Monthly Performance Report
(HWT-NG100-MPR-11-R0)

June 2017
(From 01/06/2017 to 30/06/2017)

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)
### Table – 1
Summary of Overall Average Results for June 2017
*(As compared to Schedule – 7: Performance Standards, Volume – I of RFP)*

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Parameter</th>
<th>Performance Standard As per Schedule – 7</th>
<th>Actual Performance at Plant (Monthly Average)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Quantum of reject/residues to be sent to the landfill after processing. No organic fraction shall be disposed in the landfill.</td>
<td>Maximum 10% of inert of the total input waste as received in the facility (in TPD).</td>
<td>Input waste to the Plant is <strong>117.59</strong> TPD. Quantum of Inert is <strong>6.75</strong> TPD which is &lt; <strong>10%</strong> of the Total Input Waste as received in the Facility. No Organic Waste has been disposed in the Sanitary Landfill Facility.</td>
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<td>3.</td>
<td>Electricity generation in the Plant</td>
<td>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).</td>
<td>Electricity generation is <strong>0.63</strong> MW/100 tons of Input Biodegradable Waste as received in the Facility (in TPD).</td>
</tr>
<tr>
<td>Sr. No.</td>
<td>Parameter</td>
<td>Performance Standard As per Schedule – 7</td>
<td>Actual Performance at Plant (Monthly Average)</td>
</tr>
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<td>--------</td>
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</tbody>
</table>
| 4.     | Biogas Flaring System                                                     | The Biogas Flaring System shall strictly be used only in case of emergency and not as a routine practice. | Biogas is being flared strictly, only under emergency and not as a routine practice. The average running time of Biogas Flaring System is **7.11 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:
<p>|        |                                                                           |                                                                                                          | pH | 7.05         |
|        |                                                                           |                                                                                                          | BOD | 7 mg/l       |
|        |                                                                           |                                                                                                          | COD | 75 mg/l      |
|        |                                                                           |                                                                                                          | TSS | 8 mg/l       |
|        |                                                                           |                                                                                                          | TDS | 1731 mg/l    |
| 6.     | General Housekeeping, hygienic conditions, cleanliness, safety norms, adequate manpower, treatment methodology for plant operation &amp; 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. |
|        |                                                                           |                                                                                                          | • 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. |</p>
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Content</th>
<th>Month</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Input Waste Composition</td>
<td>June 2017</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Recyclables</td>
<td>From 01.06.2017</td>
<td>To 30.06.2017</td>
</tr>
<tr>
<td>3</td>
<td>Electricity Generation</td>
<td></td>
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<tr>
<td>4</td>
<td>Biogas Flare</td>
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<tr>
<td>5</td>
<td>Effluent Treatment Plant</td>
<td></td>
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<tr>
<td>6</td>
<td>Disposal of Inert</td>
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<tr>
<td>7</td>
<td>Housekeeping</td>
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</tbody>
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### INPUT WASTE COMPOSITION:

<table>
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<tr>
<th>Sr. No.</th>
<th>Description</th>
<th>Unit</th>
<th>Week 1-Jun</th>
<th>Week 2-Jun</th>
<th>Week 3-Jun</th>
<th>Week 4-Jun</th>
<th>Week 5-Jun</th>
<th>Week 6-Jun</th>
<th>Week 7-Jun</th>
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<th>Week 9-Jun</th>
<th>Week 10-Jun</th>
<th>Week 11-Jun</th>
<th>Week 12-Jun</th>
<th>Week 13-Jun</th>
<th>Week 14-Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dry Waste</td>
<td>TPD</td>
<td>1.96</td>
<td>1.39</td>
<td>1.34</td>
<td>0.62</td>
<td>5.82</td>
<td>6.61</td>
<td>2.73</td>
<td>2.92</td>
<td>2.31%</td>
<td>2.09</td>
<td>3.47</td>
<td>2.75</td>
<td>0.95</td>
<td>2.94</td>
</tr>
<tr>
<td>2</td>
<td>Wet Waste</td>
<td>TPD</td>
<td>38.03</td>
<td>25.94</td>
<td>0.00</td>
<td>23.61</td>
<td>31.73</td>
<td>13.74</td>
<td>37.41</td>
<td>31.24</td>
<td>21.65%</td>
<td>27.55</td>
<td>34.54</td>
<td>27.67</td>
<td>23.70</td>
<td>27.87</td>
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<tr>
<td>3</td>
<td>Mixed Waste</td>
<td>TPD</td>
<td>104.51</td>
<td>60.12</td>
<td>95.94</td>
<td>80.59</td>
<td>105.12</td>
<td>90.13</td>
<td>93.37</td>
<td>89.60</td>
<td>70.78%</td>
<td>85.34</td>
<td>86.85</td>
<td>96.35</td>
<td>87.30</td>
<td>100.33</td>
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<tr>
<td>4</td>
<td>Mixed Tree waste</td>
<td>TPD</td>
<td>7.96</td>
<td>1.30</td>
<td>10.31</td>
<td>1.87</td>
<td>2.33</td>
<td>0.80</td>
<td>0.95</td>
<td>0.43</td>
<td>5.80%</td>
<td>1.45</td>
<td>2.77</td>
<td>1.61</td>
<td>0.99</td>
<td>2.79</td>
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<tr>
<td>5</td>
<td>Total:...1+2+3+4+5</td>
<td>TPD</td>
<td>149.26</td>
<td>88.55</td>
<td>155.79</td>
<td>114.14</td>
<td>136.20</td>
<td>131.33</td>
<td>134.79</td>
<td>120.18</td>
<td>100.00%</td>
<td>116.19</td>
<td>127.63</td>
<td>140.20</td>
<td>110.44</td>
<td>131.32</td>
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### RECYCLABLES:

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<th>Sr. No.</th>
<th>Description</th>
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<th>Week 1-Jun</th>
<th>Week 2-Jun</th>
<th>Week 3-Jun</th>
<th>Week 4-Jun</th>
<th>Week 5-Jun</th>
<th>Week 6-Jun</th>
<th>Week 7-Jun</th>
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<th>Week 11-Jun</th>
<th>Week 12-Jun</th>
<th>Week 13-Jun</th>
<th>Week 14-Jun</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Organic / Bio degradable Fraction</td>
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<td>2</td>
<td>Inorganic / Non-recyclable Fraction (IRF)</td>
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<td>5</td>
<td>Paper / Cardboard / Tepack</td>
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<td>6</td>
<td>Mixed Plastic, Bottles, Cups, Food Pockets, Coated Plastic</td>
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<td>7</td>
<td>Thermoset / Styrofoam</td>
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<td>8</td>
<td>Cloth / Rags / Textiles</td>
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<td>9</td>
<td>Rubble items</td>
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<td>Coconut</td>
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<td>! Arbor</td>
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<td>12</td>
<td>Total:...1+2+3+4+5+6+7+8+9+10+11+12+13</td>
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</table>

### ELECTRICITY GENERATION:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Description</th>
<th>Unit</th>
<th>Week 1-Jun</th>
<th>Week 2-Jun</th>
<th>Week 3-Jun</th>
<th>Week 4-Jun</th>
<th>Week 5-Jun</th>
<th>Week 6-Jun</th>
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<th>Week 9-Jun</th>
<th>Week 10-Jun</th>
<th>Week 11-Jun</th>
<th>Week 12-Jun</th>
<th>Week 13-Jun</th>
<th>Week 14-Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Biogas Generation I: Running Time</td>
<td>hr</td>
<td>18.00</td>
<td>17.35</td>
<td>19.60</td>
<td>22.46</td>
<td>21.26</td>
<td>18.48</td>
<td>20.82</td>
<td>18.87</td>
<td>20.82</td>
<td>19.83</td>
<td>20.82</td>
<td>18.48</td>
<td>17.26</td>
<td>19.62</td>
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**Weekly Average**: The average of all the weekly values for each category.
### Electricity Generation:

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<tbody>
<tr>
<td>1</td>
<td>As per Tender:</td>
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<tr>
<td></td>
<td>Minimum electricity to be generated in the plant shall be 0.4 MW per per 100 tons of Biodegradable Waste as received in the Facility.</td>
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<tr>
<td>2</td>
<td>Biogas Flare:</td>
<td>kWh</td>
<td>240</td>
<td>208</td>
<td>167</td>
<td>240</td>
<td>240</td>
<td>240</td>
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<td>240</td>
<td>228</td>
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<td>3</td>
<td>Electricity generated as per Tender:</td>
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<tr>
<td>4</td>
<td>Electricity generated (A/2A1 + A/4A3)</td>
<td>kWh</td>
<td>346</td>
<td>361</td>
<td>361</td>
<td>356</td>
<td>341</td>
<td>370</td>
<td>350</td>
<td>357</td>
<td>357</td>
<td>346</td>
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<td>351</td>
<td>353</td>
<td>364</td>
<td>354</td>
</tr>
<tr>
<td>#</td>
<td>Surplus / Shortage</td>
<td>kWh</td>
<td>106</td>
<td>153</td>
<td>194</td>
<td>116</td>
<td>111</td>
<td>111</td>
<td>113</td>
<td>220</td>
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### BIOMAS FLARE:

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</thead>
<tbody>
<tr>
<td>1</td>
<td>Operation Time</td>
<td>hr/day</td>
<td>6.34</td>
<td>4.14</td>
<td>4.30</td>
<td>7.60</td>
<td>5.65</td>
<td>8.32</td>
<td>7.43</td>
<td>6.03</td>
<td>7.37</td>
<td>8.43</td>
<td>8.58</td>
<td>8.90</td>
<td>9.13</td>
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### EFFLUENT TREATMENT PLANT:

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<tbody>
<tr>
<td>A</td>
<td>New Raw Efficiency:</td>
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</tr>
<tr>
<td>1</td>
<td>Flow</td>
<td>m³/day</td>
<td>63.96</td>
<td>44.93</td>
<td>50.22</td>
<td>53.31</td>
<td>57.43</td>
<td>55.43</td>
<td>56.27</td>
<td>70.41</td>
<td>71.86</td>
<td>76.49</td>
<td>65.29</td>
<td>64.50</td>
<td>70.41</td>
<td>71.86</td>
<td>59.36</td>
</tr>
<tr>
<td>2</td>
<td>Biological Oxygen Demand (BOD5)</td>
<td>mg/l</td>
<td>1,937</td>
<td>1,949</td>
<td>2,236</td>
<td>1,876</td>
<td>1,671</td>
<td>2,419</td>
<td>2,355</td>
<td>2,063</td>
<td>2,108</td>
<td>2,419</td>
<td>2,063</td>
<td>2,108</td>
<td>2,419</td>
<td>2,355</td>
<td>1,805</td>
</tr>
<tr>
<td>3</td>
<td>Chemical Oxygen Demand (COD)</td>
<td>mg/l</td>
<td>4,339</td>
<td>6,217</td>
<td>6,999</td>
<td>5,909</td>
<td>3,509</td>
<td>6,894</td>
<td>8,243</td>
<td>6,016</td>
<td>5,188</td>
<td>5,409</td>
<td>4,894</td>
<td>8,570</td>
<td>4,350</td>
<td>7,136</td>
<td>5,800</td>
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<tr>
<td>4</td>
<td>Total Suspended Solids (TSS)</td>
<td>mg/l</td>
<td>4,765</td>
<td>3,898</td>
<td>5,322</td>
<td>4,446</td>
<td>3,309</td>
<td>4,330</td>
<td>5,016</td>
<td>8,541</td>
<td>4,618</td>
<td>5,708</td>
<td>5,346</td>
<td>5,493</td>
<td>5,754</td>
<td>3,730</td>
<td>4,675</td>
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<td>B</td>
<td>Treated Effluent Quality:</td>
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</tr>
<tr>
<td>1</td>
<td>pH</td>
<td></td>
<td>6.73</td>
<td>7.50</td>
<td>6.61</td>
<td>7.54</td>
<td>6.78</td>
<td>6.62</td>
<td>7.04</td>
<td>6.83</td>
<td>6.55</td>
<td>7.45</td>
<td>7.2</td>
<td>6.74</td>
<td>7.06</td>
<td>6.87</td>
<td>6.96</td>
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<td>Biochemical Oxygen Demand (BOD5)</td>
<td>mg/l</td>
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<tr>
<td>4</td>
<td>Total Suspended Solids (TSS)</td>
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<td>1,677</td>
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<td>1,589</td>
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### DISPOSAL OF INERT:

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<td>As per Tender: Maximum 10% of Inerts of the Total Input Waste (excluding Mulched Tree Waste) as received in the Facility.</td>
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<td>% of Total Input Waste...</td>
<td>%</td>
<td>4.92%</td>
<td>6.62%</td>
<td>5.69%</td>
<td>6.02%</td>
<td>5.91%</td>
<td>6.84%</td>
<td>6.32%</td>
<td>6.95%</td>
<td>5.97%</td>
<td>6.05%</td>
<td>5.29%</td>
<td>5.57%</td>
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### HOUSEKEEPING:

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### 1. INPUT WASTE COMPOSITION:

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<tr>
<td>A</td>
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</tr>
<tr>
<td>1</td>
<td>Dry Waste</td>
<td>TPD</td>
<td>5.30</td>
<td>0.84</td>
<td>1.33</td>
<td>1.76</td>
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<td>3.14</td>
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<td>2.64</td>
<td>2.82</td>
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<td>1.02</td>
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<td>0.00</td>
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<td>10.52</td>
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<td>92.16</td>
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<td>88.78</td>
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<td>81.24</td>
<td>78.94</td>
<td>76.53</td>
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<td>Matched Tree waste</td>
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<td>3.93</td>
<td>3.48</td>
<td>1.56</td>
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<td>0.14</td>
<td>0.32</td>
<td>0.43</td>
<td>0.18</td>
<td>0.24</td>
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<td>Total:…1+2+3+4</td>
<td>TPD</td>
<td>132.52</td>
<td>123.46</td>
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### 2. RECYCLABLES:

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</tr>
<tr>
<td>1</td>
<td>Organic / Bio degradable Fraction</td>
<td>%</td>
<td>65.00</td>
<td>62.83</td>
<td>76.68</td>
<td>76.83</td>
<td>65.98</td>
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<td>15.88</td>
<td>16.55</td>
<td>16.79</td>
<td>16.33</td>
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<td>12.95</td>
<td>11.74</td>
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<td>3.96</td>
<td>5.34</td>
<td>5.70%</td>
<td>4.41</td>
<td>3.94</td>
<td>4.07</td>
<td>3.69</td>
<td>3.85</td>
<td>3.92</td>
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<td>4</td>
<td>Paper / Cardboard / Tetrapack</td>
<td>%</td>
<td>2.40</td>
<td>2.56</td>
<td>2.56</td>
<td>3.68</td>
<td>3.27</td>
<td>2.73</td>
<td>2.64</td>
<td>2.25</td>
<td>2.35</td>
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<td>Total:…1+2+3+4+5</td>
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### 3. ELECTRICITY GENERATION:

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</table>
### B. Electricity Generation:

1. As per Tender:
   - Minimum electricity to be generated in the plant shall be 0.4 MW per 100 tons of Biodegradable Waste as received in the Facility.

2. Biodegradable Waste: 1.84 Tons

3. Electricity Generation required as per Tender: $0.4 \times 1000 \times \frac{B2}{100}$ kWH

4. Electricity generated: $(A2/A1) + (A4/A3)$ kWH

### D. Surplus / Shortage kWH

### 4. BIOGAS FLARE:

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<tbody>
<tr>
<td>5</td>
<td>Operation Time</td>
<td>hr/day</td>
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<td>5.60</td>
<td>5.70</td>
<td>5.75</td>
<td>5.80</td>
<td>5.85</td>
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### 5. EFFLUENT TREATMENT PLANT:

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<td>10</td>
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### 6. DISPOSAL OF INERT:

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</thead>
<tbody>
<tr>
<td>1</td>
<td>As per Tender:</td>
<td>Maximum 10% of Inerts of the Total Input Waste (excluding Mulched Tree Waste) as received in the Facility.</td>
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</tr>
<tr>
<td>2</td>
<td>Input Waste</td>
<td>TPD</td>
<td>132.52</td>
<td>123.46</td>
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<td>116.07</td>
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<td>133.01</td>
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<tr>
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<td>Inert Fraction</td>
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<tr>
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<td>% of Total Input Waste</td>
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<td>4.09%</td>
<td>5.77%</td>
<td>5.43%</td>
<td>4.95%</td>
<td>4.32%</td>
<td>3.88%</td>
<td>5.03%</td>
<td>4.82%</td>
<td>4.51%</td>
<td>7.35%</td>
<td>6.01%</td>
<td>5.09%</td>
<td>6.44%</td>
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### 7. HOUSEKEEPING:

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<td>Storage Conditions</td>
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### 1 INPUT WASTE COMPOSITION:

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<th>Unit</th>
<th>29-Jun</th>
<th>30-Jun</th>
<th>Weekly Average</th>
<th>Monthly Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Input Waste:</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Dry Waste</td>
<td>TPD</td>
<td>2.84</td>
<td>1.24</td>
<td>2.04</td>
<td>0.02</td>
</tr>
<tr>
<td>2</td>
<td>Wet Waste</td>
<td>TPD</td>
<td>8.92</td>
<td>12.31</td>
<td>10.82</td>
<td>0.10</td>
</tr>
<tr>
<td>3</td>
<td>Mixed Waste</td>
<td>TPD</td>
<td>97.57</td>
<td>83.74</td>
<td>90.66</td>
<td>0.85</td>
</tr>
<tr>
<td>4</td>
<td>Mulched Tree waste</td>
<td>TPD</td>
<td>1.04</td>
<td>5.49</td>
<td>3.49</td>
<td>0.50</td>
</tr>
<tr>
<td>5</td>
<td>Total…..1+2+3+4</td>
<td>TPD</td>
<td>130.37</td>
<td>105.15</td>
<td>100.75</td>
<td>1.00%</td>
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### B Input Waste Composition:

<table>
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<th>Description</th>
<th>Unit</th>
<th>29-Jun</th>
<th>30-Jun</th>
<th>Weekly Average</th>
<th>Monthly Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Organic / Bio degradable Fraction</td>
<td></td>
<td>49.51</td>
<td>47.48</td>
<td>48.50</td>
<td>45.42%</td>
</tr>
<tr>
<td>2</td>
<td>Inorganic / Non-recyclable Fraction (RDF)</td>
<td></td>
<td>39.57</td>
<td>38.14</td>
<td>39.06</td>
<td>36.58%</td>
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<tr>
<td>3</td>
<td>Recyclables</td>
<td></td>
<td>13.09</td>
<td>11.57</td>
<td>12.35</td>
<td>11.50%</td>
</tr>
<tr>
<td>4</td>
<td>Glass</td>
<td>Kg</td>
<td>66</td>
<td>103</td>
<td>85</td>
<td>66</td>
</tr>
<tr>
<td>5</td>
<td>Metal</td>
<td>Kg</td>
<td>464</td>
<td>531</td>
<td>497</td>
<td>460</td>
</tr>
<tr>
<td>6</td>
<td>Paper / Cardboard / Tetrapack</td>
<td>Kg</td>
<td>37</td>
<td>22</td>
<td>32</td>
<td>17</td>
</tr>
<tr>
<td>7</td>
<td>Mixed Plastic / Bottles, Cans, Food Packets, Coated Plastic</td>
<td>Kg</td>
<td>6.65</td>
<td>4.22</td>
<td>6.92</td>
<td>4.61%</td>
</tr>
<tr>
<td>8</td>
<td>Thermoset / Styrofoam</td>
<td>Kg</td>
<td>1.00</td>
<td>0.09</td>
<td>0.09</td>
<td>0.08%</td>
</tr>
<tr>
<td>9</td>
<td>Cloth / Rags / Textiles</td>
<td>Kg</td>
<td>2.38</td>
<td>1.62</td>
<td>2.30</td>
<td>1.87%</td>
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<tr>
<td>10</td>
<td>Rubber Items</td>
<td>Kg</td>
<td>0.50</td>
<td>0.50</td>
<td>0.41</td>
<td>0.38%</td>
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<tr>
<td>11</td>
<td>Coir</td>
<td>Kg</td>
<td>1.95</td>
<td>2.33</td>
<td>2.18</td>
<td>2.02%</td>
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<tr>
<td>12</td>
<td>Hart</td>
<td>Kg</td>
<td>10.00</td>
<td>5.95</td>
<td>8.89</td>
<td>6.66%</td>
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<tr>
<td>13</td>
<td>Mulched Tree Waste</td>
<td>Kg</td>
<td>11.00</td>
<td>1.03</td>
<td>5.86</td>
<td>100.00%</td>
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### 2 RECYCLABLES:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Description</th>
<th>Unit</th>
<th>29-Jun</th>
<th>30-Jun</th>
<th>Weekly Average</th>
<th>Monthly Average</th>
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</thead>
<tbody>
<tr>
<td>A Recyclables:</td>
<td></td>
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<td></td>
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<tr>
<td>1</td>
<td>Glass</td>
<td>Kg</td>
<td>66</td>
<td>103</td>
<td>85</td>
<td>66</td>
</tr>
<tr>
<td>2</td>
<td>Metal</td>
<td>Kg</td>
<td>464</td>
<td>531</td>
<td>497</td>
<td>460</td>
</tr>
<tr>
<td>3</td>
<td>Tetrapack</td>
<td>Kg</td>
<td>37</td>
<td>22</td>
<td>32</td>
<td>17</td>
</tr>
<tr>
<td>4</td>
<td>Paper / Cardboard</td>
<td>Kg</td>
<td>1,816</td>
<td>1,818</td>
<td>1,931</td>
<td>2,456</td>
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<tr>
<td>5</td>
<td>Plastic Films</td>
<td>Kg</td>
<td>4,889</td>
<td>3,514</td>
<td>4,132</td>
<td>5,519</td>
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<tr>
<td>6</td>
<td>Hard Plastic</td>
<td>Kg</td>
<td>293</td>
<td>322</td>
<td>353</td>
<td>402</td>
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<tr>
<td>7</td>
<td>PE</td>
<td>Kg</td>
<td>467</td>
<td>412</td>
<td>490</td>
<td>443</td>
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<tr>
<td>8</td>
<td>Thermoset</td>
<td>Kg</td>
<td>94</td>
<td>94</td>
<td>94</td>
<td>94</td>
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<tr>
<td>9</td>
<td>Cloth / Rags / Textile</td>
<td>Kg</td>
<td>1,881</td>
<td>1,451</td>
<td>1,816</td>
<td>1,817</td>
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<tr>
<td>10</td>
<td>Jute Rags</td>
<td>Kg</td>
<td>503</td>
<td>468</td>
<td>545</td>
<td>545</td>
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<tr>
<td>11</td>
<td>Leather / Rubber / Resin</td>
<td>Kg</td>
<td>320</td>
<td>495</td>
<td>403</td>
<td>431</td>
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<tr>
<td>12</td>
<td>Coir</td>
<td>Kg</td>
<td>1,931</td>
<td>2,626</td>
<td>2,192</td>
<td>2,817</td>
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<tr>
<td>13</td>
<td>Total</td>
<td>Kg</td>
<td>13,090</td>
<td>11,572</td>
<td>12,311</td>
<td>15,284</td>
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### 3 ELECTRICITY GENERATION:

<table>
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<th>Sr. No.</th>
<th>Description</th>
<th>Unit</th>
<th>29-Jun</th>
<th>30-Jun</th>
<th>Weekly Average</th>
<th>Monthly Average</th>
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</thead>
<tbody>
<tr>
<td>A Biogas Gensets:</td>
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<tr>
<td>1</td>
<td>Biogas Genset I: Running Time</td>
<td>hr</td>
<td>21.80</td>
<td>20.74</td>
<td>21.27</td>
<td>20.17</td>
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<tr>
<td>2</td>
<td>Biogas Genset I: Energy Generation</td>
<td>kW/hr</td>
<td>3,851</td>
<td>3,881</td>
<td>3,867</td>
<td>3,868</td>
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<tr>
<td>3</td>
<td>Biogas Genset II: Running Time</td>
<td>hr</td>
<td>14.32</td>
<td>13.83</td>
<td>14.08</td>
<td>17.40</td>
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<tr>
<td>4</td>
<td>Biogas Genset II: Energy Generation</td>
<td>kW/hr</td>
<td>2,463</td>
<td>2,328</td>
<td>2,396</td>
<td>3,005</td>
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<tr>
<td>5</td>
<td>Total…2+4</td>
<td>kW/hr</td>
<td>6,316</td>
<td>6,209</td>
<td>6,263</td>
<td>5,870</td>
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### B Electricity Generation:

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<th>Weekly Average</th>
<th>Monthly Average</th>
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<tbody>
<tr>
<td>1</td>
<td>As per Tender: Minimum electricity to be generated in the plant shall be 0.4 MW per per 100 tons of Input Biodegradable Waste as received in the Facility.</td>
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<tr>
<td>2</td>
<td>Biodegradable Waste (.../...)</td>
<td>Tons</td>
<td>48.51</td>
<td>47.48</td>
<td>48.50</td>
<td>56.08</td>
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<tr>
<td>3</td>
<td>Electricity Generation required as per Tender:... x 1000 x 82/100</td>
<td>kWh</td>
<td>198</td>
<td>190</td>
<td>194</td>
<td>205</td>
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<td>4</td>
<td>Electricity generated:... (A2/A1) + (A4/A3)</td>
<td>kWh</td>
<td>349</td>
<td>355</td>
<td>352</td>
<td>353</td>
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# Surplus / Shortage kWh

### 4 BIOGAS FLARE:

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<tbody>
<tr>
<td>2</td>
<td>Operation Time</td>
<td>hr/day</td>
<td>4.82</td>
<td>4.88</td>
<td>5.66</td>
<td>7.11</td>
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### 5 EFFLUENT TREATMENT PLANT:

#### A Raw Effluent Quality:

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<th>Sr. No.</th>
<th>Parameter</th>
<th>Unit</th>
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<th>30-Jun</th>
<th>Weekly Average</th>
<th>Monthly Average</th>
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<tbody>
<tr>
<td>1</td>
<td>Flow</td>
<td>m³/day</td>
<td>50.77</td>
<td>69.85</td>
<td>69.31</td>
<td>55.27</td>
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<td>2</td>
<td>pH</td>
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<td>6.88</td>
<td>6.10</td>
<td>6.55</td>
<td>6.37</td>
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<tr>
<td>3</td>
<td>Biochemical Oxygen Demand (BOD5)</td>
<td>mg/l</td>
<td>2,125</td>
<td>1,954</td>
<td>2,040</td>
<td>2,102</td>
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<tr>
<td>4</td>
<td>Chemical Oxygen Demand (COD)</td>
<td>mg/l</td>
<td>6,056</td>
<td>5,741</td>
<td>5,764</td>
<td>5,647</td>
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<tr>
<td>5</td>
<td>Total Suspended Solids (TSS)</td>
<td>mg/l</td>
<td>4,185</td>
<td>4,084</td>
<td>4,125</td>
<td>4,064</td>
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<tr>
<td>6</td>
<td>Total Dissolved Solids (TDS)</td>
<td>mg/l</td>
<td>1,620</td>
<td>1,606</td>
<td>1,618</td>
<td>1,642</td>
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#### B Treated Effluent Quality:

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<tr>
<th>Sr. No.</th>
<th>pH</th>
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<th>7.49</th>
<th>7.17</th>
<th>7.33</th>
<th>7.05</th>
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<tbody>
<tr>
<td>2</td>
<td>Biochemical Oxygen Demand (BOD5)</td>
<td>mg/l</td>
<td>5</td>
<td>7</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>Chemical Oxygen Demand (COD)</td>
<td>mg/l</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td>75</td>
</tr>
<tr>
<td>4</td>
<td>Total Suspended Solids (TSS)</td>
<td>mg/l</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>Total Dissolved Solids (TDS)</td>
<td>mg/l</td>
<td>1,782</td>
<td>1,813</td>
<td>1,799</td>
<td>1,741</td>
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### 6 DISPOSAL OF INERT:

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<th>Description</th>
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<th>29-Jun</th>
<th>30-Jun</th>
<th>Weekly Average</th>
<th>Monthly Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>As per Tender: Maximum 10% of Inerts of the Total Input Waste (excluding Mulched Tree Waste) as received in the Facility.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Input Waste</td>
<td>TPD</td>
<td>130.37</td>
<td>105.15</td>
<td>106.76</td>
<td>117.59</td>
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<tr>
<td>3</td>
<td>Inert Fraction</td>
<td>Kg</td>
<td>7.80</td>
<td>5.95</td>
<td>6.87</td>
<td>6.75</td>
</tr>
<tr>
<td>4</td>
<td>% of Total Input Waste...</td>
<td>%</td>
<td>7.07%</td>
<td>5.77%</td>
<td>6.42%</td>
<td>5.77%</td>
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</table>

### 7 HOUSEKEEPING:

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Description</th>
<th>Unit</th>
<th>29-Jun</th>
<th>30-Jun</th>
<th>Weekly Average</th>
<th>Monthly Average</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Organic Conditions</td>
<td>---</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>2</td>
<td>Cleanliness</td>
<td>---</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>3</td>
<td>Manpower Deployed</td>
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<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>4</td>
<td>Safety Norms</td>
<td>---</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>5</td>
<td>Treatment Methodology</td>
<td>---</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
</tr>
<tr>
<td>6</td>
<td>Storage Conditions</td>
<td>---</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
<td>Accepted</td>
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</tbody>
</table>
## INPUT WASTE

<table>
<thead>
<tr>
<th>SR NO</th>
<th>NAME</th>
<th>WEIGHT (TPD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RECYCLABLES</td>
<td>15.28</td>
</tr>
<tr>
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<td><strong>TOTAL</strong></td>
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</table>

## NUMBER OF RECYCLABLE FRACTIONS

<table>
<thead>
<tr>
<th>SR NO</th>
<th>NAME</th>
<th>WEIGHT (KG)</th>
</tr>
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<tbody>
<tr>
<td>01</td>
<td>GLASS</td>
<td>86</td>
</tr>
<tr>
<td>02</td>
<td>METALS</td>
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<tr>
<td>03</td>
<td>TETRAPACK</td>
<td>117</td>
</tr>
<tr>
<td>04</td>
<td>PAPER/CARDBOARD</td>
<td>2468</td>
</tr>
<tr>
<td>05</td>
<td>PLASTIC FILM</td>
<td>5519</td>
</tr>
<tr>
<td>06</td>
<td>HARD PLASTIC</td>
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</tr>
<tr>
<td>07</td>
<td>PET</td>
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<td>08</td>
<td>THERMALIC</td>
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<tr>
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<td>CLOTH/RAGS/TEXTILE</td>
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<tr>
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<td>JUTE BAGS</td>
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<tr>
<td>11</td>
<td>LEATHER/RUBBER/REXINE</td>
<td>431</td>
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<td>12</td>
<td>COCONUT</td>
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<td><strong>TOTAL</strong></td>
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## MASS BALANCE

### JUNE 2017 (01-06-2017 TO 30-06-2017)

- **NAME**
- **WEIGHT (KG)**
- **NUMBER OF RECYCLABLE FRACTIONS**
- **SR NO**
- **REV NO**

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**Mass Balance Diagram**

- Chain Belt Conveyor: 117.59 TPD
- Bag Opening Shredder: 117.59 TPD
- Roller Screen: 19.04 TPD
- Manual Sorting Station: 15.28 TPD
- Recyclable: 3.76 TPD
- Inert: <15 MM

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**Recyclable**

- Glass: 86 KG
- Metals: 460 KG
- Tetrapack: 117 KG
- Paper/Carton: 2468 KG
- Plastic Film: 5519 KG
- Hard Plastic: 462 KG
- PET: 443 KG
- Thermal: 90 KG
- Cloth/Rags/Textile: 1817 KG
- Jute Bags: 545 KG
- Leather/Rubber/Rezine: 431 KG
- Coconut: 2947 KG

**TOTAL** 15294 KG