

**Monthly Performance Report
(HWT-NG100-MPR-35-R0)**

**June 2019
(From 01/06/2019 to 30/06/2019)**

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

Prepared By
**Hindustan Waste Treatment Pvt. Ltd.
(HWT)**

Submitted To
**Department of Science & Technology (DS&T)
Goa State Infrastructural Development
Corporation Limited (GSIDC)
Goa Waste Management Corporation (GWMC)**

Table – 1
Summary of Overall Average Results for June 2019
(As compared to Schedule – 7: Performance Standards, Volume – I of RFP)

Sr. No.	Parameter	Performance Standard As per Schedule – 7	Actual Performance at Plant (Monthly Average)
1.	Number of fractions of recyclables sorted per day from the input mixed waste	Minimum 10 numbers of fractions shall be sorted daily from the input dry waste as received in the facility. The list of fractions are as follows: 1. PET Bottles 2. Mixed Plastic Articles 3. Newspapers / other Paper Material 4. Cardboard 5. Styrofoam & Thermocol 6. Coconut Shells 7. Clothes 8. Rubber Articles 9. Metal Articles & Cans 10. E-waste Articles and any Hazardous Waste	13 numbers of fractions are being sorted daily from the input dry waste as received in the facility. The list of fractions are as follows: 1. Glass 2. Aluminium 3. Metal 4. Paper + Cardboard 5. Tetra Pack 6. Hard Plastic 7. PET 8. Mixed Plastic 9. Styrofoam + Thermocol 10. Cloth + Rags + Textile 11. Leather + Rexine + Rubber 12. Coconut Shells 13. E-waste Articles and any Hazardous Waste
2.	Quantum of reject/residues to be sent to the landfill after processing. No organic fraction shall be disposed in the landfill.	Maximum 10% of inert of the total input waste as received in the facility (in TPD).	Input waste to the Plant is 138.14 TPD . Quantum of Inert is 0.72 TPD which is < 10% of the Total Input Waste as received in the Facility. No Organic Waste has been disposed in the Sanitary Landfill Facility.
3.	Electricity generation in the Plant	Minimum electricity to be generated in the plant shall be 0.40 MW per 100 tons of input wet biodegradable waste as received in the Facility (in TPD).	Electricity generation is 0.57 MW/100 MT of Input Biodegradable Waste as received in the Facility (in TPD).
4.	Biogas Flaring System	The Biogas Flaring System shall strictly be used only in case of	Biogas is being flared strictly, only under emergency and not as a

Sr. No.	Parameter	Performance Standard As per Schedule – 7	Actual Performance at Plant (Monthly Average)										
		emergency and not as a routine practice.	routine practice. The average running time of Biogas Flaring System is 2.73 hours/day .										
5.	Discharge of treated effluent conforming to regulatory norms	Effluent Treatment Plant shall be operated under all conditions.	Effluent Treatment Plant is being operated continuously and is meeting all statutory conditions. The Treated Effluent Characteristics are as follows: <table border="1" data-bbox="1032 646 1403 856"> <tbody> <tr> <td>pH</td> <td>7.03</td> </tr> <tr> <td>BOD</td> <td>8 mg/l</td> </tr> <tr> <td>COD</td> <td>72 mg/l</td> </tr> <tr> <td>TSS</td> <td>9 mg/l</td> </tr> <tr> <td>TDS</td> <td>1,622 mg/l</td> </tr> </tbody> </table>	pH	7.03	BOD	8 mg/l	COD	72 mg/l	TSS	9 mg/l	TDS	1,622 mg/l
pH	7.03												
BOD	8 mg/l												
COD	72 mg/l												
TSS	9 mg/l												
TDS	1,622 mg/l												
6.	General Housekeeping, hygienic conditions, cleanliness, safety norms, adequate manpower, treatment methodology for plant operation & maintenance and storage conditions in the plant.	Minimum housekeeping, safety norms and cleanliness conditions shall be maintained at all times as per the Bid Document requirement.	<ul style="list-style-type: none"> • High standard of Housekeeping, Cleanliness and Safety are being maintained at all times at the Plant. • Adequate manpower has been deployed in all shifts. • Also, the treatment methodology is being followed properly and proper storage conditions have been maintained in the Plant. 										

100 TPD Municipal Solid Waste (MSW) Facility at Calangute, North Goa

#	Plant Performance Data: June 2019		
Sr. No.	Content	Month	Signature
1	Input Waste Composition	From 01.06.2019 To 30.06.2019	
2	Recyclables		
3	Electricity Generation		
4	Biogas Flare		
5	Effluent Treatment Plant		
6	Inert		
7	Housekeeping		

100 TPD Municipal Solid Waste (MSW) Facility at Calangute, North Goa

1 WASTE:

Sr. No.	Description	Unit	1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	Weekly Average	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	Weekly Average
1A	Input Waste:																	
1	Type 1: Dry Waste	TPD	51.34	40.00	70.58	81.16	69.91	68.18	74.30	65.07	80.280	66.570	76.880	90.000	66.710	77.720	96.790	79.28
2	Type 2: Wet Waste	TPD	83.17	81.71	70.61	65.09	57.30	61.04	71.35	70.04	68.210	67.930	72.140	71.220	73.590	62.530	64.340	68.57
3	Type 3: Mixed Waste	TPD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00
4	Type 4: Tree Waste	TPD	3.05	3.08	2.91	4.77	3.63	6.33	5.45	4.17	3.500	1.200	2.350	2.430	8.900	5.270	2.820	3.78
5	Total.....(1)+(2)+(3)+(4)	TPD	137.56	124.79	144.10	151.02	130.84	135.55	151.10	139.28	151.99	135.70	151.37	163.65	149.20	145.52	163.95	151.63

- # **Note:**
 1 **Type-I: Dry Waste:** This has 25-30% Organic and 70-75% Inorganic.
 2 **Type-II: Wet Waste:** This has 65-70% Organic and 30-35%
 3 **Type-I: Mixed Waste:** This has 45-50% Organic and 50-55% Inorganic.

Sr. No.	Description	Unit	1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	Weekly Average	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	Weekly Average
1B	Output Products:																	
1	Organic Fraction	TPD	67.45	65.80	64.81	66.72	58.92	57.25	70.28	64.46	67.85	64.72	71.63	74.56	68.44	61.87	68.53	68.23
2	Inorganic Fraction:																	
	Recyclables	TPD	9.51	9.24	10.98	10.56	9.85	9.64	10.53	10.04	10.75	10.26	10.73	11.35	10.62	10.31	12.18	10.89
	RDF	TPD	55.55	45.26	63.66	66.59	56.42	60.83	60.77	58.44	67.53	56.08	64.16	72.73	59.47	64.78	76.51	65.89
	Bulking Material	TPD	2.00	1.41	1.74	2.38	2.02	1.50	1.67	1.82	2.36	2.17	2.50	2.58	1.77	2.01	2.35	2.25
	Inert	TPD	0.00	0.00	0.00	0.00	0.00	0.00	2.39	0.34	0.00	1.27	0.00	0.00	1.29	1.56	0.59	
3	Tree Waste	TPD	3.05	3.08	2.91	4.77	3.63	6.33	5.45	4.17	3.50	1.20	2.35	2.43	8.90	5.27	2.82	3.78
	Total.....(1)+(2)+(3)	TPD	137.56	124.79	144.10	151.02	130.84	135.55	151.10	139.28	151.99	135.70	151.37	163.65	149.20	145.52	163.95	151.63

2 RECYCLABLES:

Sr. No.	Description	Unit	1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	Weekly Average	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	Weekly Average
1	Glass	Kg	188	158	169	219	127	181	204	178	208	161	149	242	182	168	209	188
2	Aluminum	Kg	94	61	99	102	114	116	131	102	134	81	134	129	112	140	81	116
3	Metal	Kg	215	207	240	234	229	233	277	234	282	242	283	274	267	281	258	270
4	Tetra Pack	Kg	81	85	71	88	89	65	102	83	134	135	75	97	70	140	145	114
5	Hard Plastic	Kg	161	195	212	234	127	181	146	179	178	269	149	242	210	238	226	216
6	PET	Kg	161	158	226	234	165	155	291	199	193	269	298	274	267	140	306	250
7	Mixed Plastic	Kg	8,528	8,301	9,855	9,375	8,867	8,632	9,234	8,970	9,533	9,012	9,522	9,980	9,372	9,130	10,796	9,621
8	Thermocol + Styrofoam	Kg	81	73	113	73	127	78	146	99	89	94	119	113	140	70	161	112
9	Cloth + Rags + Textiles	Kg	1,170	986	875	1,404	687	698	874	956	1,129	1,116	790	1,274	1,164	1,066	1,128	1,095
10	Leather + Rexine + Rubber	Kg	1,184	1,059	1,002	848	1,272	1,163	845	1,053	1,381	820	998	1,306	1,094	870	999	1,067
11	Paper + Cardboard	Kg	847	791	861	980	814	827	888	858	965	820	1,028	983	842	968	1,128	962
12	Coconut	Kg	1,157	621	875	1,404	1,208	672	787	961	1,396	1,345	1,475	1,596	926	1,038	1,225	1,286

- # **Note:**
 1 Item No. 9 (Cloth + Rags + Textiles) and 10 (Leather + Rexine + Rubber) are sent to Cement Plants as RDF.
 2 Item No. 11 (Paper + Cardboard) and 12 (Coconut) are used as Bulking Material in Composting.

3 ELECTRICITY GENERATION:

Sr. No.	Description	Unit	1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	Weekly Average	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	Weekly Average
3.1	Biogas Gensets:																	
1	Biogas Genset-I: Running Time	hr	23.90	24.00	23.45	24.00	23.00	21.60	23.60	23.36	23.90	21.30	23.05	23.05	21.35	22.30	23.00	22.56
2	Biogas Genset-I: Energy Generation	kW.hr	3,930	4,070	3,880	4,000	3,640	3,140	3,660	3,760.00	3,760	3,060	3,520	3,400	3,010	3,150	3,530	3,347.14
3	Biogas Genset-II: Running Time	hr	23.90	24.00	23.35	24.00	23.00	17.10	23.60	22.71	23.90	21.25	17.20	23.05	19.85	22.35	22.95	21.51
4	Biogas Genset-II: Energy Generation	kW.hr	4,010	4,070	3,850	4,040	3,760	2,730	3,850	3,758.57	3,880	3,250	2,800	3,590	3,010	3,400	3,670	3,371.43
5	Total.....(1)+(2)+(3)+(4)	kW.hr	7,940	8,140	7,730	8,040	7,400	5,870	7,510	7,519	7,640	6,310	6,320	6,990	6,020	6,550	7,200	6,719
3.2	Electricity Generation:																	
1	As per Tender: Minimum electricity to be generated in the plant shall be 0.4 MW per 100 tons of Input Biodegradable Waste as received in the Facility.	MW/100 MT	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
2	Biodegradable Waste	TPD	67.45	65.80	64.81	66.72	58.92	57.25	70.28	64.46	67.85	64.72	71.63	74.56	68.44	61.87	68.53	68.23
3	Electricity Generation = 100 * {(A2 ÷ A1) + (A4 ÷ A3)} ÷ 1000 ÷ 1B.1	kW	332	339	330	335	322	305	318	326	320	297	316	303	293	293	313	305
4	Electricity Generation	MW/100 MT	0.55	0.57	0.55	0.56	0.55	0.53	0.53	0.55	0.53	0.49	0.53	0.51	0.49	0.49	0.52	0.51

4 BIOGAS FLARE:

Sr. No.	Description	Unit	1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	Weekly Average	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	Weekly Average
1	Operation Time	hr/day	8.92	8.38	6.70	3.23	1.47	5.77	2.50	5.28	0.00	3.18	3.08	1.52	1.85	2.83	2.45	2.13

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5 EFFLUENT TREATMENT PLANT:

Sr. No.	Description	Unit	1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	Weekly Average	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	Weekly Average
5.1 Raw Effluent Quality:																		
1	Flow	m ³ /day	86.48	85.31	77.30	73.98	77.21	46.51	77.37	74.88	70.36	58.88	71.37	85.46	57.11	64.97	54.04	66.03
2	pH	---	6.08	7.20	6.29	7.36	7.30	7.05	7.10	6.91	6.80	6.27	6.20	6.06	7.31	7.89	6.28	6.69
3	Biochemical Oxygen Demand (BOD5)	mg/l	1,534	1,686	2,168	2,167	2,052	1,614	2,282	1,929	2,318	2,123	1,879	2,489	1,953	1,871	2,407	2,149
4	Chemical Oxygen Demand (COD)	mg/l	5,062	3,760	6,612	6,111	6,197	5,536	6,230	5,644	6,838	6,879	5,956	5,078	4,668	5,875	7,751	6,149
5	Total Suspended Solids (TSS)	mg/l	3,743	2,967	4,401	4,572	3,447	3,486	4,998	3,945	4,937	4,628	3,871	3,933	4,863	4,378	5,993	4,658
6	Total Dissolve Solids (TDS)	mg/l	1,636	1,796	1,496	1,334	1,334	1,519	1,558	1,525	1,531	1,633	1,690	1,686	1,775	1,324	1,509	1,593
5.2 Treated Effluent Quality:																		
1	pH	---	7.34	7.17	6.97	7.01	6.88	7.09	7.10	7.08	6.86	6.68	7.39	7.30	7.05	7.15	6.85	7.04
2	Biochemical Oxygen Demand (BOD5)	mg/l	6	9	7	9	6	5	9	7	6	9	6	9	8	8	7	8
3	Chemical Oxygen Demand (COD)	mg/l	72	80	81	86	74	57	89	77	61	80	72	90	51	58	71	69
4	Total Suspended Solids (TSS)	mg/l	7	10	8	10	7	6	10	8	7	10	7	10	9	9	8	9
5	Total Dissolve Solids (TDS)	mg/l	1,685	1,976	1,556	1,441	1,374	1,565	1,729	1,618	1,669	1,649	1,825	1,770	1,793	1,377	1,645	1,675

6 DISPOSAL OF INERT:

Sr. No.	Description	Unit	1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	Weekly Average	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	Weekly Average
1	<u>As per Tender:</u> Maximum 10% of Inerts of the Total Input Waste (excluding Mulched Tree Waste) as received in the Facility.																	
2	Input Waste	TPD	134.51	121.71	141.19	146.25	127.21	129.22	145.65	135.11	148.49	134.50	149.02	161.22	140.30	140.25	161.13	147.84
3	Inert Fraction	TPD	0.00	0.00	0.00	0.00	0.00	0.00	2.39	0.34	0.00	1.27	0.00	0.00	0.00	1.29	1.56	0.59
4	% of Total Input Waste.....(3) ÷ (2)	%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.64%	0.23%	0.00%	0.94%	0.00%	0.00%	0.00%	0.92%	0.97%	0.40%

7 HOUSEKEEPING:

Sr. No.	Description	Unit	1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun	Weekly Average	8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun	Weekly Average
1	Hygienic Conditions	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
2	Cleanliness	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
3	Manpower Deployed	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
4	Safety Norms	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
5	Treatment Methodology	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
6	Storage Conditions	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted

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1 WASTE:

Sr. No.	Description	Unit	15-Jun	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	Weekly Average		22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	Weekly Average	
1A	Input Waste:																			
1	Type 1: Dry Waste	TPD	84.77	79.45	86.79	84.93	92.92	82.19	77.29	84.05	55.69%	78.24	59.16	89.41	83.85	72.14	72.25	71.76	75.26	57.82%
2	Type 2: Wet Waste	TPD	58.89	56.49	66.56	52.64	60.75	68.56	54.54	59.78	39.61%	43.26	46.51	54.54	45.42	49.42	47.37	47.70	47.75	36.68%
3	Type 3: Mixed Waste	TPD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	17.03	0.00	2.43	1.87%
4	Type 4: Tree Waste	TPD	8.23	8.34	6.30	4.56	10.06	5.80	6.43	7.10	4.71%	2.96	4.62	6.99	4.97	0.68	9.02	3.89	4.73	3.64%
5	Total.....(1)+(2)+(3)+(4)	TPD	151.89	144.28	159.65	142.13	163.73	156.55	138.26	150.93	100.00%	124.46	110.29	150.94	134.24	122.24	145.67	123.35	130.17	100.00%

- # **Note:**
 1 **Type-I: Dry Waste:** This has 25-30% Organic and 70-75% Inorganic.
 2 **Type-II: Wet Waste:** This has 65-70% Organic and 30-35%
 3 **Type-I: Mixed Waste:** This has 45-50% Organic and 50-55% Inorganic.

Sr. No.	Description	Unit	15-Jun	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	Weekly Average		22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	Weekly Average	
1B	Output Products:																			
1	Organic Fraction	TPD	62.25	60.97	69.20	58.52	66.80	67.06	57.86	63.24	41.90%	53.35	47.06	63.88	55.58	53.41	61.27	51.36	55.13	42.35%
2	Inorganic Fraction:																			
	Recyclables	TPD	10.75	10.17	11.26	10.52	11.25	10.96	9.56	10.64	7.05%	9.20	7.75	10.65	9.31	9.53	9.80	8.43	9.24	7.10%
	RDF	TPD	68.81	62.91	70.52	64.44	73.75	70.56	62.22	67.60	44.79%	57.51	49.52	67.32	62.92	53.63	63.86	56.74	58.78	45.16%
	Bulking Material	TPD	1.85	1.89	2.38	1.69	1.87	2.17	2.19	2.01	1.33%	1.45	1.34	2.10	1.46	1.48	1.72	1.64	1.60	1.23%
	Inert	TPD	0.00	0.00	0.00	2.39	0.00	0.00	0.00	0.34	0.23%	0.00	0.00	0.00	0.00	3.51	0.00	1.29	0.69	0.53%
3	Tree Waste	TPD	8.23	8.34	6.30	4.56	10.06	5.80	6.43	7.10	4.71%	2.96	4.62	6.99	4.97	0.68	9.02	3.89	4.73	3.64%
	Total.....(1)+(2)+(3)	TPD	151.89	144.28	159.65	142.13	163.73	156.55	138.26	150.93	100.00%	124.46	110.29	150.94	134.24	122.24	145.67	123.35	130.17	100.00%

2 RECYCLABLES:

Sr. No.	Description	Unit	15-Jun	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	Weekly Average		22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	Weekly Average	
1	Glass	Kg	144	150	169	151	215	211	185	175		158	159	202	181	134	137	179	164	
2	Aluminum	Kg	86	136	123	69	123	121	79	105		85	74	101	116	85	109	108	97	
3	Metal	Kg	259	231	261	220	246	226	211	236		194	169	216	246	231	246	215	217	
4	Tetra Pack	Kg	144	136	123	110	77	90	79	108		109	53	115	90	109	68	72	88	
5	Hard Plastic	Kg	158	258	153	275	277	302	250	239		158	211	230	259	231	246	203	220	
6	PET	Kg	230	272	307	151	231	256	132	226		231	137	202	246	231	205	131	198	
7	Mixed Plastic	Kg	9,654	8,890	9,968	9,437	9,942	9,663	8,543	9,442		8,201	6,847	9,443	8,079	8,400	8,705	7,454	8,161	
8	Thermocol + Styrofoam	Kg	72	95	153	110	138	90	79	105		61	95	144	90	109	82	72	93	
9	Cloth + Rags + Textiles	Kg	963	856	1,119	1,334	968	1,477	1,266	1,140		838	655	1,094	1,086	729	1,367	920	956	
10	Leather + Rexine + Rubber	Kg	876	884	1,119	1,087	922	829	989	958		1,021	909	1,152	1,280	851	1,039	848	1,014	
11	Paper + Cardboard	Kg	862	924	981	935	1,014	935	870	932		778	645	964	789	754	875	729	791	
12	Coconut	Kg	991	965	1,395	757	861	1,236	1,318	1,075		668	697	1,137	672	729	847	908	808	

- # **Note:**
 1 Item No. 9 (Cloth + Rags + Textiles) and 10 (Leather + Rexine + Rubber) are sent to Cement Plants as RDF.
 2 Item No. 11 (Paper + Cardboard) and 12 (Coconut) are used as Bulking Material in Composting.

3 ELECTRICITY GENERATION:

Sr. No.	Description	Unit	15-Jun	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	Weekly Average		22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	Weekly Average	
3.1	Biogas Gensets:																			
1	Biogas Genset-I: Running Time	hr	23.80	23.78	23.89	20.24	23.47	23.41	18.81	22.49		19.41	23.48	23.07	20.41	23.19	21.54	22.10	21.88	
2	Biogas Genset-I: Energy Generation	kW.hr	3,390	3,760	3,957	3,318	3,927	3,736	3,076	3,594.86		3,396	4,027	3,714	3,428	3,709	3,704	3,623	3,657.29	
3	Biogas Genset-II: Running Time	hr	23.80	21.76	23.73	18.96	17.94	19.92	23.77	21.41		23.86	21.18	22.12	22.47	23.33	21.62	23.03	22.51	
4	Biogas Genset-II: Energy Generation	kW.hr	3,600	3,652	3,971	3,127	3,050	3,501	3,943	3,549.14		4,056	3,445	3,525	3,677	3,989	3,670	3,803	3,737.86	
5	Total.....(1)+(2)+(3)+(4)	kW.hr	6,990	7,412	7,928	6,445	6,977	7,237	7,019	7,144		7,452	7,472	7,239	7,105	7,698	7,374	7,426	7,395	
3.2	Electricity Generation:																			
1	As per Tender: Minimum electricity to be generated in the plant shall be 0.4 MW per 100 tons of Input Biodegradable Waste as received in the Facility.	MW/100 MT	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40		0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
2	Biodegradable Waste	TPD	62.25	60.97	69.20	58.52	66.80	67.06	57.86	63.24		53.35	47.06	63.88	55.58	53.41	61.27	51.36	55.13	
3	Electricity Generation = $100 * \{(A2 \div A1) + (A4 \div A3)\} \div 1000 \div 1B.1$	kW	294	326	333	329	337	335	329	326		345	334	320	332	331	342	329	333	
4	Electricity Generation	MW/100 MT	0.49	0.54	0.55	0.56	0.56	0.56	0.57	0.55		0.65	0.71	0.53	0.60	0.62	0.57	0.64	0.62	

4 BIOGAS FLARE:

Sr. No.	Description	Unit	15-Jun	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	Weekly Average		22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	Weekly Average	
1	Operation Time	hr/day	2.08	9.43	0.00	1.93	1.52	8.30	8.57	4.55		1.67	0.00	0.00	1.65	0.22	1.37	0.32	0.75	

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5 EFFLUENT TREATMENT PLANT:

Sr. No.	Description	Unit	15-Jun	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	Weekly Average	22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	Weekly Average
5.1 Raw Effluent Quality:																		
1	Flow	m ³ /day	56.38	69.92	76.12	75.23	67.25	72.11	64.42	68.78	61.42	65.71	76.36	76.36	66.76	71.99	69.13	69.68
2	pH	---	7.96	6.80	7.81	6.39	7.25	7.84	6.53	7.23	6.18	6.40	7.60	6.13	7.60	7.60	6.14	6.81
3	Biochemical Oxygen Demand (BOD5)	mg/l	1,919	2,225	2,053	1,879	1,659	2,368	1,604	1,958	2,426	2,139	1,815	1,562	1,881	2,223	1,535	1,940
4	Chemical Oxygen Demand (COD)	mg/l	5,431	5,318	4,968	5,693	5,226	7,507	3,785	5,418	5,628	4,706	3,666	4,624	5,850	4,957	5,188	4,946
5	Total Suspended Solids (TSS)	mg/l	4,164	5,073	5,071	3,871	2,522	3,670	2,839	3,887	4,173	3,529	4,465	3,639	3,367	5,291	2,763	3,890
6	Total Dissolve Solids (TDS)	mg/l	1,601	1,738	1,323	1,432	1,578	1,705	1,364	1,534	1,327	1,396	1,354	1,308	1,495	1,559	1,325	1,395
5.2 Treated Effluent Quality:																		
1	pH	---	7.13	6.78	6.94	7.16	6.55	7.06	7.13	6.96	7.43	7.30	6.82	6.89	6.63	7.27	7.00	7.05
2	Biochemical Oxygen Demand (BOD5)	mg/l	8	9	5	9	9	8	8	8	8	8	8	6	9	5	7	7
3	Chemical Oxygen Demand (COD)	mg/l	83	62	61	80	65	54	59	66	67	58	79	57	86	78	71	71
4	Total Suspended Solids (TSS)	mg/l	9	10	6	10	10	9	9	9	9	9	9	7	10	6	8	8
5	Total Dissolve Solids (TDS)	mg/l	1,665	1,755	1,429	1,532	1,594	1,773	1,500	1,607	1,367	1,508	1,449	1,413	1,525	1,668	1,378	1,473

6 DISPOSAL OF INERT:

Sr. No.	Description	Unit	15-Jun	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	Weekly Average	22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	Weekly Average
1	<u>As per Tender:</u> Maximum 10% of Inerts of the Total Input Waste (excluding Mulched Tree Waste) as received in the Facility.																	
2	Input Waste	TPD	143.66	135.94	153.35	137.57	153.67	150.75	131.83	143.82	121.50	105.67	143.95	129.27	121.56	136.65	119.46	125.44
3	Inert Fraction	TPD	0.00	0.00	0.00	2.39	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	3.51	0.00	1.29	0.69
4	% of Total Input Waste.....(3) ÷ (2)	%	0.00%	0.00%	0.00%	1.74%	0.00%	0.00%	0.00%	0.25%	0.00%	0.00%	0.00%	0.00%	2.89%	0.00%	1.08%	0.57%

7 HOUSEKEEPING:

Sr. No.	Description	Unit	15-Jun	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	Weekly Average	22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun	Weekly Average
1	Hygienic Conditions	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
2	Cleanliness	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
3	Manpower Deployed	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
4	Safety Norms	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
5	Treatment Methodology	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted
6	Storage Conditions	---	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted	Accepted

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1 WASTE:

Sr. No.	Description	Unit	29-Jun	30-Jun	Weekly Average		Monthly Average	
1A	Input Waste:							
1	Type 1: Dry Waste	TPD	66.44	62.53	64.49	54.34%	73.63	53.37%
2	Type 2: Wet Waste	TPD	45.92	49.05	47.49	40.01%	58.72	42.36%
3	Type 3: Mixed Waste	TPD	0.00	0.00	0.00	0.00%	0.49	0.37%
4	Type 4: Tree Waste	TPD	8.49	4.92	6.71	5.65%	5.30	3.90%
5	Total.....(1)+(2)+(3)+(4)	TPD	120.85	116.50	118.68	100.00%	138.14	100.00%

- # **Note:**
 1 **Type-I: Dry Waste:** This has 25-30% Organic and 70-75% Inorganic.
 2 **Type-II: Wet Waste:** This has 65-70% Organic and 30-35%
 3 **Type-I: Mixed Waste:** This has 45-50% Organic and 50-55% Inorganic.

Sr. No.	Description	Unit	29-Jun	30-Jun	Weekly Average		Monthly Average	
1B	Output Products:							
1	Organic Fraction	TPD	50.85	49.73	50.29	42.38%	60.27	43.58%
2	Inorganic Fraction:							
	Recyclables	TPD	8.12	8.40	8.26	6.96%	9.81	7.10%
	RDF	TPD	50.55	50.06	50.31	42.39%	60.21	43.55%
	Bulking Material	TPD	1.30	1.67	1.49	1.25%	1.83	1.32%
	Inert	TPD	1.53	1.71	1.62	1.37%	0.72	0.55%
3	Tree Waste	TPD	8.49	4.92	6.71	5.65%	5.30	3.90%
	Total.....(1)+(2)+(3)	TPD	120.85	116.50	118.68	100.00%	138.14	100.00%

2 RECYCLABLES:

Sr. No.	Description	Unit	29-Jun	30-Jun	Weekly Average		Monthly Average	
1	Glass	Kg	112	167	140		169	
2	Aluminum	Kg	67	67	67		97	
3	Metal	Kg	225	167	196		230	
4	Tetra Pack	Kg	112	89	101		99	
5	Hard Plastic	Kg	112	223	168		204	
6	PET	Kg	112	123	118		198	
7	Mixed Plastic	Kg	7,315	7,487	7,401		8,719	
8	Thermocol + Styrofoam	Kg	67	78	73		96	
9	Cloth + Rags + Textiles	Kg	1,045	870	958		1,021	
10	Leather + Rexine + Rubber	Kg	663	792	728		964	
11	Paper + Cardboard	Kg	719	669	694		847	
12	Coconut	Kg	584	1,004	794		985	

- # **Note:**
 1 Item No. 9 (Cloth + Rags + Textiles) and 10 (Leather + Rexine + Rubber) are sent to Cement Plants as RDF.
 2 Item No. 11 (Paper + Cardboard) and 12 (Coconut) are used as Bulking Material in Composting.

3 ELECTRICITY GENERATION:

Sr. No.	Description	Unit	29-Jun	30-Jun	Weekly Average		Monthly Average	
3.1	Biogas Gensets:							
1	Biogas Genset-I: Running Time	hr	18.52	22.42	20.47		22.15	
2	Biogas Genset-I: Energy Generation	kW.hr	3,123	3,654	3,388.50		3,549.56	
3	Biogas Genset-II: Running Time	hr	22.70	23.54	23.12		22.25	
4	Biogas Genset-II: Energy Generation	kW.hr	3,661	3,836	3,748.50		3,633.10	
5	Total.....(1)+(2)+(3)+(4)	kW.hr	6,784	7,490	7,137		7,183	
3.2	Electricity Generation:							
1	As per Tender: Minimum electricity to be generated in the plant shall be 0.4 MW per 100 tons of Input Biodegradable Waste as received in the Facility.	MW/100 MT	0.40	0.40	0.40		0.40	
2	Biodegradable Waste	TPD	50.85	49.73	50.29		60.27	
3	Electricity Generation = $100 * \{(A2 \div A1) + (A4 \div A3)\} \div 1000 \div 1B.1$	kW	330	326	328		324	
4	Electricity Generation	MW/100 MT	0.65	0.66	0.63		0.57	

4 BIOGAS FLARE:

Sr. No.	Description	Unit	29-Jun	30-Jun	Weekly Average		Monthly Average	
1	Operation Time	hr/day	1.88	0.00	0.94		2.73	

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5 EFFLUENT TREATMENT PLANT:

Sr. No.	Description	Unit	29-Jun	30-Jun	Weekly Average	Monthly Average
5.1 Raw Effluent Quality:						
1	Flow	m ³ /day	71.86	69.77	70.82	70.03
2	pH	---	7.76	7.54	7.65	7.06
3	Biochemical Oxygen Demand (BOD5)	mg/l	1,982	2,311	2,147	2,024
4	Chemical Oxygen Demand (COD)	mg/l	6,917	6,725	6,821	5,796
5	Total Suspended Solids (TSS)	mg/l	3,310	4,738	4,024	4,081
6	Total Dissolve Solids (TDS)	mg/l	1,757	1,616	1,687	1,547
5.2 Treated Effluent Quality:						
1	pH	---	7.27	6.80	7.04	7.03
2	Biochemical Oxygen Demand (BOD5)	mg/l	8	8	8	8
3	Chemical Oxygen Demand (COD)	mg/l	78	78	78	72
4	Total Suspended Solids (TSS)	mg/l	9	9	9	9
5	Total Dissolve Solids (TDS)	mg/l	1,810	1,664	1,737	1,622

6 DISPOSAL OF INERT:

Sr. No.	Description	Unit	29-Jun	30-Jun	Weekly Average	Monthly Average
1	<u>As per Tender:</u> Maximum 10% of Inerts of the Total Input Waste (excluding Mulched Tree Waste) as received in the Facility.					
2	Input Waste	TPD	112.36	111.58	111.97	132.84
3	Inert Fraction	TPD	1.53	1.71	1.62	0.72
4	% of Total Input Waste.....(3) ÷ (2)	%	1.36%	1.53%	1.45%	0.58%

7 HOUSEKEEPING:

Sr. No.	Description	Unit	29-Jun	30-Jun	Weekly Average	Monthly Average
1	Hygenic Conditions	---	Accepted	Accepted	Accepted	Accepted
2	Cleanliness	---	Accepted	Accepted	Accepted	Accepted
3	Manpower Deployed	---	Accepted	Accepted	Accepted	Accepted
4	Safety Norms	---	Accepted	Accepted	Accepted	Accepted
5	Treatment Methodology	---	Accepted	Accepted	Accepted	Accepted
6	Storage Conditions	---	Accepted	Accepted	Accepted	Accepted