



TAMILNADU NEWSPRINT AND PAPERS LTD

Biomethanation Plant

DATE: 16-03-07

Hourly & Shiftwise Process Analysis Data

Hourly & Shiftwise Process Analysis Data																								
Time	Flow M ³ /hr		pH										Data Scanner (Modbus RTU)											
	Raw. Eff.		Raw.Eff.	CLA.Out	BT	RA outlet	RB outlet	Flow M ³ /hr	R2 Feed	R1 Feed	Temp. °C	Temp. °C	NT. Out	Biogas										
									Flow M ³ /hr				pH	Flow M ³ /hr										
06.30	497		4.56	6.76	6.88	7.59	7.55	303	300	31.5	31.5	6.8	875											
8.30	494		4.40	6.70	6.85	7.61	7.59	312	317	33.0	33.0	6.6	920											
10.30	485		4.45	6.63	6.87	7.59	7.59	315	313	34.0	34.0	6.5	626											
12.30	480		4.49	6.68	6.85	7.61	7.57	319	321	35.0	35.0	6.7	850											
14.30	515		4.78	6.96	6.89	7.53	7.56	320	319	35.5	35.5	6.5	946											
16.30	501		4.71	6.59	6.82	7.56	7.55	327	307	35.0	35.0	6.8	948											
18.30	511		4.60	6.76	6.79	7.56	7.57	308	305	34.5	34.5	6.6	795											
20.30	518		4.68	6.66	6.80	7.54	7.55	305	297	34.0	34.0	6.7	931											
22.30	514		4.49	6.67	6.72	7.55	7.53	309	287	33.5	33.5	6.7	937											
00.30	498		4.54	6.59	6.63	7.54	7.53	297	285	33.0	33.0	6.5	852											
02.30	525		4.70	6.65	6.71	7.53	7.50	290	284	32.5	32.5	6.6	802											
04.30	487		4.71	6.71	6.65	7.52	7.50	286	282	32.0	32.0	6.6	814											
SHIFT	COD mg / l										TOTAL SUSPENDED SOLIDS mg / l													
	VOLATILE FATTY ACIDS meq / lit					ALKALINITY meq / lit					Decant. O/L									Ash %				
	Raw Eff	Clar.O/L	B.T.O/L	RA O/L	R.B O/L	Raw Eff	Clar.O/L	B.T.O/L	RA O/L	R.B O/L	Raw Eff	Clar.O/L	Decant./L	Decant.O/L	Cake O/L	Ash %	RA O/L	R.B O/L						
A	3760	3600	2960	296	264	50.09	43.38	30.57	4.36	4.38	-ve	-ve	5.6	37.3	35.3	660	530	45400	260	16.48	-	1320	1290	
B	4160	4160	3440	304	320	35.18	37.11	35.06	4.40	2.28	-ve	-ve	1.20	33.30	33.40	740	570	45000	240	16.45	-	1740	1890	
C	4080	4000	3120	404	300	34.49	35.05	30.80	3.97	2.28	-ve	-ve	3.40	35.30	33.40	690	550	45600	210	16.52	-	1700	1840	
Average	4000	3920	3440	335	295	41.59	35.51	32.14	4.14	2.95	-ve	-ve	3.40	35.30	34.03	697	550	45333	237	16.48	-	1587	1673	

Cumulative M³: RAW - 151200 GAS - 216800 Kiln - 200500 Boiler - 16300 Flaired - Lime - 62626 Tonnes -

3403 600

OBSERVATION "A" SHIFT

Raw Effluent : 4000 m³
 Gas Production : 6800 m³
 Gas to Kiln : 6800 m³

Bagasse CLA I/L Flow: 7000 m³

GPF : 0.51
 HLR : 100.0 %
 OLR : 75.0 %

RECYCLE : 'A'

MOL : 12065 - 12044 : 21 m³
 CAO : 87.95 gpl
 Lime : 1.8446 T

* Sludge loading to B.T. : 07.00 - 10.00 : 3 hrs

Rajiv
 HEMIST

Mr
 SE

"B" SHIFT

Raw Effluent : 4000 m³
 Gas Production : 7200 m³
 Gas to Kiln : 7200 m³

Bagasse CLA I/L Flow: 7150 m³

GPF : 0.45
 HLR : 100.00 %
 OLR : 86.67 %

RECYCLE : 'B'

MOL : 12083 - 12065 : 18 m³
 CAO : 80.64 gpl
 Lime : 1.451 T

* Sludge loading to B.T. :
 14:30 - 17:00 (2.5 hrs)

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"C" SHIFT

Raw Effluent : 4000 m³
 Gas Production : 6900 m³
 Gas to Kiln : 6900 m³

Bagasse CLA I/L Flow: 5600 / 19750 m³

GPF : 0.47
 HLR : 100.00 %
 OLR : 83.33 %

RECYCLE : 'A'

MOL : 12100 - 12083 : 17 : 56 m³
 CAO : 87.76 : 83.45 gpl
 Lime : 1.389 : 4.686 T

* Sludge loading to B.T. :
 23:00 - 01:30 (2.5 hrs)

Raw Effluent : 12000
 Gas Production : 20900
 Gas to Kiln : 20900

INLET COD : 3920 mg/lit
 OUTLET COD : 315 mg/lit
 COD REDUCTION : 91.94 %
 OLR : 91.67 %
 HLR : 100.00 %
 GPF : 0.48 m³/Kg COD Reduced

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