



TAMILNADU NEWSPRINT AND PAPERS LTD

Biomethanation Plant

EFTP / F-06

DATE: 06.03.07

Hourly & Shiftwise Process Analysis Data

Data Scanner (Modbus RTU)

Time	Flow M ³ /hr		pH				R1 Feed		R2 Feed		R1 Feed	R2 Feed	R1 Feed	R2 Feed	NT. Out	Biogas
	Raw. Eff.	Raw. Eff.	Raw. Eff.	CLA. Out	BT	RA outlet	RB outlet	Flow M ³ /hr	Flow M ³ /hr	Temp. °C	Temp. °C	Temp. °C	Temp. °C	Temp. °C	pH	Flow M ³ /hr
06.30	521	4.20	6.54	6.68	7.59	7.56	308	311	31.0	31.0	31.0	31.0	31.0	31.0	6.6	916
8.30	507	4.28	6.71	6.82	7.55	7.54	298	313	33.0	33.0	33.0	33.0	33.0	33.0	6.5	990
10.30	450	4.05	6.89	6.90	7.55	7.52	325	320	34.0	34.0	34.0	34.0	34.0	34.0	6.8	951
12.30	511	4.01	6.57	6.81	7.54	7.51	296	297	35.0	35.0	35.0	35.0	35.0	35.0	6.6	911
14.30	475	3.96	6.54	6.56	7.52	7.46	296	303	36.0	36.0	36.0	36.0	36.0	36.0	6.5	1051
16.30	450	4.00	6.50	6.51	7.50	7.47	323	324	36.0	36.0	36.0	36.0	36.0	36.0	6.8	1057
18.30	448	4.00	6.59	6.63	7.49	7.48	299	310	35.0	35.0	35.0	35.0	35.0	35.0	6.9	1009
20.30	451	4.02	6.50	6.73	7.48	7.46	292	299	34.0	34.0	34.0	34.0	34.0	34.0	6.5	987
22.30	444	4.03	6.54	6.73	7.45	7.40	310	305	33.5	33.5	33.5	33.5	33.5	33.5	6.9	965
00.30	459	4.12	6.70	6.79	7.47	7.44	311	311	33.0	33.0	33.0	33.0	33.0	33.0	6.5	858
02.30	444	4.15	6.72	6.84	7.47	7.43	304	298	32.5	32.5	32.5	32.5	32.5	32.5	6.5	862
04.30	439	4.20	6.65	6.73	7.46	7.45	299	284	32.0	32.0	32.0	32.0	32.0	32.0	6.5	890

TOTAL SUSPENDED SOLIDS mg / l

SHIFT	COD mg / l				VOLATILE FATTY ACIDS meq / lit				ALKALINITY meq / lit				TOTAL SUSPENDED SOLIDS mg / l			
	Raw Eff	Clar. O/L	B. T. O/L	R. A. O/L	Raw Eff	Clar. O/L	B. T. O/L	R. A. O/L	Raw Eff	Clar. O/L	B. T. O/L	R. A. O/L	Raw Eff	Clar. O/L	Decant. /L	Decant. O/L
A	4400	4240	4160	300	288	52.28	54.15	47.84	34.9	5.63	-ve	-ve	440	440	44250	160
B	5200	5200	4160	356	328	62.90	52.05	45.56	4.46	6.58	-ve	-ve	440	440	46800	180
C	3760	4080	3600	364	312	54.33	49.86	47.78	4.48	5.58	-ve	-ve	400	400	46150	150
Average	4453	4507	3973	340	309	56.50	52.02	47.06	4.14	5.93	-ve	-ve	420	420	45733	163

Tonnes -

Lime - 25.813

Flaired -

2700

Boiler -

Kin - 94800

GAS - 97500

73300

RAW - 73300

Cumulative M³ : RAW - 73300

OBSERVATION "A" - SHIFT

Raw Effluent : 4000 m³
 Gas Production : 7300 m³
 Gas to Kiln : 7300 m³

Bagasse CLA I/L Flow: 6000 m³
 GPF : 0.46
 HLR : 100.00 %
 OLR : 88.33 %

RECYCLE : "A"

MOL : 11572 - 11565 : 27 m³
 CAO : 75.60 gpl
 Lime : 2.041 T

* Sludge loaded to B.T. :
 07:00 - 10:00 (3.0 hrs)

CH₄ - 84.1
 CO₂ 16.9

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"B" - SHIFT

Raw Effluent : 3800 m³
 Gas Production : 7800 m³
 Gas to Kiln : 7800 m³
 Gas to Boiler: 2000 "

Bagasse CLA I/L Flow: 6200

GPF : 0.42
 HLR : 95.00 %
 OLR : 102.91 %

RECYCLE : "B"

MOL : 11618 - 11592 = 26 m³
 CAO : 81.76 gpl
 Lime : 2.125 T

* Sludge loaded to Buffer Tank:
 15:00 - 17:30 hrs. (2.5).

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"C" - SHIFT

Raw Effluent : 3800 m³
 Gas Production : 6800 m³
 Gas to Kiln : 6100 m³
 Gas to Boiler: 700

Bagasse CLA I/L Flow: 6500 / 18700 m³

GPF : 0.48
 HLR : 95.00 %
 OLR : 80.75 %

RECYCLE : "A"

MOL : 11640 - 11618 = 22 m³
 CAO : 85.96 gpl
 Lime : 1.891 T

* Sludge loaded to B.T.:

22:30 - 01:30 (3.0 hrs)

Raw Effluent : 11600
 Gas Production : 21900
 Gas to Kiln : 19200
 Gas to Boiler : 2700

INLET COD : 4507 mg/lit
 OUTLET COD : 324 mg/lit
 COD REDUCTION : 92.81 %
 OLR : 90.76 %
 HLR : 96.67 %
 GPF : 0.45 M³/Kg COD Reduced

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* Up to 02⁰⁰ clock line kiln was taken
 only 700 m³/hr. the remaining gas



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Tim

0

1

1

1

1

1

2

2

0

0

0

0

SHIFT

A

B

C

Average

Cumulative