0
Uptm %	100.00											100.00
# Per	240											24
MNR	0											0
ND	0											0
OC	0											0
CAL	0											0
Bad Per	0											0

Key: N or ND No Data F or IF Instrument Failure
 U or UD User Disable C or CAL Calibration
 R or OC Out of Control MNR Monitoring Not Required
 I or INS Insufficient Data *** Format Error
 X Excess

Florida Rock Industries, Inc.
Thompson S. Baker Plant
Calibration Report

Calibration Report for 07/10/2000

Parameter	Date	Time	Cal Point	Cal Value	Cal Ref	% Cal Dev	Full Scale	Cal Stat
SO2 1	07/10/2000	07:25	ZERO	-3.7	0.0	-7.40	50.0	OK
SO2 1	07/10/2000	07:25	SPAN1	-3.7	50.0	-107.40	50.0	OK
O2 1	07/10/2000	07:24	ZERO	0.0	0.0	0.00	21.0	OK
O2 1	07/10/2000	07:24	SPAN1	0.0	21.0	-100.00	21.0	OK
NO 1	07/10/2000	07:24	ZERO	535.8	0.0	99.41	539.0	OK
NO 1	07/10/2000	07:24	SPAN1	535.8	539.0	-0.59	539.0	OK
NO2 1	07/10/2000	07:25	ZERO	2.4	0.0	120.00	2.0	OK
NO2 1	07/10/2000	07:25	SPAN1	2.4	2.0	20.00	2.0	OK

Table of Calibration Status Flags

- OK = Pass Calibration
- W = Pass Calibration, drift warning
- OC1 = Fail Calibration, excess one day cal drift, monitor out of control
- OC5 = Fail Calibration, excess five day cal drift, monitor out of control

Florida Rock Industries, Inc.
Thompson S. Baker Plant
Calibration Report

Calibration Report for 07/09/2000

Parameter	Date	Time	Cal Point	Cal Value	Cal Ref	% Cal Dev	Full Scale	Cal Stat
SO2 1	07/09/2000	07:28	SPAN1	-3.0	50.0	-106.00	50.0	OK
SO2 1	07/09/2000	07:28	ZERO	-33.8	0.0	-67.60	50.0	OK
O2 1	07/09/2000	07:29	ZERO	0.7	0.0	3.33	21.0	OK
O2 1	07/09/2000	07:31	SPAN1	21.1	21.0	0.48	21.0	OK
NO 1	07/09/2000	07:28	SPAN1	525.6	539.0	-2.49	539.0	OK
NO 1	07/09/2000	07:31	ZERO	4.9	0.0	0.91	539.0	OK
NO2 1	07/09/2000	07:28	ZERO	1.3	0.0	65.00	2.0	OK
NO2 1	07/09/2000	07:28	SPAN1	23.1	2.0	1055.00	2.0	OK

Table of Calibration Status Flags

OK = Pass Calibration
W = Pass Calibration, drift warning
OC1 = Fail Calibration, excess one day cal drift, monitor out of control
OC5 = Fail Calibration, excess five day cal drift, monitor out of control

**Florida Rock Industries, Inc.
Thompson S. Baker Cement Plant
Kiln/Raw Mill Stack Opacity Report**

Daily Report for 07/09/2000

Time	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 1 Hr % Avg
00:00	5	5	6	5	5	5	4	4	4	4	4	4
01:00	6	6	6	6	6	5	4	4	4	4	4	4
02:00	4	4	4	4	4	4	4	4	4	4	4	4
03:00	4	4	3	4	4	4	4	4	5	4	4	4
04:00	3	3	3	3	3	3	4	4	4	4	3	4
05:00	4	4	4	5	5	5	5	5	5	5	5	3
06:00	5	5	5	5	5	5	4	4	4	4	4	3
07:00	5	5	5	5	5	5	6	6	6	6	6	3
08:00	6	6	6	6	6	4	4	4	4	5	5	4
09:00	5	5	5	5	5	5	4	4	4	4	4	5
10:00	4	4	4	4	4	5	5	4	4	4	4	5
11:00	5	5	5	5	5	5	5	5	5	5	5	4
12:00	5	6	6	6	6	6	5	6	6	6	6	4
13:00	6	5	5	5	5	5	5	5	5	4	5	4
14:00	6	6	6	6	6	6	6	6	5	6	6	4
15:00	6	6	6	5	5	5	5	5	5	5	5	5
16:00	5	5	5	5	4	5	5	5	5	5	4	5
17:00	4	4	4	4	5	5	5	5	5	5	4	5
18:00	4	4	4	4	4	4	4	4	4	4	4	4
19:00	4	5	4	4	4	4	4	4	4	4	4	4
20:00	4	4	4	4	4	4	4	4	4	9	24	4
21:00	24	41	29	27	27	27	24	21	21	21	21	4
22:00	20	16	17	17	17	17	16	16	15	14	14	4
23:00	13	13	13	13	13	11	11	11	10	10	10	28
Total	1551											122
Average	6											5
Maximum	41											28
Minimum	3											3
Uptm %	100.00											100.00
# Per	240											24
MNR	0											0
ND	0											0
OC	0											0
CAL	0											0
Bad Per	0											0

Key: N or ND No Data F or IF Instrument Failure
 U or UD User Disable C or CAL Calibration
 R or OC Out of Control MNR Monitoring Not Required
 I or INS Insufficient Data *** Format Error
 X Excess

Florida Rock Industries, Inc.
Thompson S. Baker Cement Plant
Clinker Cooler Stack Opacity Report

Daily Report for 07/09/2000

Time	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 1 Hr % Avg
00:00	2	1	0	1	1	1	2	2	2	2	2	2
01:00	0	0	0	0	0	0	1	1	1	1	1	1
02:00	1	1	1	1	1	1	2	2	2	2	2	1
03:00	2	2	2	2	2	2	2	0	0	0	0	1
04:00	1	1	1	1	1	2	4	2	2	2	2	1
05:00	2	2	2	1	1	1	1	1	1	1	1	1
06:00	1	0	0	1	1	1	1	1	1	1	1	2
07:00	0	1	1	1	1	1	1	1	1	1	1	2
08:00	1	1	1	2	4	5	5	5	5	5	5	1
09:00	5	5	5	5	5	5	5	4	4	4	4	3
10:00	5	4	4	4	4	4	5	4	4	4	4	3
11:00	4	4	4	4	4	4	3	3	4	4	4	4
12:00	4	4	4	4	4	4	4	4	26	26	26	4
13:00	3	3	3	3	2	2	2	2	2	2	2	4
14:00	2	2	2	2	2	2	1	1	1	2	2	4
15:00	2	1	2	2	2	2	2	3	4	4	4	3
16:00	4	5	4	4	4	3	3	3	3	3	3	2
17:00	3	3	3	3	3	3	3	3	3	3	3	2
18:00	3	2	3	2	2	2	2	2	1	1	1	4
19:00	2	2	2	2	2	2	1	1	1	1	1	0
20:00	0	0	0	1	1	1	1	1	1	1	1	1
21:00	1	1	2	2	2	2	2	2	2	2	2	2
22:00	1	0	0	0	0	0	1	1	1	2	2	1
23:00	2	2	2	2	3	3	2	2	2	2	2	2
Total	579											54
Average	2											2
Maximum	26											4
Minimum	0											1
Uptm %	100.00											100.00
# Per	240											24
MNR	0											0
ND	0											0
OC	0											0
CAL	0											0
Bad Per	0											0

Key: N or ND No Data F or IF Instrument Failure
U or UD User Disable C or CAL Calibration
R or OC Out of Control MNR Monitoring Not Required
I or INS Insufficient Data *** Format Error
X Excess

**Florida Rock Industries, Inc.
Thompson S. Baker Cement Plant
Kiln/Raw Mill CEM Data Report**

Daily Report for 07/09/2000

Time	O2 1 hr & Avg	NO 1 hr ppm Avg	NO2 1 hr ppm Avg	NOx 1 hr ppm Avg	NOxMass 1 hr lbs/hr Avg	SO2 1 hr ppm Avg	SO2Mass 1 hr lbs/hr Avg	StkFlow 1 hr scfm Avg	ClrTemp 1 hr deg F Avg	KilnTemp 1 hr deg F Avg
00:00	11.0	519	26	545	373	0	0	101623	166	180
01:00	11.0	530	27	557	390	0	0	104047	165	178
02:00	11.0	521	24	545	382	0	0	104047	165	178
03:00	11.0	507	24	531	375	0	0	104920	165	176
04:00	11.0	463	19	482	341	0	0	104920	165	176
05:00	11.0	452	18	470	332	0	0	105050	165	175
06:00	11.0	454	18	472	335	0	0	105307	165	177
07:00	11.0	468	20	488	346	0	0	105307	165	177
08:00	11.0	500	26	526	370	0	0	104529	165	177
09:00	11.0	494	24	518	365	0	0	104529	165	177
10:00	11.0	495	16	511	362	0	0	105104	165	178
11:00	11.0	507	13	520	396	0	0	113148	168	180
12:00	11.0	511	11	522	398	0	0	113148	168	180
13:00	11.0	520	16	536	428	0	0	118463	172	182
14:00	11.0	530	20	550	439	0	0	118463	172	182
15:00	12.0	468	18	486	374	0	0	114154	174	182
16:00	11.0	462	26	488	388	0	0	118144	173	180
17:00	11.0	473	29	502	399	0	0	118144	173	180
18:00	11.0	448	16	464	369	0	0	118165	173	180
19:00	12.0	437	15	452	360	0	0	118165	173	180
20:00	11.0	453	18	471	375	0	0	118155	171	180
21:00	12.0	451	20	471	364	0	0	114649	172	188
22:00	10.0	508	21	529	408	0	0	114649	172	188
23:00	9.0	599	24	623	373	0	0	88969	171	231
Total					9042		0	2635799		
Average	11.0	490	20	511	377	0	0	109825	169	182
Maximum	12.0	599	29	623	439	0	0	118463	174	231
Minimum	9.0	437	11	452	332	0	0	88969	165	175
Rolling	7.7	391	7	389	274	1	1	95503	229	4481
Uptm %	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
# Per	24	24	24	24	24	24	24	24	24	24
MNR	0	0	0	0	0	0	0	0	0	0
ND	0	0	0	0	0	0	0	0	0	0
OC	0	0	0	0	0	0	0	0	0	0
CAL	0	0	0	0	0	0	0	0	0	0
Bad Per					0	0	0	0	0	0

Key: N or ND No Data F or IF Instrument Failure
 U or UD User Disable C or CAL Calibration
 R or OC Out of Control MNR Monitoring Not Required
 I or INS Insufficient Data *** Format Error
 X Excess

**Florida Rock Industries, Inc.
Thompson S. Baker Cement Plant
Kiln/Raw Mill CEM Data Report**

Daily Report for 07/09/2000

*Exit of
Cool Mill
Stack*

Time	O2 1 hr % Avg	NO 1 hr ppm Avg	NO2 1 hr ppm Avg	NOx 1 hr ppm Avg	NOxMass 1 hr lbs/hr Avg	SO2 1 hr ppm Avg	SO2Mass 1 hr lbs/hr Avg	StkFlow 1 hr scfm Avg	ClrTemp 1 hr deg F Avg	KilnTemp 1 hr deg F Avg
00:00	11.0	519	26	545	373	0	0	101623	166	180
01:00	11.0	530	27	557	390	0	0	104047	165	178
02:00	11.0	521	24	545	382	0	0	104047	165	178
03:00	11.0	507	24	531	375	0	0	104920	165	176
04:00	11.0	463	19	482	341	0	0	104920	165	176
05:00	11.0	452	18	470	332	0	0	105050	165	175
06:00	11.0	454	18	472	335	0	0	105307	165	177
07:00	11.0	468	20	488	346	0	0	105307	165	177
08:00	11.0	500	26	526	370	0	0	104529	165	177
09:00	11.0	494	24	518	365	0	0	104529	165	177
10:00	11.0	495	16	511	362	0	0	105104	165	178
11:00	11.0	507	13	520	396	0	0	113148	168	180
12:00	11.0	511	11	522	398	0	0	113148	168	180
13:00	11.0	520	16	536	428	0	0	118463	172	182
14:00	11.0	530	20	550	439	0	0	118463	172	182
15:00	12.0	468	18	486	374	0	0	114154	174	182
16:00	11.0	462	26	488	388	0	0	118144	173	180
17:00	11.0	473	29	502	399	0	0	118144	173	180
18:00	11.0	448	16	464	369	0	0	118165	173	180
19:00	12.0	437	15	452	360	0	0	118165	173	180
20:00	11.0	453	18	471	375	0	0	118155	171	180
21:00	12.0	451	20	471	364	0	0	114649	172	188
22:00	10.0	508	21	529	408	0	0	114649	172	188
23:00	9.0	599	24	623	373	0	0	88969	171	231
Total					9042		0	2635799		
Average	11.0	490	20	511	377	0	0	109825	169	182
Maximum	12.0	599	29	623	439	0	0	118463	174	231
Minimum	9.0	437	11	452	332	0	0	88969	165	175
Rolling	7.6	395	7	392	273	1	1	94515	229	4482
Uptm %	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
# Per	24	24	24	24	24	24	24	24	24	24
MNR	0	0	0	0	0	0	0	0	0	0
ND	0	0	0	0	0	0	0	0	0	0
OC	0	0	0	0	0	0	0	0	0	0
CAL	0	0	0	0	0	0	0	0	0	0
Bad Per					0	0	0	0	0	0

Key: N or ND No Data F or IF Instrument Failure
 U or UD User Disable C or CAL Calibration
 R or OC Out of Control MNR Monitoring Not Required
 I or INS Insufficient Data *** Format Error
 X Excess.

**Florida Rock Industries, Inc.
Thompson S. Baker Cement Plant
Kiln/Raw Mill Stack Opacity Report**

*10-6 min
Ave*

Daily Report for 07/09/2000

Time	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 6 min % Avg	KilnOp 1 Hr % Avg
00:00	5	5	6	5	5	5	4	4	4	4	4	4
01:00	6	6	6	6	6	5	4	4	4	4	4	4
02:00	4	4	4	4	4	4	4	4	4	4	4	4
03:00	4	4	3	4	4	4	4	4	5	5	4	4
04:00	3	3	3	3	3	3	4	4	4	4	3	4
05:00	4	4	4	5	5	5	5	5	5	5	5	3
06:00	5	5	5	5	5	5	4	4	4	4	4	3
07:00	5	5	5	5	5	5	6	6	6	6	6	3
08:00	6	6	6	6	6	4	4	4	4	5	5	4
09:00	5	5	5	5	5	5	4	4	4	4	4	5
10:00	4	4	4	4	4	5	4	4	4	4	4	5
11:00	5	5	5	5	5	5	5	5	5	5	5	4
12:00	5	6	6	6	6	6	5	6	6	6	6	4
13:00	6	5	5	5	5	5	5	5	5	4	5	4
14:00	6	6	6	6	6	6	6	6	6	5	6	4
15:00	6	6	6	5	5	5	5	5	5	5	5	5
16:00	5	5	5	5	4	5	5	5	5	5	4	5
17:00	4	4	4	4	4	5	5	5	5	5	4	5
18:00	4	4	4	4	4	4	4	4	4	4	4	4
19:00	4	5	4	4	4	4	4	4	4	4	4	4
20:00	4	4	4	4	4	4	4	4	4	9	24	4
21:00	24	41	29	27	27	27	24	21	21	21	21	4
22:00	20	16	17	17	17	17	16	16	16	15	14	4
23:00	13	13	13	13	13	13	11	11	11	10	10	28
Total	1551											122
Average	6											5
Maximum	41											28
Minimum	3											3
Uptm %	100.00											100.00
# Per	240											24
MNR	0											0
ND	0											0
OC	0											0
CAL	0											0
Bad Per	0											0

Check

Key: N or ND No Data F or IF Instrument Failure
 U or UD User Disable C or CAL Calibration
 R or OC Out of Control MNR Monitoring Not Required
 I or INS Insufficient Data *** Format Error
 X Excess

Florida Rock Industries, Inc.
Thompson S. Baker Cement Plant
Clinker Cooler Stack Opacity Report

Daily Report for 07/09/2000

Time	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 6 min % Avg	ClrOp 1 Hr % Avg
00:00	2	1	0	1	1	1	2	2	2	2	2
01:00	0	0	0	0	0	0	1	1	1	1	1
02:00	1	1	1	1	1	2	2	2	2	2	1
03:00	2	2	2	2	2	2	0	0	0	0	1
04:00	1	1	1	1	2	4	2	2	2	2	1
05:00	2	2	2	1	1	1	1	1	1	1	1
06:00	1	0	0	1	1	1	1	1	1	1	2
07:00	0	1	1	1	1	1	1	1	1	1	2
08:00	1	1	1	2	4	5	5	5	5	5	1
09:00	5	5	5	5	5	5	4	4	4	4	3
10:00	5	4	4	4	4	5	4	4	4	4	3
11:00	4	4	4	4	4	4	3	3	4	4	4
12:00	4	4	4	4	4	4	4	26	26	26	4
13:00	3	3	3	3	2	2	2	2	2	2	4
14:00	2	2	2	2	2	1	1	1	2	2	4
15:00	2	1	2	2	2	2	3	4	4	4	3
16:00	4	5	4	4	3	3	3	3	3	3	2
17:00	3	3	3	3	3	3	3	3	3	3	2
18:00	3	2	3	2	2	2	2	1	1	1	4
19:00	2	2	2	2	2	1	1	1	1	1	4
20:00	0	0	0	1	1	1	1	1	1	1	2
21:00	1	1	2	2	2	2	2	2	2	2	1
22:00	1	0	0	0	0	1	1	1	2	2	1
23:00	2	2	2	3	3	2	2	2	2	2	1
Total	579										54
Average	2										2
Maximum	26										4
Minimum	0										1
Uptm %	100.00										100.00
# Per	240										24
MNR	0										0
ND	0										0
OC	0										0
CAL	0										0
Bad Per	0										0

Key: N or ND No Data F or IF Instrument Failure
U or UD User Disable C or CAL Calibration
R or OC Out of Control MNR Monitoring Not Required
I or INS Insufficient Data *** Format Error
X Excess

Florida Rock Industries, Inc.

Thompson S. Baker Plant

Calibration Report

DAILY Calibration

Calibration Report for 07/09/2000

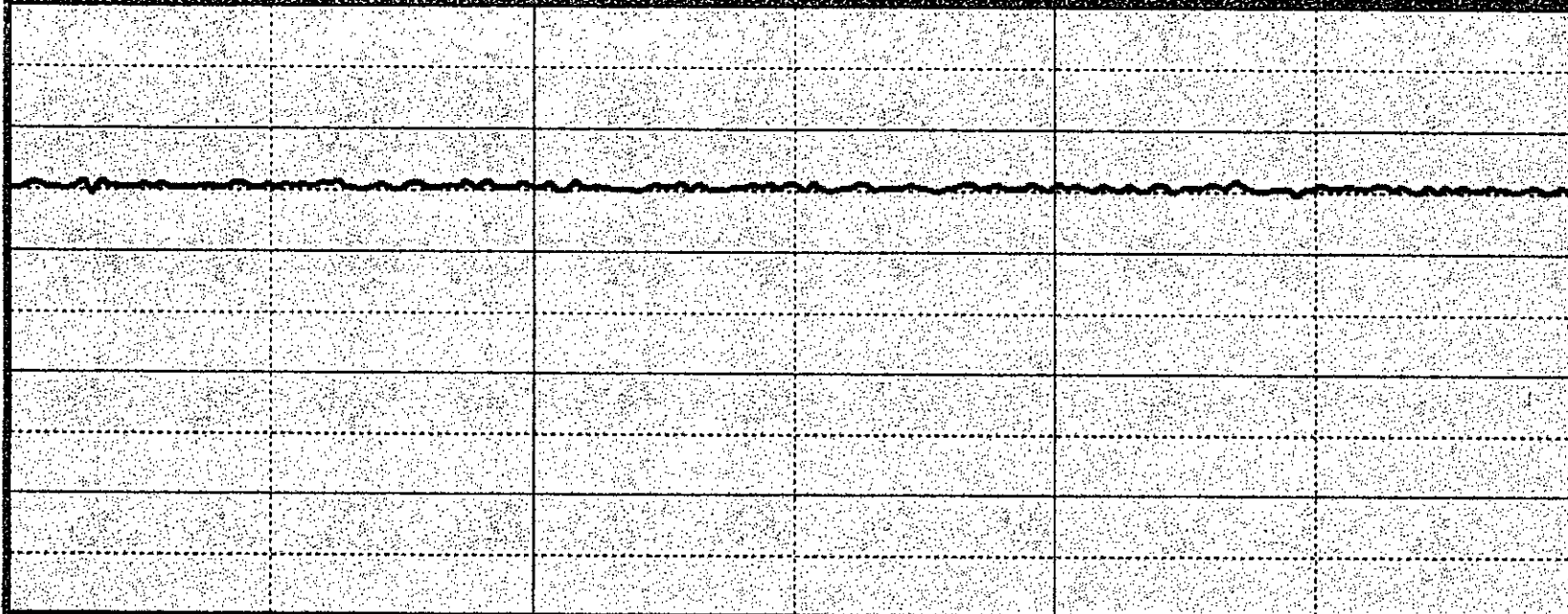
Parameter	Date	Time	Cal Point	Cal Value	Cal Ref	% Cal Dev	Full Scale	Cal Stat
SO2 1	07/09/2000	07:28	SPAN1	-3.0	50.0	-106.00	50.0	OK
SO2 1	07/09/2000	07:28	ZERO	-33.8	0.0	-67.60	50.0	OK
O2 1	07/09/2000	07:29	ZERO	0.7	0.0	3.33	21.0	OK
O2 1	07/09/2000	07:31	SPAN1	21.1	21.0	0.48	21.0	OK
NO 1	07/09/2000	07:28	SPAN1	525.6	539.0	-2.49	539.0	OK
NO 1	07/09/2000	07:31	ZERO	4.9	0.0	0.91	539.0	OK
NO2 1	07/09/2000	07:28	ZERO	1.3	0.0	65.00	2.0	OK
NO2 1	07/09/2000	07:28	SPAN1	23.1	2.0	1055.00	2.0	OK

Table of Calibration Status Flags

- OK = Pass Calibration
- W = Pass Calibration, drift warning
- OC1 = Fail Calibration, excess one day cal drift, monitor out of control
- OC5 = Fail Calibration, excess five day cal drift, monitor out of control



trendc_h



Reset Y-Axis

Show Only Selected

Hide Selected

Show All Pens

Trend Starttime

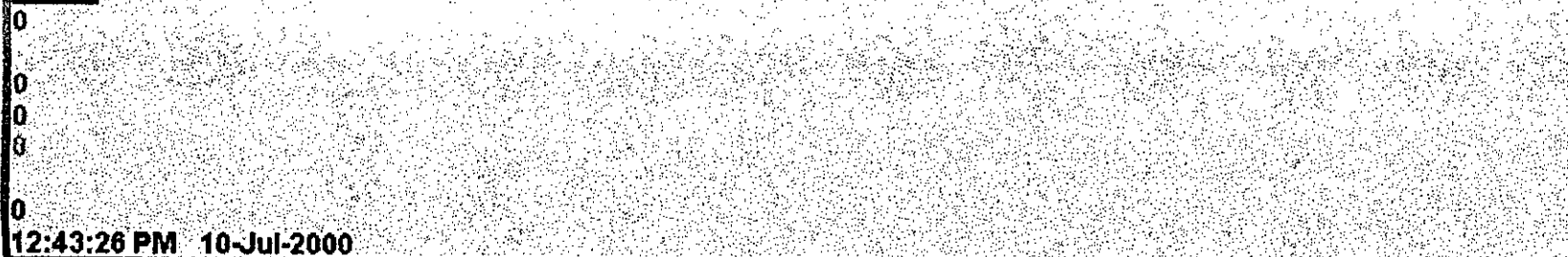
RRCN4HP02A1

HP02: Kim Feed Rate

0.000

220.0

PPH



12:43:26 PM 10-Jul-2000

Reset X-Axis

Resumed

Time > 1 h.



1 Time Range (minute) 60

Kiln & Preheater Daily Log

Date 12-29-99

Tag #	Description	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	100	200	300	400	500	600
H1F02	Kiln Feed Rate TPH		80	88 90	95	95	96	96	100								82	99	102	102	102	102	102	102	102
K1Z01	K-11 Preheater Fan Damper %		11	11	11	13	10	90 10	11								12	17	15	15	15	15	14	14	13
K1Z04	Preheater Throttle Damper Pos.		100	100	100	100	100	100	100								98	99	98	98	92	98	98	98	98
K1P14	Preheater Exit Draft		-7.2	-7.9	-7.8	-7.2	-7.6	-9.4	-9.0	-8.1							-7.9	-8.7	-8.9	-8.6	-9	-8.8	-8.7	-8.5	-7.9
K1T15	Stage 4a Outlet Temperature		858	842	846	801	829	833	809	773							924	855	819	81	823	820	798	808	822
K1T16	Stage 4b Outlet Temperature		700	656	660	632	672	648	648	604							754	681	657	665	661	666	632	665	668
K1T22	Kiln Inlet Temperature		1377	1382	1490	1663	1730	1426	1299	1269							1630	1855	1706	1641	1637	1585	1430	1650	1703
K1T23	Tertiary Air Duct Temperature		818	944	927	1013	883	903	1143	1073							626	1102	911	908	1025	1090	1143	1111	1014
K1P20	Tertiary Air Duct Pressure		-0.3	-0.5	-0.5	-0.4	-0.6	-0.9	-1.5	-0.8							-3	-6	-4	-2	-3	-3	-4	-3	-3
K1S01	Kiln Speed RPM		2.5	2.8	2.8	2.9	2.9	2.9	3.0	2.9							1.7	2.9	2.8	2.8	2.9	2.9	2.9	2.9	2.7
K1J01	Kiln Drive Power		111	120	120	123	105	108	110	95							79	121	108	106	126	115	101	115	124
K1T36	Secondary Air Temperature		1466	1582	1525	1877	1604	1484	1683	1400							1049	1703	1557	1550	1648	1600	1692	1605	1568
K1P22	Firing Hood Pressure		-0.08	-0.2	0.26	-0.11	-0.10	-0.10	-0.30	-0.14							-33	-56	-20	-20	-24	-20	-24	-26	-33
K1Z20	Primary Air Fan Damper Pos.		95	95	95	95	95	95	95	95							95	95	95	95	95	95	95	95	95
K1S03	Cooler Grate Speed (SPM)		4.9	5.1	5.0	5.0	5.0	5.0	6.0	6.0							3.0	6.5	5.0	4.9	4.9	4.9	4.9	4.9	4.9
K1P32	Cooler Grate #3 Pressure		26.8	26.4	26.1	27.6	26.1	25.6	26.7	26.8							24.5	31.7	27.8	28.2	27.6	28.5	30.9	30.1	26.0
K1Z19	K-14 ESP Fan Damper Position		9	9	13	14	8	20	13	23							6	5	13	11	9	12	14	13	11
K1T44	Cooler ESP Inlet Temperature		186	299	278	272	266	233	366	423							88	337	234	185	191	201	276	215	242
K1P23	Cooler ESP Inlet Pressure		-0.8	-0.7	-0.9	-0.7	-0.9	-1.0	-1.1	-1.1							-8	-7	-8	-1.0	-9	-1	-1.1	-1	-7
K1A03	Kiln Inlet Percent Oxygen		9.0	8.9	8.9	8.9	8.8	8.8	8.8	8.8							8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
K1A04	Kiln Inlet Combustibles PPM		163	163	163	163	163	163	163	163							163	163	163	163	163	163	163	163	163
K1A05	Calcliner Percent Oxygen		3.9	4.6	4.5	3.9	4.8	3.9	4.1	5.2							3.7	3.7	4.2	4.8	3.7	3.2	2.8	3.0	4.9
K1A06	Calcliner Combustibles PPM		455	497	496	496	436	436	436	477							433	496	526	544	543	535	566	570	585
S1F02	Coal Feed Rate to Kiln		20	19	19	17	19	17	15	13							27	22	21	20	20	20	19	19	18
S1F03	Coal Feed Rate to Calcliner		13	15	15	15	16	17	17	18							10	14	14	14	14	14	14	14	14
S1S02	Coal Mill Main Drive Speed rpm		102	96	94	104	104	93	104	104							99	104	89	89	88	90	100	104	88
S1S04	Coal Mill Classifier Speed rpm		388	398	400	385	356	402	385	386							393	385	408	409	408	400	396	386	409
S1P03	Coal Mill Differential Pressure		7.4	7.2	7.7	8.7	9.3	11.3	9.0	8.4							8.3	8.9	6.8	9.4	8.5	8.4	8.8	8.0	6.9
E1Z05	E20 Fan Damper Position		27	35	34	30	29	25	32	29							34	34	35	35	33	34	33	33	33
E1T07	E19 Precipitator Inlet Temp.		331	284	277	199	357	335	270	215							336	211	223	221	220	240	235	231	340
E1P08	E19 Precipitator Inlet Pressure		-0.8	-3.1	-2.9	-0.6	-1.2	-1.1	-1.9	-0.9							-2.0	-1.8	-1.8	-1.8	-1.7	-1.8	-1.8	-1.8	-1.7

COSS Kils P

1029 - K114 &
Coal mill plugged

9 hrs. 31 min

Kiln & Preheater Daily Log

Date 12-28-99

Tag #	Description	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	100	200	300	400	500	600
H1F02	Kiln Feed Rate TPH	100	100	102													98								
K1Z01	K-11 Preheater Fan Damper %	15	15	15													15								
K1Z04	Preheater Throttle Damper Pos.	100	100	100													99								
K1P14	Preheater Exit Draft	-2.8	-2.8	-2.8													-2.3								
K1T15	Stage 4a Outlet Temperature	825	821	813													813								
K1T16	Stage 4b Outlet Temperature	669	665	661													659								
K1T22	Kiln Inlet Temperature	1254	1270	1290													1517								
K1T23	Tertiary Air Duct Temperature	830	826	820													925								
K1P20	Tertiary Air Duct Pressure	-0.1	0	-0.1													-0.1								
K1S01	Kiln Speed RPM	3	3	3													828								
K1J01	Kiln Drive Power	112	100	127													117								
K1T36	Secondary Air Temperature	1453	1581	1753													1782								
K1P22	Firing Hood Pressure	-1.6	-2.25	-2.9													-1.1								
K1Z20	Primary Air Fan Damper Pos.	98	98	98													95								
K1S03	Cooler Grate Speed (SPM)	5	5	5													3.9								
K1P32	Cooler Grate #3 Pressure	27.4	27	26													28.1								
K1Z19	K-14 ESP Fan Damper Position	16	16	13													6								
K1T44	Cooler ESP Inlet Temperature	228	242	183													148								
K1P23	Cooler ESP Inlet Pressure	-0.9	-0.7	-0.7													-0.5								
K1A03	Kiln Inlet Percent Oxygen	8.9	8.9	8.8													9								
K1A04	Kiln Inlet Combustibles PPM	163	163	163													163								
K1A05	Calciner Percent Oxygen	5.3	5.1	5.0													5.0								
K1A06	Calciner Combustibles PPM	513	485	475													474								
S1F02	Coal Feed Rate to Kiln	19%	19	19													20								
S1F03	Coal Feed Rate to Calciner	12%	12	13													13								
S1S02	Coal Mill Main Drive Speed	84%	100%	100													94								
S1S04	Coal Mill Classifier Speed	56%	49%	47													399								
S1P03	Coal Mill Differential Pressure	8.1	10.9	9.1													7.5								
E1Z05	E20 Fan Damper Position	37	37	37													34								
E1T07	E19 Precipitator Inlet Temp.	220	220	216													216								
E1P08	E19 Precipitator Inlet Pressure	-1.0	-1.8	-1.7													-0.9								

Preheater Log Sheet
for Fan #12 Damper position

44

Kiln & Preheater Daily Log

Date 12-25-99

Tag #	Description	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	100	200	300	400	500	600	
H1F02	Kiln Feed Rate TPH														100			100	100	100						
K1Z01	K-11 Preheater Fan Damper %														13			13	18	20						
K1Z04	Preheater Throttle Damper Pos.														98			98	98	98						
K1P14	Preheater Exit Draft														-8.2			-9.5	-8.6	-8.5						
K1T15	Stage 4a Outlet Temperature														886			899	842	846						
K1T16	Stage 4b Outlet Temperature														720			717	672	684						
K1T22	Kiln Inlet Temperature														1168			1092	1112	1143						
K1T23	Tertiary Air Duct Temperature														475			582	834	859						
K1P20	Tertiary Air Duct Pressure														0.1			0.1	0.1	0.0						
K1S01	Kiln Speed RPM														2.6			2.6	2.7	2.7						
K1J01	Kiln Drive Power														128			160	162	148						
K1T36	Secondary Air Temperature														1003			1225	1569	1470						
K1P22	Firing Hood Pressure														-0.09			-0.15	-0.14	-0.32						
K1Z20	Primary Air Fan Damper Pos.														95			95	95	95						
K1S03	Cooler Grate Speed (SPM)														40			4.0	5.8	4.9						
K1P32	Cooler Grate #3 Pressure														36.9			22.5	26.4	26.7						
K1Z19	K-14 ESP Fan Damper Position														9			4	20	9						
K1T44	Cooler ESP Inlet Temperature														116			148	323	328						
K1P23	Cooler ESP Inlet Pressure														-2.5			-2.5	-0.3	-0.9						
K1A03	Kiln Inlet Percent Oxygen														-			-	-	-						
K1A04	Kiln Inlet Combustibles PPM														-			-	-	-						
K1A05	Calciner Percent Oxygen														5.8			5.8	5.2	6.3						
K1A06	Calciner Combustibles PPM														586			624	604	584						
S1F02	Coal Feed Rate to Kiln														30			23	21	21						
S1F03	Coal Feed Rate to Calciner														0			8	10	10						
S1S02	Coal Mill Main Drive Speed														0			104	104	65						
S1S04	Coal Mill Classifier Speed														0			450	450	580						
S1P03	Coal Mill Differential Pressure														0			8.6	7.9	7.1						
E1Z05	E20 Fan Damper Position														40			74	35	38						
E1T07	E19 Precipitator Inlet Temp.														342			284	196	218						
E1P08	E19 Precipitator Inlet Pressure														-2.3			-4.6	-0.4	-0.5						

Kiln & Preheater Daily Log

Date 12-22-99

Tag #	Description	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	100	200	300	400	500	600	
H1F02	Kiln Feed Rate TPH		75	93	98	100	100	109	110	103											0	67	63	60		
K1Z01	K-11 Preheater Fan Damper %		13	13	13	13	13	13	13	13											3	10	10	12		
K1Z04	Preheater Throttle Damper Pos.		52	59	59	59	64	75	75	79											7	50	32	30		
K1P14	Preheater Exit Draft		-6.8	-7.0	-10.4	-9.6	-8.2	-9.4	-8.9	-10.7											-.4	-1.9	-1.6	-7		
K1T15	Stage 4a Outlet Temperature		737	863	837	811	803	791	762	783											781	857	849	796		
K1T16	Stage 4b Outlet Temperature		892	842	664	661	645	620	604	632											753	713	694	641		
K1T22	Kiln Inlet Temperature		1142	1157	1131	1081	1061	1076	1066	1051											1168	1200	992	991		
K1T23	Tertiary Air Duct Temperature		540	511	620	726	653	1165	861	877											569	644	686	744		
K1P20	Tertiary Air Duct Pressure		-.2	-.3	-.4	-.3	-.2	-.6	-.5	-1.3											-.5	-.1	-.2	-0.6		
K1S01	Kiln Speed RPM		2.3	2.3	2.8	2.8	2.8	2.9	3.0	3.0											0.5	1.0	1.3	1.5		
K1J01	Kiln Drive Power		40	92	109	95	114	122	60	66											13	27	43	48		
K1T36	Secondary Air Temperature		578	894	1126	1082	1080	1958	1475	1530											602	850	930	971		
K1P22	Firing Hood Pressure		-.07	-.2	-.12	-.09	-.13	-.05	-.36	-.03											-.15	-.01	-.16	-.67		
K1Z20	Primary Air Fan Damper Pos.		98	98	98	98	98	98	98	98											70	95	95	95		
K1S03	Cooler Grate Speed (SPM)		6.1	2.8	4.0	11.1	12.2	13.2	14.1	2.9											3.0	7.0	5.0	4.9		
K1P32	Cooler Grate #3 Pressure		19.2	25.0	27	24.6	25.8	28.4	24.4	32.4											2.5	24.7	206	24.4		
K1Z19	K-14 ESP Fan Damper Position		14	6%	6	15	19	31	30	17											0	13	20	36		
K1T44	Cooler ESP Inlet Temperature		210	102	135	260	236	525	495	230											132	224	225	245		
K1P23	Cooler ESP Inlet Pressure		-2.6	-.3	-2.7	-1.9	-1.9	1.1	.1	-1.9											-2.9	-2	-2.3	-1.7		
K1A03	Kiln Inlet Percent Oxygen		9.3	9.8	9.3	1.5	1.2	2.5	1.4	.3											3.9	2.2	-	-		
K1A04	Kiln Inlet Combustibles PPM		163	163	163	163	163	163	163	163											163	163	-	-		
K1A05	Calciner Percent Oxygen		5.1	5.5	6.5	6.1	3.9	7.9	7.0	3.8											10	10	6	8		
K1A06	Calciner Combustibles PPM		437	575	525	548	505	546	566	532											417	464	444	586		
S1F02	Coal Feed Rate to Kiln		29	28%	25	22	22	16	18	27											182	23	23	23		
S1F03	Coal Feed Rate to Calciner		6	16%	11	12	13	12	13	9											2%	5	4	2		
S1S02	Coal Mill Main Drive Speed		92	85	104	104	99	104	104	104											0	104	0	97		
S1S04	Coal Mill Classifier Speed		490	480	450	448	466	449	450	450											0	450	0	471		
S1P03	Coal Mill Differential Pressure		8.0	8	8.1	8.5	8.4	8.5	6.7	8.0											0	4.6	0	8.4		
E1Z05	E20 Fan Damper Position		23	39	39	42	33	34	35	32											24	28	32	16		
E1T07	E19 Precipitator Inlet Temp.		357	347	347	294	195	219	223	215											344	376	346	348		
E1P08	E19 Precipitator Inlet Pressure		-1.3	-1.8	-1.0	-2.5	-.2	-.4	-.4	-.4											-1.9	-.3	-5.6	-0.5		

Kiln & Preheater Daily Log

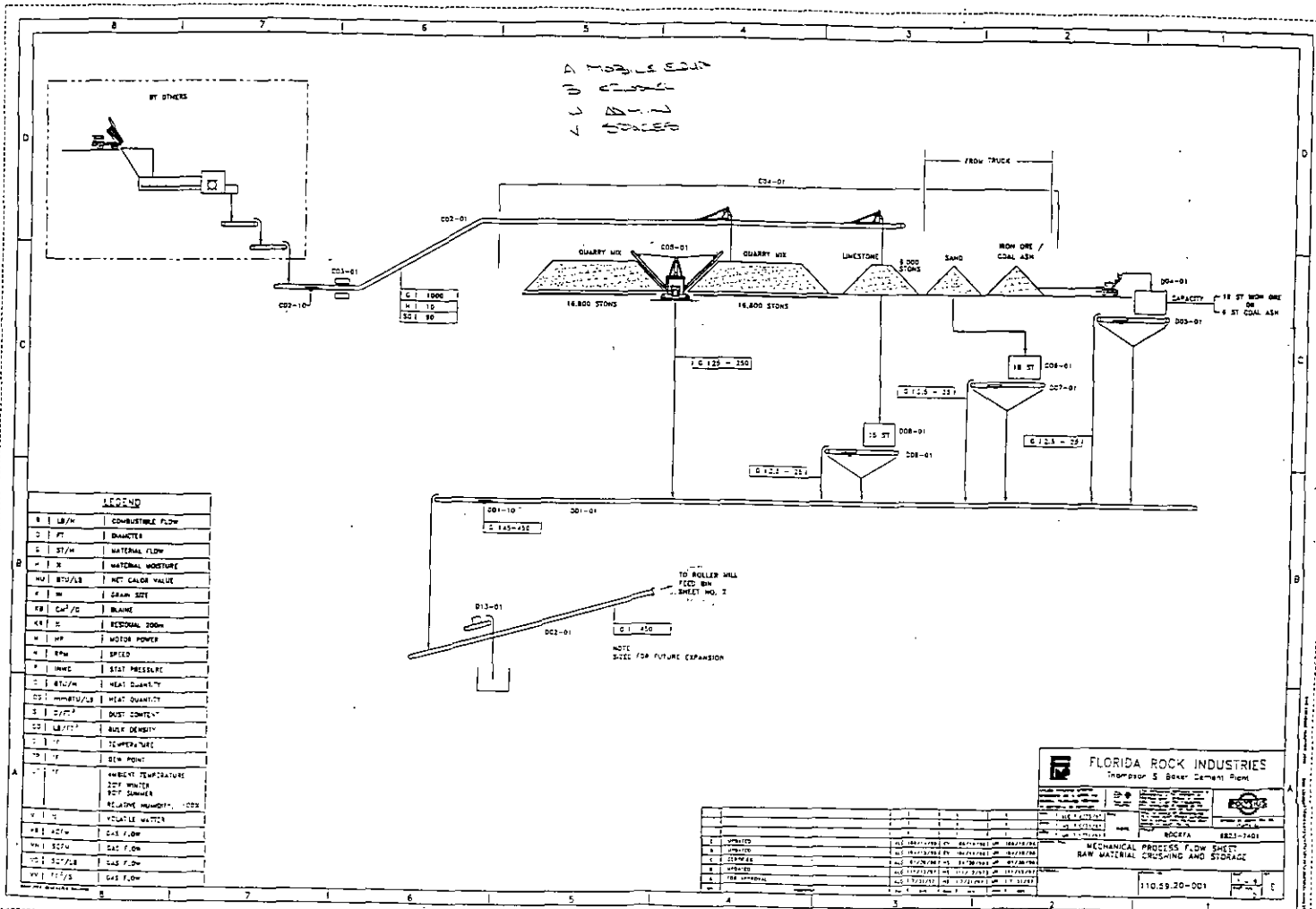
Date Tuesday
12-21-99

Tag #	Description	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	100	200	300	400	500	600
K1Z01	K-11 Preheater Fan Damper %	10%												11%								12	12	12	
K1Z04	Preheater Throttle Damper Pos.	55%												16%								40	50	40	
K1P14	Preheater Exit Draft	8.2												1.1								-4.0	-8.1	-8.4	
K1T15	Stage 4a Outlet Temperature	852												873								855	831	876	
K1T16	Stage 4b Outlet Temperature	658												807								700	664	684	
K1T22	Kiln Inlet Temperature	1421												1289								1314	1253	1177	
K1T23	Tertiary Air Duct Temperature	570												632								682	830	541	
K1P20	Tertiary Air Duct Pressure	-1												0.0								-0.7	-0.6	-0.3	
K1S01	Kiln Speed RPM	3.2																				2.0	3.0	1.9	
K1J01	Kiln Drive Power	106.44																				35	38	35	
K1T36	Secondary Air Temperature	1450																				685	1158	717	
K1P22	Firing Hood Pressure	-0.4																				-0.45	-0.3	-0.10	
K1Z20	Primary Air Fan Damper Pos.	98%																				98	98	98	
K1S03	Cooler Grate Speed (SPM)	7																				7.0	7	8	
K1P32	Cooler Grate #3 Pressure	3.7																				17.3	28.4	24.3	
K1Z19	K-14 ESP Fan Damper Position	75%																				1%	6	31	
K1T44	Cooler ESP Inlet Temperature	311																				376	307	268	
K1P23	Cooler ESP Inlet Pressure	-1.2																				-2.5	-1.3	-2.0	
K1A03	Kiln Inlet Percent Oxygen	-																				-	-	-	
K1A04	Kiln Inlet Combustibles PPM	-																				-	-	-	
K1A05	Calcliner Percent Oxygen	5																				5.2	5.0	7.2	
K1A06	Calcliner Combustibles PPM	327																				439	527	505	
S1F02	Coal Feed Rate to Kiln	24%																				16	19	25	
S1F03	Coal Feed Rate to Calcliner	8%																				2	3	3	
S1S02	Coal Mill Main Drive Speed	91 RPM																				0	81	77	
S1S04	Coal Mill Classifier Speed	49 RPM																				0	529	537	
S1P03	Coal Mill Differential Pressure	7.1																				1	6.9	6.1	
E1Z05	E20 Fan Damper Position	37%																				22	30	32	

Preheater Log Sheet.xls
 Kiln Feed TPH 111
 Inlet Temp 367
 Inlet PSI -0.2

342 359 357
 -1.2 -0.5 -1.8
 60 80 70

A MOBILE EQUIP
 B CRANE
 C BENT
 D CONCRETE



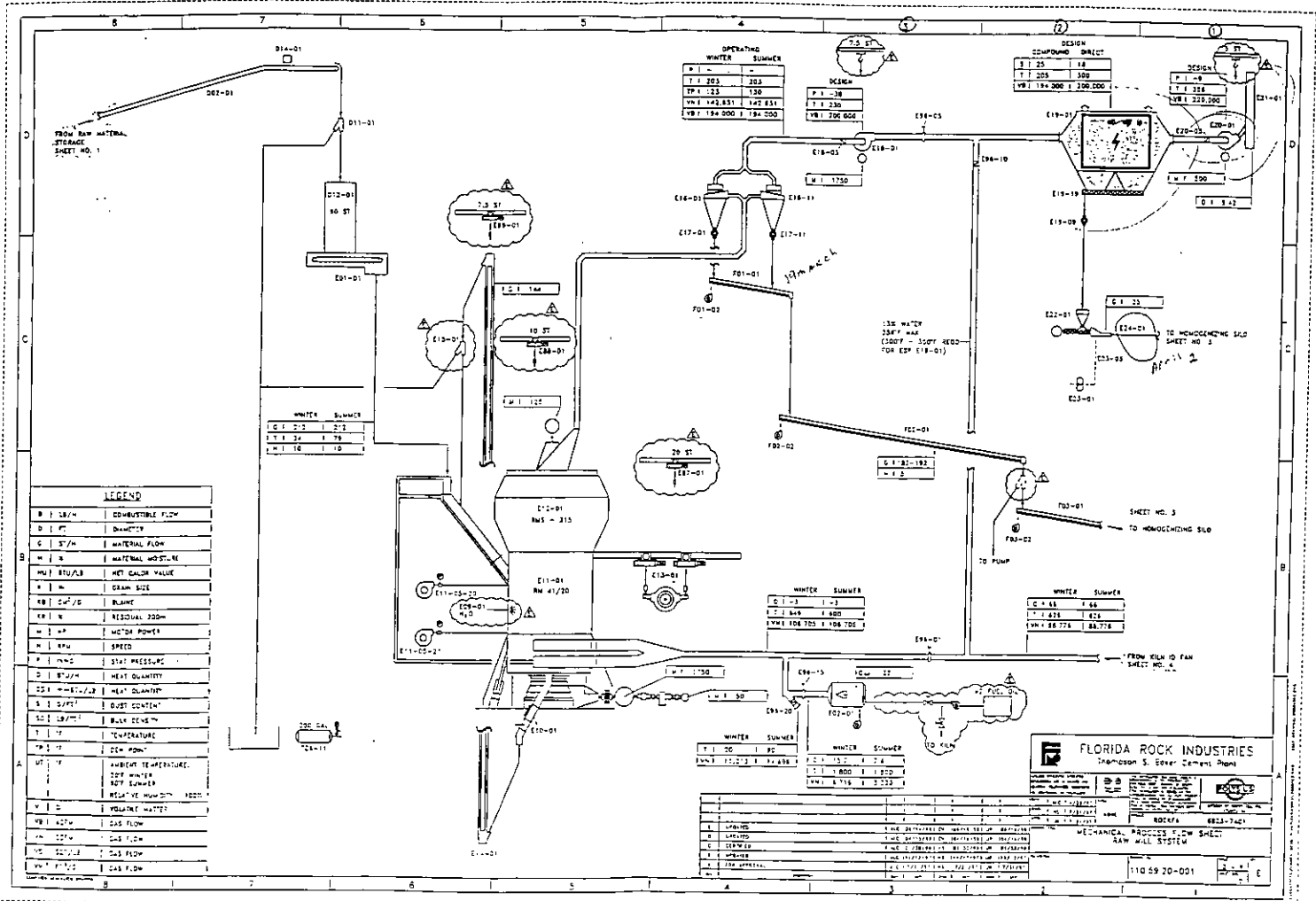
LEGEND	
R	LB/H COMBUSTIBLE FLOW
D	FT DIAMETER
S	ST/H MATERIAL FLOW
M	X MATERIAL MOISTURE
HV	BTU/LB NET CALOR VALUE
K	M GRAIN SIZE
FB	Ca ²⁺ /O BLANK
KA	% REDUCAL ZONE
M	HP MOTOR POWER
W	RPM SPEED
F	MMHG STAT PRESSURE
Q	BTU/H HEAT QUANTITY
Q2	MMBTU/LB HEAT QUANTITY
S	S/T% DUST CONTENT
CD	LB/FT ³ BULK DENSITY
T	°F TEMPERATURE
SP	SPIN POINT
A	°F AMBIENT TEMPERATURE
W	°F WET BULB
DB	°F DRY BULB
RH	% RELATIVE HUMIDITY, CO2
V	% VOLATILE MATTER
FC	% FINE
WH	% WET
CD	CD
WH	WH
WH	WH
WH	WH

FLORIDA ROCK INDUSTRIES
 Impressor S Boker Cement Plant

MECHANICAL PROCESS FLOW SHEET
 RAW MATERIAL CRUSHING AND STORAGE

110.29.20-001

NO.	DATE	DESCRIPTION
1	11/15/78	ISSUED FOR CONSTRUCTION
2	12/15/78	REVISED TO ADD CRANE
3	01/15/79	REVISED TO ADD BENT
4	02/15/79	REVISED TO ADD CONCRETE
5	03/15/79	REVISED TO ADD MOBILE EQUIP



LEGEND

B 1 LB/H	COMBUSTIBLE FLOW
D 1 FT	DIAMETER
C 1 1/4"	MATERIAL FLOW
M 1 LB	MATERIAL HOLD-UP
HU 1 BTU/LB	HEAT CALOR VALUE
H 1"	GRAIN SIZE
KB 1 CUP/S	BLANK
KB 1	RESIDUAL FLOW
H 1 HP	MOTOR POWER
H 1 RPM	SPEED
P 1 LBS/SQ	STAT PRESSURE
D 1 BTU/H	HEAT QUANTITY
Q 1 BTU/H	HEAT QUANTITY
S 1 C/PCT	DUST CONTENT
SD 1 LB/FT	WALK GROUND
T 1 FT	TEMPERATURE
TS 1 FT	TSZ POINT
WT 1 FT	AVERAGE TEMPERATURE
W 1	200 WINTER
W 1	200 SUMMER
W 1	RELATIVE HUMIDITY 100%
V 1	VOLUNTARY MATTER
W 1 220 W	GAS FLOW
W 1 220 W	GAS FLOW
W 1 220 W	GAS FLOW
W 1 220 W	GAS FLOW

OPERATING WINTER SUMMER

B 1	202	202
TP 1	223	130
VW 1	142.831	147.831
VW 1	194.000	194.000

WINTER SUMMER

C 1	212	212
T 1	24	78
H 1	18	18

WINTER SUMMER

C 1	3	1-3
T 1	849	880
VW 1	108.705	108.705

DESIGN COMPONDS DIRECT

B 1	205	18
T 1	205	500
VW 1	194.000	190.000

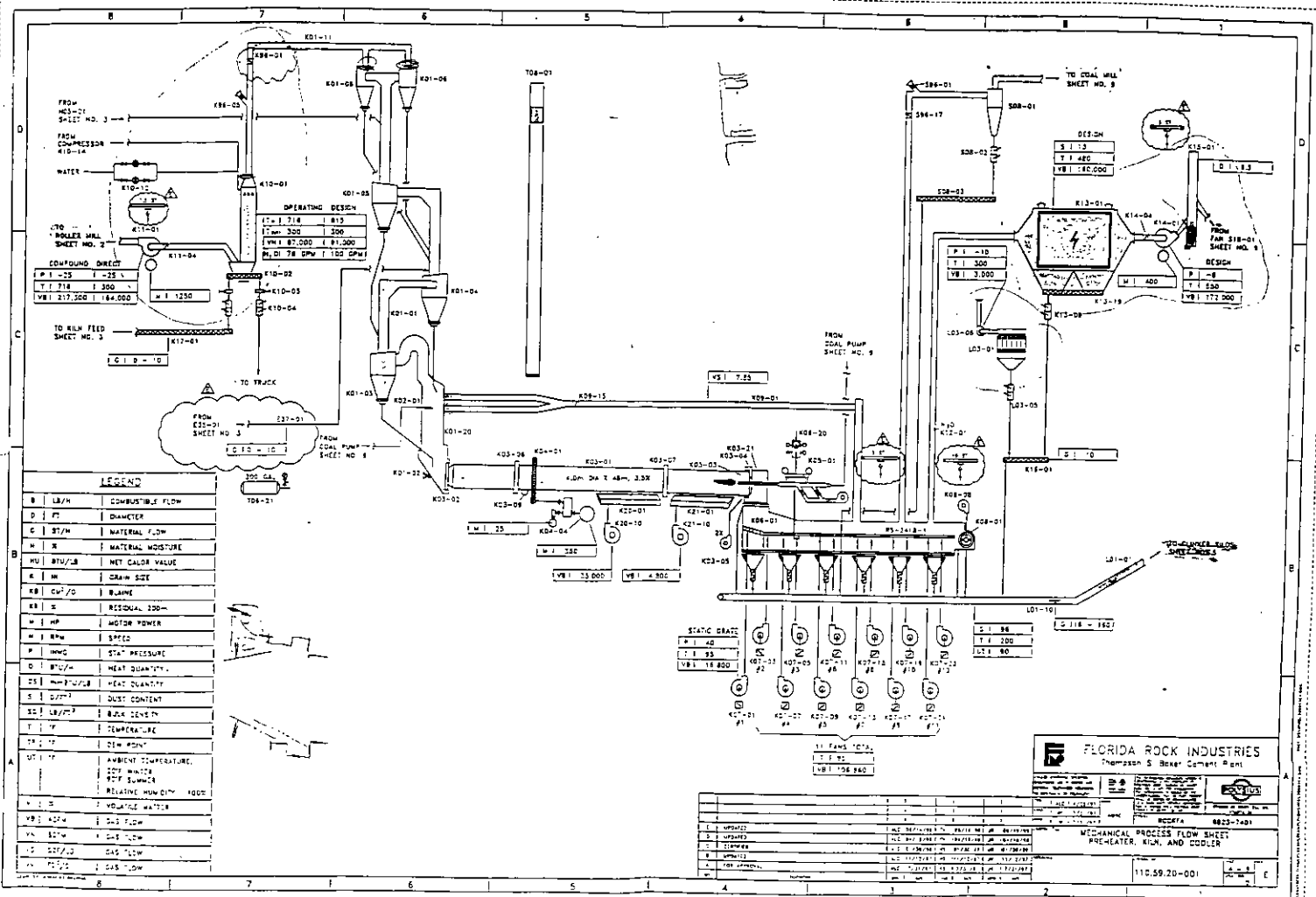
WINTER SUMMER

C 1	68	68
T 1	618	628
VW 1	88.778	88.778

FLORIDA ROCK INDUSTRIES
 Thompson S. Cover Company Plans

MECHANICAL PROCESS FLOW SHEET
 RAIN MILL SYSTEM

110 59 20-001



OPERATING DESIGN

Capacity	3,716	815
Flow	300	300
Power	81,000	81,000
Pressure	78	100

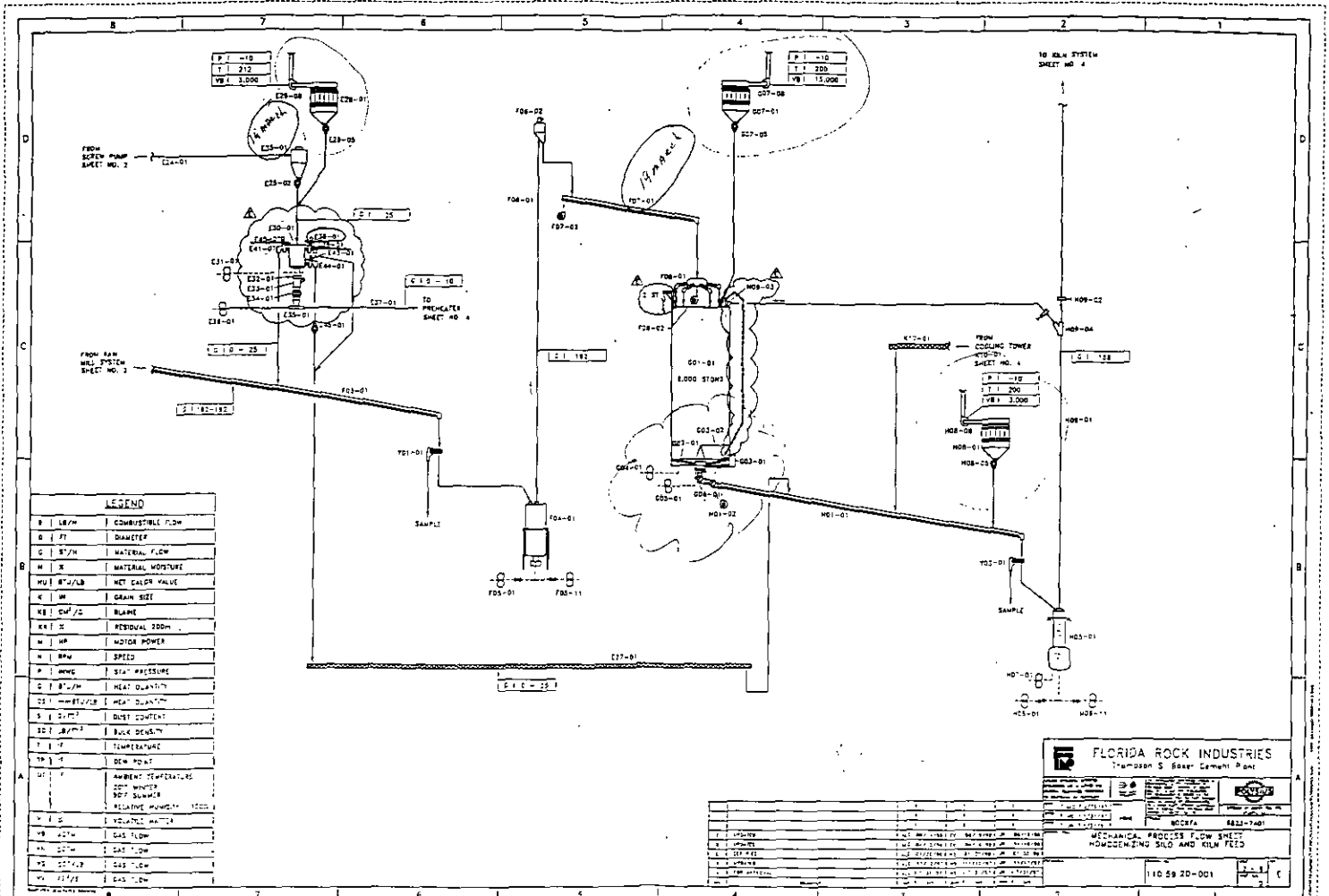
LEGEND

B	LB/H	COMBUSTIBLE FLOW
D	"	DIAMETER
C	ST/H	MATERIAL FLOW
M	%	MATERIAL MOISTURE
MV	BTU/LB	NET CALOR VALUE
R	MM	CRASH SIZE
KB	CU/0	BULKWEIGHT
RS	"	RESIDUAL 300-
M	HP	MOTOR POWER
M	HP	MOTOR SPEED
P	MMHG	STAT. PRESSURE
D	BTU/H	HEAT QUANTITY
S	%	DUST CONTENT
SD	LB/FT ³	BULK DENSITY
T	"	TEMPERATURE
TM	"	TEMP. POINT
UT	"	AMBIENT TEMPERATURE
W	"	WATER
W	"	WATER
W	"	WATER
W	"	WATER
W	"	WATER
W	"	WATER
W	"	WATER
W	"	WATER
W	"	WATER
W	"	WATER
W	"	WATER
W	"	WATER

FLORIDA ROCK INDUSTRIES
Thompson S. Best Cement Plant

MECHANICAL PROCESS FLOW SHEET
PRE-HEATER, KILN, AND COOLER

NO. 110.59.20-001



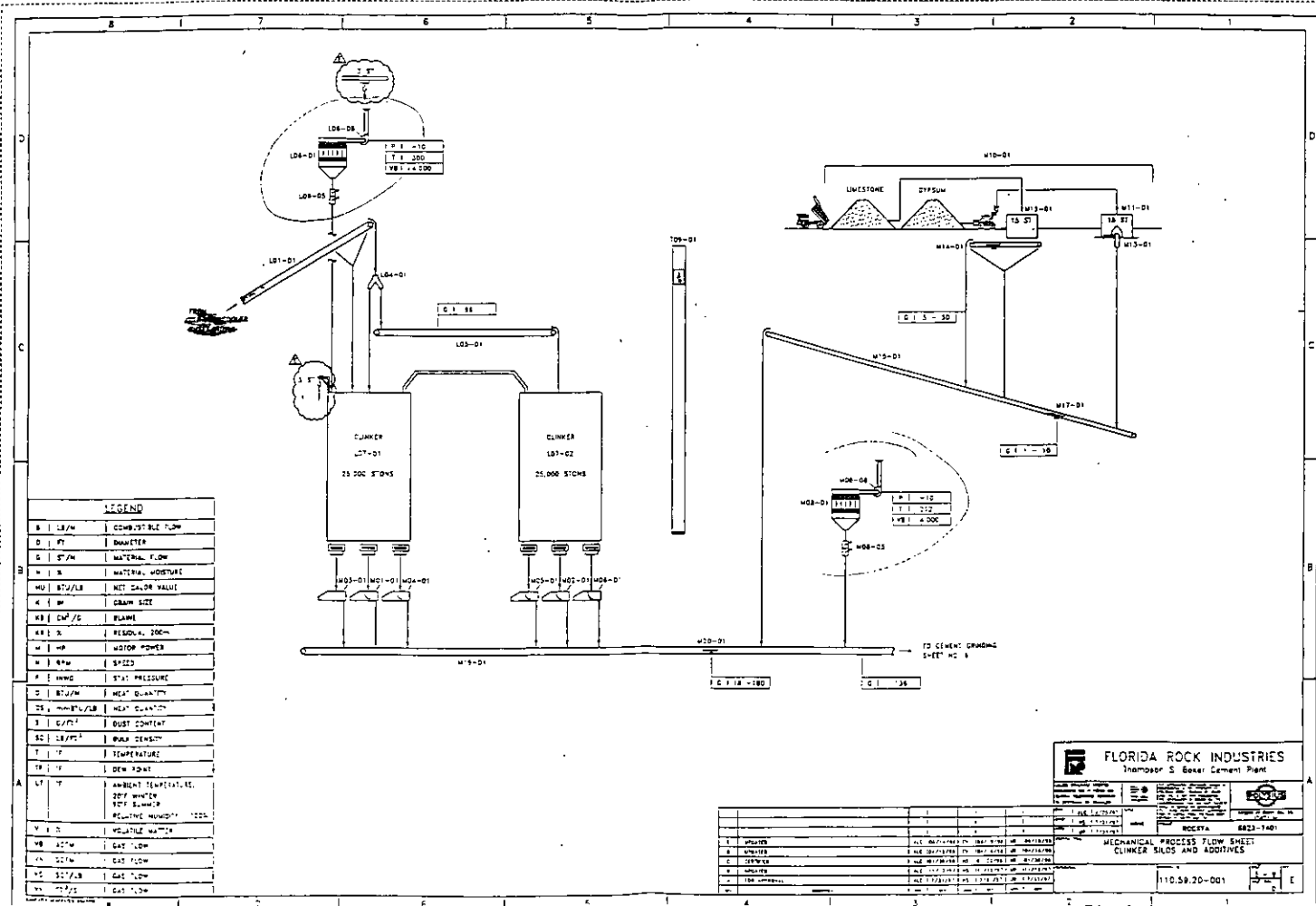
LEGEND

R	LB/H	COMBUSTIBLE FLOW
D	FT	DIAMETER
G	BTU/H	MATERIAL FLOW
M	%	MATERIAL MOISTURE
WU	BTU/LB	NET CALOR VALUE
K	MM	GRAIN SIZE
KE	CM ² /S	BLANK
KE	S	RESIDUAL ZONE
M	HP	MOTOR POWER
N	MM	SPEED
P	MMHG	STAT. PRESSURE
S	BTU/H	HEAT QUANTITY
SS	BTU/POUND	HEAT QUANTITY
S	CM ³	SUET CONTENT
SD	LB/FT ³	BUCK DENSITY
T	F	TEMPERATURE
TR	%	DEW POINT
U	F	AMBIENT TEMPERATURE
U	F	SOFT POINT
U	F	SOFT POINT
U	F	RELATIVE HUMIDITY 100%
V	S	RELATIVE HUMIDITY
VS	ACT	GAS FLOW
VS	ACT	GAS FLOW
VS	ACT	GAS FLOW
VS	ACT	GAS FLOW

FLORIDA ROCK INDUSTRIES
 Thompson S. Baker Cement Plant

MECHANICAL PROCESS FLOW SHEET
 HOWDENING SAID AND KILN FEED

110 59 20-001



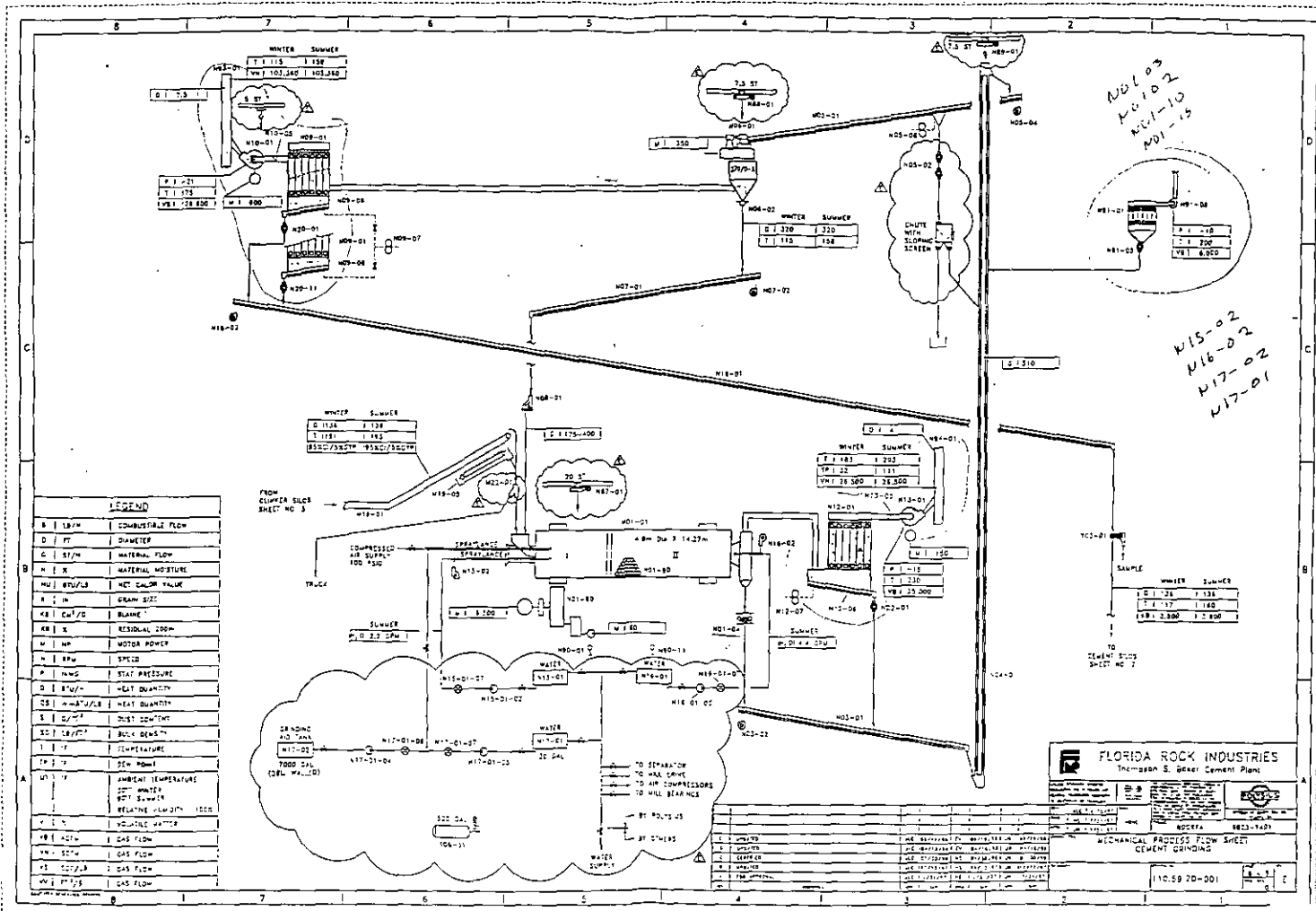
LEGEND	
B	LB/M COMBUSTIBLE FLOW
D	FT DIAMETER
G	ST/M MATERIAL FLOW
H	% MATERIAL MOISTURE
HU	BTU/LB NET CALOR VALUE
K	IN CRAM SIZE
KB	CM ² /G PLUME
KB	% RESOL. 200M
M	HP MOTOR POWER
N	RPM SPEED
P	INWG STAT. PRESSURE
Q	BTU/M HEAT QUANTITY
QS	MMBTU/LB HEAT QUANTITY
R	CFM DUST CONCENTR.
SC	LB/FT ³ BULK DENSITY
T	°F TEMPERATURE
TR	°F DEW POINT
LT	°F AMBIENT TEMPERATURE, 20% WINDSPEED, 10% HUMIDITY, RELATIVE HUMIDITY 100%
V	°C
WB	°C WET BULB
W	°C WET BULB
WS	°C WET BULB
WS	°C WET BULB

FLORIDA ROCK INDUSTRIES
 Inmanover S. Bauxite Cement Plant

MECHANICAL PROCESS FLOW SHEET
 CLINKER SILOS AND ADDITIVES

110.58.20-001

REV.	DESCRIPTION	DATE	BY	CHKD.
1	ISSUED			
2	REVISED			
3	REVISED			
4	REVISED			
5	REVISED			
6	REVISED			
7	REVISED			
8	REVISED			
9	REVISED			
10	REVISED			

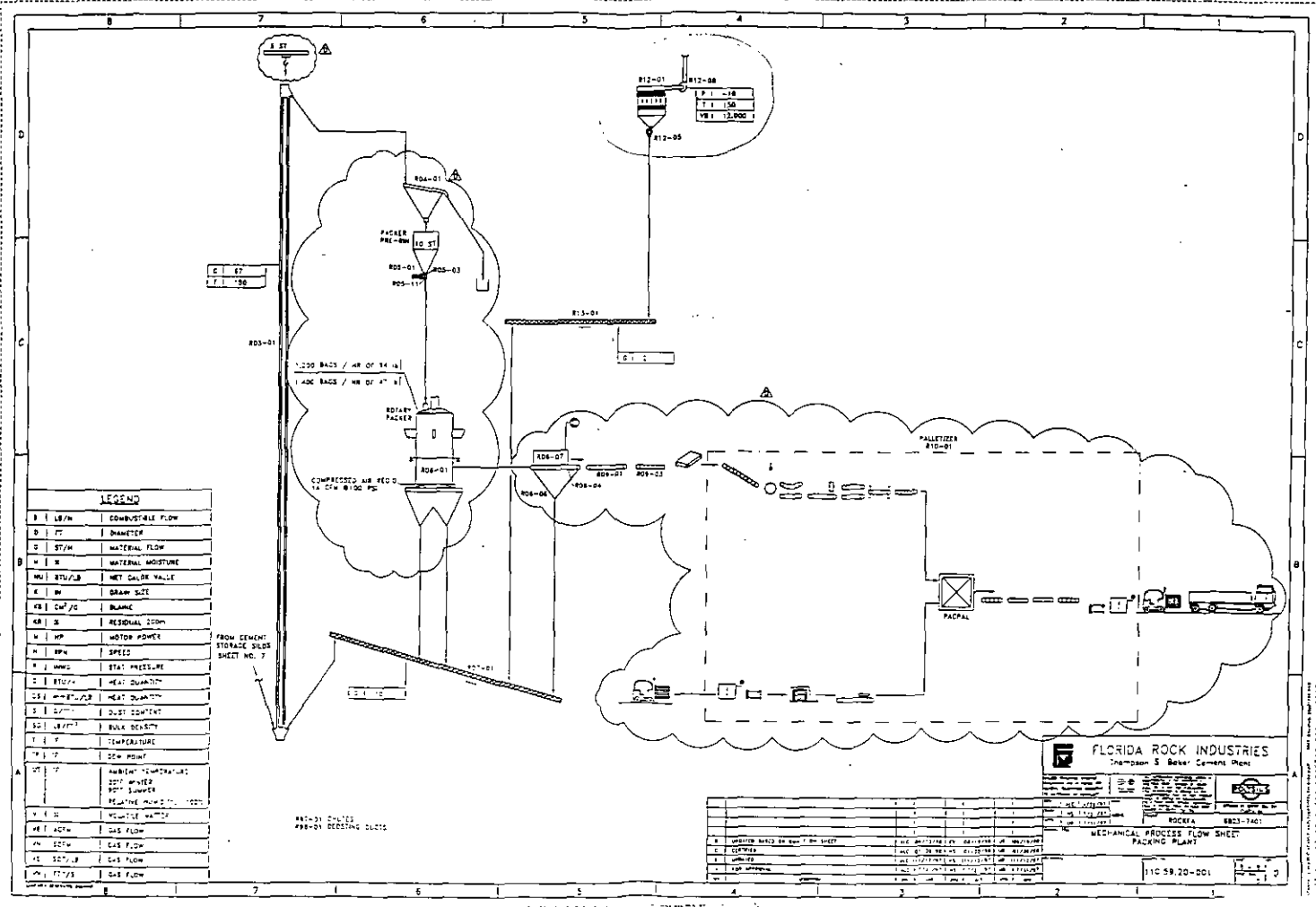


N01-03
 N01-02
 N01-10
 N01-15

N15-02
 N16-02
 N17-02
 N17-01

LEGEND	
B 18"/M	COMBUSTIBLE FLOW
D FT	DIAMETER
C ST/M	MATERIAL FLOW
M X	MATERIAL MOISTURE
MU WT%/L	NET CALOR VALUE
A T M	GRAIN SIZE
KB Cu/10	BURNING
KB X	RESIDUAL 200M
W HP	MOTOR POWER
N RPM	SPEED
P LBS	STAT PRESSURE
Q BTU/H	HEAT QUANTITY
SS M ² /H ²	HEAT QUANTITY
S S/FT	DUST CONCENTR
SD LB/FT ³	BULK DENSITY
T °F	TEMPERATURE
T _W °F	SEW POINT
U _A °F	AMBIENT TEMPERATURE
U _W °F	WATER TEMPERATURE
V °F	RELATIVE HUMIDITY 100%
W GPM	WATER FLOW
W _A SCFM	AIR FLOW
W _S SCFM	STEAM FLOW
W _V SCFM	VAPOR FLOW

FLORIDA ROCK INDUSTRIES Thompson S. Greer Cement Plant	
MECHANICAL PROCESS FLOW SHEET CEMENT GRINDING	
(110.59 20-001)	



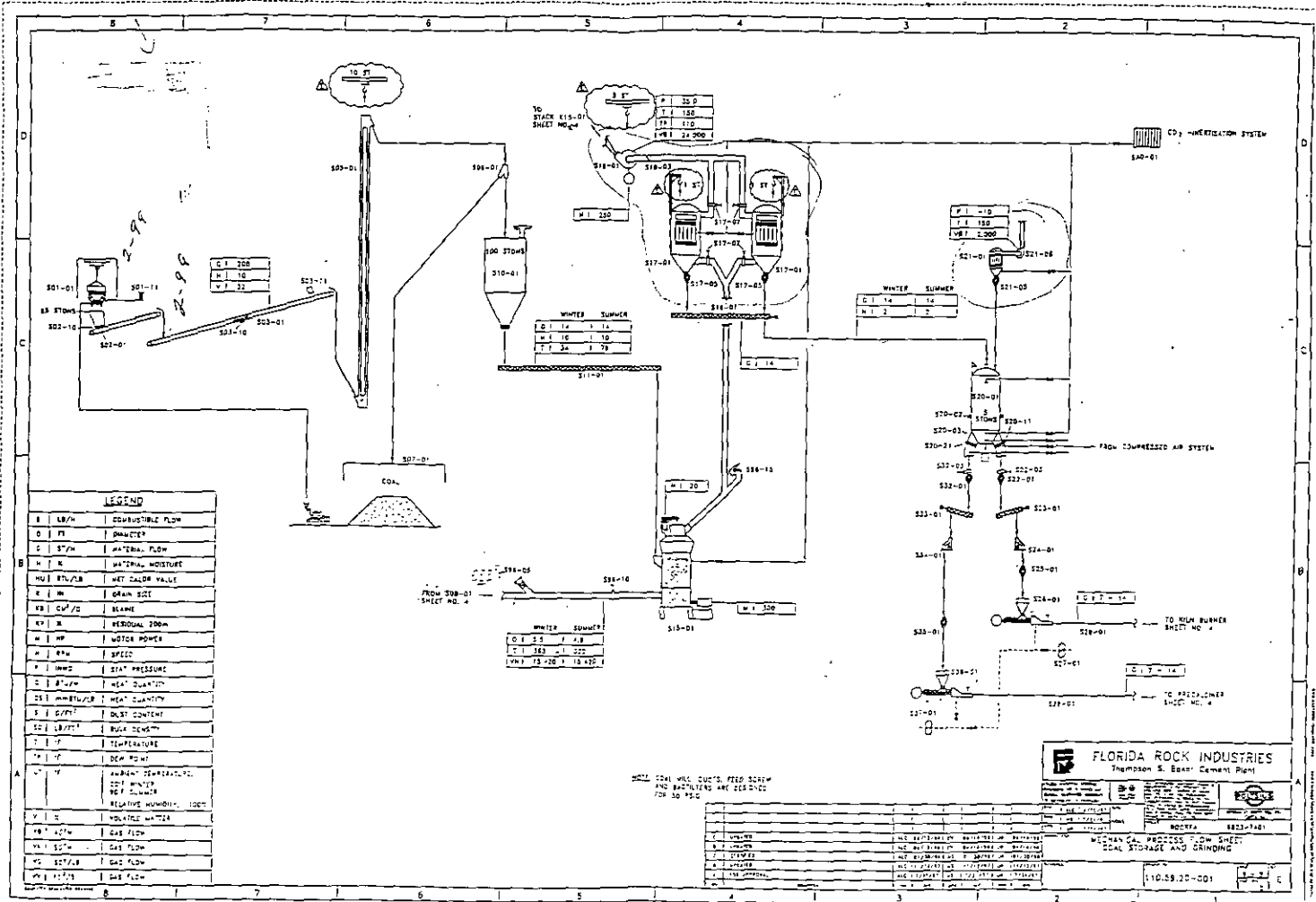
LEGEND

1	LB/M	CONVEYOR FLOW
2	ST	DIAMETER
3	ST/M	MATERIAL FLOW
4	M	MATERIAL MOISTURE
5	STU/LB	NET CALOR VALUE
6	BT	GRAIN SIZE
7	CU/YD	BLANK
8	S	RESIDUAL ZONE
9	HP	MOTOR POWER
10	RPM	SPEED
11	MMHG	STAT PRESSURE
12	BTU/HR	HEAT QUANTITY
13	MMHG/HR	HEAT QUANTITY
14	CU/HR	DUST QUANTITY
15	LB/FT ³	BULK DENSITY
16	F	TEMPERATURE
17	IN	DIAMETER
18	FT	HEIGHT
19	FT	AMBIENT TEMPERATURE
20	FT	WIND SPEED
21	FT	WIND DIRECTION
22	FT	WIND VELOCITY
23	FT	WIND PRESSURE
24	FT	WIND TEMPERATURE
25	FT	WIND HUMIDITY
26	FT	WIND DENSITY
27	FT	WIND VISCOSITY
28	FT	WIND ELASTICITY
29	FT	WIND PLASTICITY
30	FT	WIND TENSILE STRENGTH
31	FT	WIND COMPRESSIVE STRENGTH
32	FT	WIND TORSIONAL STRENGTH
33	FT	WIND BENDING STRENGTH
34	FT	WIND SHEAR STRENGTH
35	FT	WIND TENSILE STRENGTH
36	FT	WIND COMPRESSIVE STRENGTH
37	FT	WIND TORSIONAL STRENGTH
38	FT	WIND BENDING STRENGTH
39	FT	WIND SHEAR STRENGTH
40	FT	WIND TENSILE STRENGTH
41	FT	WIND COMPRESSIVE STRENGTH
42	FT	WIND TORSIONAL STRENGTH
43	FT	WIND BENDING STRENGTH
44	FT	WIND SHEAR STRENGTH
45	FT	WIND TENSILE STRENGTH
46	FT	WIND COMPRESSIVE STRENGTH
47	FT	WIND TORSIONAL STRENGTH
48	FT	WIND BENDING STRENGTH
49	FT	WIND SHEAR STRENGTH
50	FT	WIND TENSILE STRENGTH

FLORIDA ROCK INDUSTRIES
 Thompson 5 Best Cement Plant

MECHANICAL PROCESS FLOW SHEET
 PACKING PLANT

110 59.20-001



LEGEND		
B	LB/H	COMBUSTIBLE FLOW
D	PSI	PRESSURE
C	ST/H	MATERIAL FLOW
M	%	MATERIAL MOISTURE
HU	BTU/LB	HET CALOR VALUE
E	MM	GRAIN SIZE
CP	CV/2	BLANK
RP	R	PERIODIC ROOM
W	HP	WATER POWER
W	PM	WHEEL
F	MMHG	STAT. PRESSURE
C	BTU/H	HEAT QUANTITY
QS	MMBTU/HR	HEAT QUANTITY
S	GR/FT ³	DUST CONTENT
SD	GR/FT ³	DUST CONTENT
T	°F	TEMPERATURE
TR	°F	DEW POINT
A	Y	AIRBENT DISPERSED
		20% WNTER
		WET SUMMER
		RELATIVE HUMIDITY, 100%
		WATERED WATER
W	127	CLIN FLOW
W	127	CLIN FLOW
W	127	CLIN FLOW
W	127	CLIN FLOW

WINTER SUMMER		
C	1	1
M	10	10
T	32	79

WINTER SUMMER		
C	1	1
M	2	2
T	2	2

NOTE: THIS WEL. QUOTE FROM SCHEM AND BACTURING ARE SEE SCHEM FOR 50 P.S.I.

FLORIDA ROCK INDUSTRIES
Thompson S. Bear Cement Plant

NO.	DESCRIPTION	DATE	BY
1	DESIGNED BY		
2	ENGINEER		
3	CHECKED BY		
4	APPROVED BY		
5	DATE		

1-10.59.20-001