

**Monthly Performance Report  
(From 21/08/2016 to 31/08/2016)  
(HWT-NG100-MPR-01-R0)**

*For*  
**100 TPD  
Municipal Solid Waste (MSW) Treatment Facility  
Calangute, North Goa**

*Prepared By*  
**Hindustan Waste Treatment Pvt. Ltd.**

*Submitted To:*  
**Government of Goa  
Department of Science, Technology &  
Environment**

#	Plant Performance Data: August 2016		
Sr. No.	Content	Period	Signature
1	Input Waste Composition	August 2016 From 21.08.2016 To 31.08.2016	
2	Recyclables Fractions		
3	Electricity Generation		
4	Flare Operation		
5	Effluent Treatment Plant		
6	Inert Fraction		
7	Housekeeping		

**1 INPUT WASTE COMPOSITION:**

Sr. No.	Parameter	Unit	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug	Monthly Average
<b>A Input Waste:</b>														
1	Dry Waste	TPD	1.62	2.38	3.08	4.11	0.99	2.83	0.00	1.68	2.99	1.28	3.39	2.21
2	Wet Waste	TPD	21.16	24.26	26.41	20.29	12.16	13.97	12.41	12.67	14.03	14.48	12.60	16.77
3	Mixed Waste	TPD	38.43	61.98	55.88	50.00	52.57	51.84	59.23	43.30	59.69	48.43	51.48	52.08
4	Mulched Tree waste	TPD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.84	0.00	0.00	0.00	0.26
5	<b>Total.....1+2+3+4</b>	<b>TPD</b>	<b>61.21</b>	<b>88.62</b>	<b>85.37</b>	<b>74.40</b>	<b>65.72</b>	<b>68.64</b>	<b>71.64</b>	<b>60.49</b>	<b>76.71</b>	<b>64.19</b>	<b>67.47</b>	<b>71.31</b>
<b>B Organic / Biodegradable Fraction in Input Waste:</b>														
1	% of Biodegradable Waste in Mixed Waste (As per Laboratory Analysis)	%	64.04%	62.16%	62.92%	57.04%	58.01%	57.87%	60.26%	56.55%	54.39%	61.28%	55.73%	59.11%
2	Qty. of Biodegradable Waste in Mixed Waste (As per Laboratory Analysis) (A-3 x B-1)	TPD	24.61	38.53	35.16	28.52	30.50	30.00	35.69	24.49	32.47	29.68	28.69	30.76
3	Quantity of Segregated Wet Waste delivered to Plant	TPD	13.39	31.19	24.27	5.25	17.38	27.69	27.16	27.06	27.01	23.08	29.09	22.96
4	<b>Total.....2+3</b>	<b>TPD</b>	<b>34.55</b>	<b>55.45</b>	<b>50.68</b>	<b>25.54</b>	<b>29.54</b>	<b>41.66</b>	<b>39.57</b>	<b>39.73</b>	<b>41.04</b>	<b>37.56</b>	<b>41.69</b>	<b>39.73</b>
5	<b>Revised Overall % of Biodegradable Waste.....B-4/A-5</b>	<b>%</b>	<b>56.44%</b>	<b>62.56%</b>	<b>59.37%</b>	<b>34.33%</b>	<b>44.95%</b>	<b>60.69%</b>	<b>55.24%</b>	<b>65.69%</b>	<b>53.51%</b>	<b>58.51%</b>	<b>61.79%</b>	<b>55.73%</b>
<b>C Recyclables:</b>														
1	Plastic Film / LDPE Bags	Kg	4,004	6,079	3,504	4,588	4,651	4,736	4,132	3,655	4,039	0	0	3,581
2	Multi-layered Plastic Packs	Kg	0	0	0	0	0	0	0	0	0	0	0	0
3	Hard Plastic	Kg	121	173	87	0	112	146	126	19	0	145	141	97
4	Pet	Kg	225	234	111	0	40	192	136	165	90	258	288	158
	<b>Total.....1+2+3+4</b>		<b>4,350</b>	<b>6,486</b>	<b>3,702</b>	<b>4,588</b>	<b>4,803</b>	<b>5,074</b>	<b>4,394</b>	<b>3,839</b>	<b>4,129</b>	<b>403</b>	<b>429</b>	<b>3,836</b>
5	Tetrapack	Kg	0	0	0	0	0	0	0	0	0	0	0	0
6	Paper / Cardboard	Kg	811	792	0	1,448	1,450	1,119	781	0	1,006	0	0	673
	<b>Total.....5+6</b>		<b>811</b>	<b>792</b>	<b>0</b>	<b>1,448</b>	<b>1,450</b>	<b>1,119</b>	<b>781</b>	<b>0</b>	<b>1,006</b>	<b>0</b>	<b>0</b>	<b>673</b>
7	Cloth / Rags / Textile	Kg	0	0	0	0	0	0	0	33	1,700	1,490	1,970	472
8	Jute Bags	Kg	0	0	0	0	0	0	27	47	0	9	0	8
	<b>Total.....7+8</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>27</b>	<b>80</b>	<b>1,700</b>	<b>1,499</b>	<b>1,970</b>	<b>480</b>
9	Glass	Kg	0	0	0	0	0	0	0	0	0	0	0	0
10	Metal	Kg	955	87	380	0	212	63	53	54	80	73	720	243
11	Footwear	Kg	0	0	0	0	0	0	0	0	0	8	0	1
12	Leather / Rubber / Rexine	Kg	0	0	0	0	0	0	0	119	190	0	0	28
	<b>Total.....11+12</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>119</b>	<b>190</b>	<b>8</b>	<b>0</b>	<b>29</b>
13	Thermocal	Kg	27	0	7	0	23	39	51	25	11	77	39	27
14	Coconut	Kg	930	970	0	670	1,040	880	1,080	0	0	330	780	607

Sr. No.	Parameter	Unit	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug	Monthly Average
15	Total	Kg	7,073	8,335	4,089	6,706	7,528	7,175	6,386	4,117	7,116	2,390	3,938	5,896
		TPD	7.07	8.34	4.09	6.71	7.53	7.18	6.39	4.12	7.12	2.39	3.94	5.90
<b>D</b>	<b>RDF:</b>													
1	Sorting Station Leftover (Pass-2)	Kg	1,350	2,960	5,240	9,120	3,190	1,860	1,530	620	1,590	1,430	1,420	2,755
2	Heavy Fraction (Pass-2)	Kg	6,360	8,320	14,100	16,520	13,110	2,800	6,850	4,030	7,750	7,070	3,770	8,244
3	Light Fraction	Kg	6,840	10,270	6,840	9,230	7,890	10,290	11,150	6,870	11,880	9,720	9,930	9,174
4	Total.....1+2+3	Kg	14,550	21,550	26,180	34,870	24,190	14,950	19,530	11,520	21,220	18,220	15,120	20,173
		TPD	14.55	21.55	26.18	34.87	24.19	14.95	19.53	11.52	21.22	18.22	15.12	20.17
5	Calorific Value	kCal/kg	4,686	5,043	5,416	4,919	5,332	5,008	4,826	5,138	5,508	5,096	5,254	5,111
<b>E</b>	<b>Inert:</b>													
1	Inert	Kg	5,040	3,290	4,420	7,280	4,460	4,860	6,150	5,120	7,330	6,020	6,720	5,517
		TPD	5.04	3.29	4.42	7.28	4.46	4.86	6.15	5.12	7.33	6.02	6.72	5.52

**2 RECYCLABLES:**

Sr. No.	Recyclables	Unit	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug	Monthly Average Data
1	Plastic Film / LDPE Bags	Kg	4,004	6,079	3,504	4,588	4,651	4,736	4,132	3,655	4,039	0	0	3,581
2	Multi-layered Plastic Packs	Kg	0	0	0	0	0	0	0	0	0	0	0	0
3	Hard Plastic	Kg	121	173	87	0	112	146	126	19	0	145	141	97
4	Pet	Kg	225	234	111	0	40	192	136	165	90	258	288	158
	<b>Total.....1+2+3+4</b>		<b>4,350</b>	<b>6,486</b>	<b>3,702</b>	<b>4,588</b>	<b>4,803</b>	<b>5,074</b>	<b>4,394</b>	<b>3,839</b>	<b>4,129</b>	<b>403</b>	<b>429</b>	<b>3,836</b>
5	Tetrapack	Kg	0	0	0	0	0	0	0	0	0	0	0	0
6	Paper / Cardboard	Kg	811	792	0	1,448	1,450	1,119	781	0	1,006	0	0	673
	<b>Total.....5+6</b>		<b>811</b>	<b>792</b>	<b>0</b>	<b>1,448</b>	<b>1,450</b>	<b>1,119</b>	<b>781</b>	<b>0</b>	<b>1,006</b>	<b>0</b>	<b>0</b>	<b>673</b>
7	Cloth / Rags / Textile	Kg	0	0	0	0	0	0	0	33	1,700	1,490	1,970	472
8	Jute Bags	Kg	0	0	0	0	0	0	27	47	0	9	0	8
	<b>Total.....7+8</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>27</b>	<b>80</b>	<b>1,700</b>	<b>1,499</b>	<b>1,970</b>	<b>480</b>
9	Glass	Kg	0	0	0	0	0	0	0	0	0	0	0	0
10	Metal	Kg	955	87	380	0	212	63	53	54	80	73	720	243
11	Footwear	Kg	0	0	0	0	0	0	0	0	0	8	0	1
12	Leather / Rubber / Rexine	Kg	0	0	0	0	0	0	0	119	190	0	0	28
	<b>Total.....11+12</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>119</b>	<b>190</b>	<b>8</b>	<b>0</b>	<b>29</b>
13	Thermocal	Kg	27	0	7	0	23	39	51	25	11	77	39	27
14	Coconut	Kg	930	970	0	670	1,040	880	1,080	0	0	330	780	607
15	<b>Total</b>	<b>Kg</b>	<b>7,073</b>	<b>8,335</b>	<b>4,089</b>	<b>6,706</b>	<b>7,528</b>	<b>7,175</b>	<b>6,386</b>	<b>4,117</b>	<b>7,116</b>	<b>2,390</b>	<b>3,938</b>	<b>5,896</b>
		<b>TPD</b>	<b>7.07</b>	<b>8.34</b>	<b>4.09</b>	<b>6.71</b>	<b>7.53</b>	<b>7.18</b>	<b>6.39</b>	<b>4.12</b>	<b>7.12</b>	<b>2.39</b>	<b>3.94</b>	<b>5.90</b>



**5 EFFLUENT TREATMENT PLANT (ETP):**

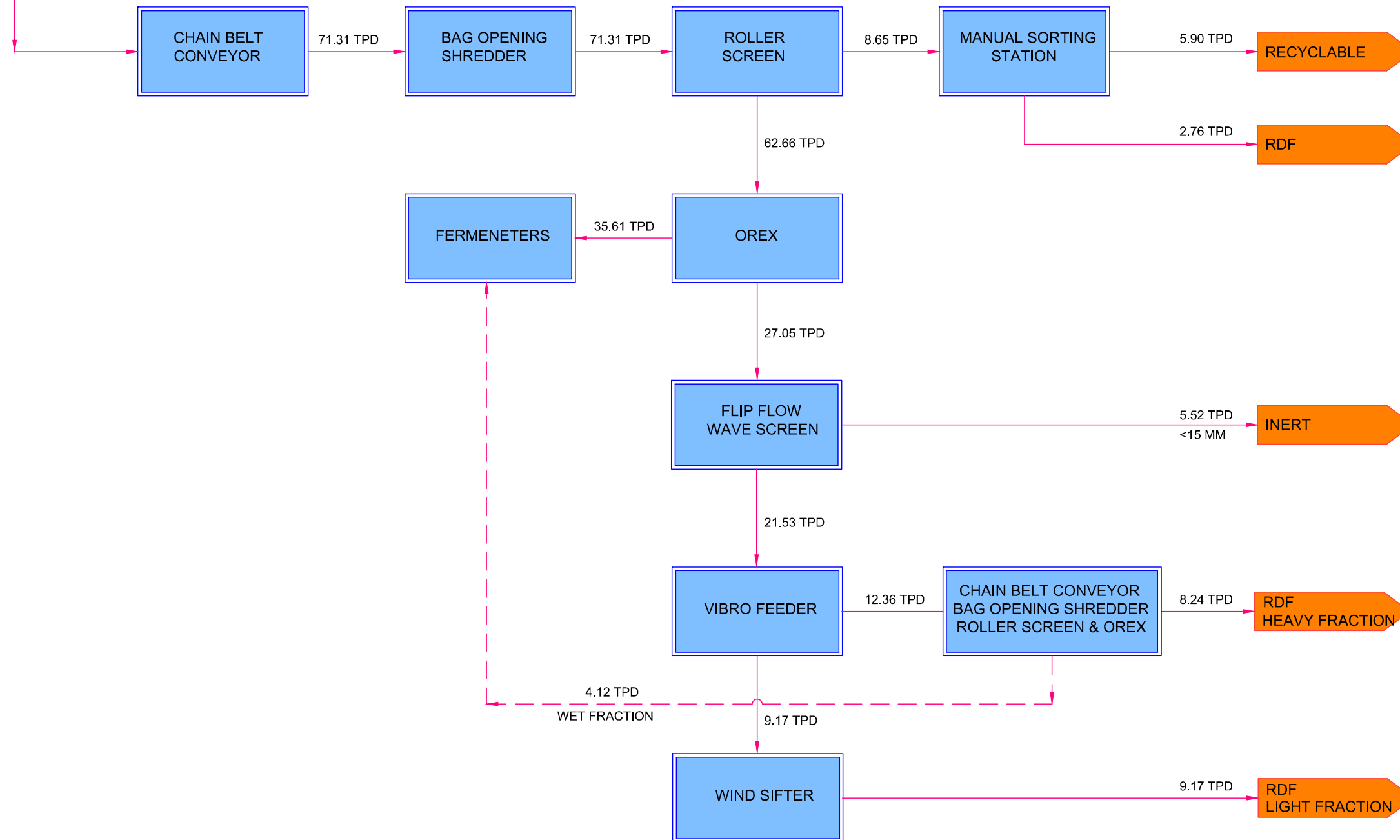
Sr. No.	Parameter	Unit	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug	Monthly Average
<b>A Raw Effluent Quality:</b>														
1	Flow	m <sup>3</sup> /day	59.80	58.30	59.60	60.20	58.80	59.40	58.90	58.60	58.40	58.70	58.00	<b>58.97</b>
2	pH	---	7.60	7.80	7.40	7.50	7.60	7.80	7.80	7.50	7.70	7.60	7.60	<b>7.63</b>
3	Biochemical Oxygen Demand (BOD5)	mg/l	2,792	2,868	2,836	2,782	2,778	2,698	2,812	2,857	2,843	2,773	2,806	<b>2,804</b>
4	Chemical Oxygen Demand (COD)	mg/l	5,538	5,687	5,643	5,542	5,524	5,412	5,642	5,738	5,718	5,603	5,593	<b>5,604</b>
5	Total Suspended Solids (TSS)	mg/l	3,430	3,614	3,588	3,567	3,610	3,542	3,656	3,698	3,683	3,569	3,620	<b>3,598</b>
6	Total Dissolve Solids (TDS)	mg/l	1,948	1,972	2,010	2,012	1,980	1,996	1,990	1,976	1,962	1,970	1,959	<b>1,980</b>
<b>B Treated Effluent Quality:</b>														
1	pH	---	7.64	7.73	7.90	7.50	7.60	7.50	7.90	7.70	7.50	7.40	7.50	<b>7.62</b>
2	Biochemical Oxygen Demand (BOD5)	mg/l	9	9	10	10	10	10	9	9	9	10	10	<b>10</b>
3	Chemical Oxygen Demand (COD)	mg/l	85	81	87	90	88	86	89	88	85	90	84	<b>87</b>
1	Total Suspended Solids (TSS)	mg/l	9	9	10	10	10	10	9	9	9	10	10	<b>10</b>
2	Total Dissolve Solids (TDS)	mg/l	1,865	1,890	1,910	1,918	1,879	1,912	1,902	1,874	1,869	1,880	1,860	<b>1,887</b>





INPUT WASTE		
SR. NO.	NAME	WEIGHT (TPD)
1	RECYCLABLE	5.90
2	RDF	20.17
3	WET FRACTION	39.73
4	INERT	5.52
TOTAL		71.31

NUMBER OF RECYCLABLE FRACTIONS		
SR. NO.	NAME	WEIGHT (KG)
1	PLASTIC FILM / LDPE BAGS	3581
2	MULTI-LAYERED PLASTIC PACKS	00
3	HARD PLASTIC	97
4	PET	158
5	TETRAPACK	00
6	PAPER/CARDBOARD	673
7	CLOTH/RAGS/TEXTILE	472
8	JUTE BAGS	08
9	GLASS	00
10	METALS	243
11	FOOTWEAR	01
12	LEATHER/RUBBER/REXINE	28
13	THERMOCAL	27
14	COCONUT	607
TOTAL		5896



**ANNEXURE -1: MASS BALANCE AVERAGE 21-08-2016 TO 31-08-2016**