



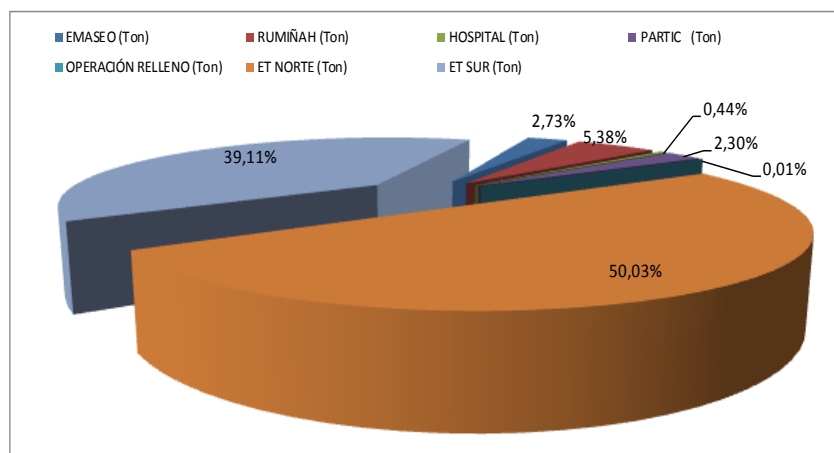
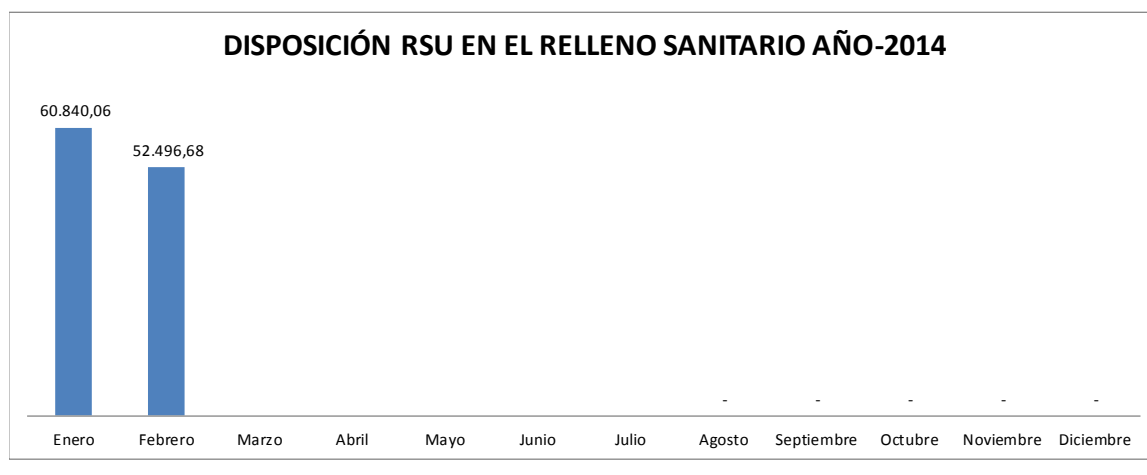
# **INFORME TÉCNICO SOBRE LA OPERACIÓN DEL RELLENO SANITARIO DE QUITO EMGIRS-EP**

**FEBRERO 2014**

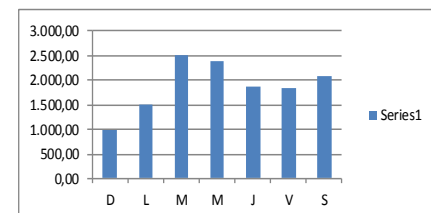


## 1.1 CONDENSADO MENSUAL

| DISPOSICIÓN RSU EN EL RELLENO SANITARIO - AÑO 2014 |                 |                 |                     |                    |                         |                  |                  |                  |
|--|-----------------|-----------------|---------------------|--------------------|-------------------------|------------------|------------------|------------------|
| MES  | EMASEO (Ton)    | RUMIÑAHUI (Ton) | HOSPITALARIOS (Ton) | PARTICULARES (Ton) | OPERACIÓN RELLENO (Ton) | ET NORTE (Ton)   | ET SUR (Ton)     | TOTAL (Ton)      |
| Enero  | 1.607,87        | 3.157,54        | 248,53              | 1.166,44           | 23,31                   | 30.796,27        | 23.840,10        | 60.840,06        |
| Febrero  | 1.433,66        | 2.822,65        | 230,76              | 1.207,03           | 6,73                    | 26.265,44        | 20.530,41        | 52.496,68        |
| Marzo  |                 |                 |                     |                    |                         |                  |                  |                  |
| Abril  |                 |                 |                     |                    |                         |                  |                  |                  |
| Mayo   |                 |                 |                     |                    |                         |                  |                  |                  |
| Junio  |                 |                 |                     |                    |                         |                  |                  |                  |
| Julio  |                 |                 |                     |                    |                         |                  |                  |                  |
| Agosto   |                 |                 |                     |                    |                         |                  |                  | -                |
| Septiembre   |                 |                 |                     |                    |                         |                  |                  | -                |
| Octubre  |                 |                 |                     |                    |                         |                  |                  | -                |
| Noviembre  |                 |                 |                     |                    |                         |                  |                  | -                |
| Diciembre  |                 |                 |                     |                    |                         |                  |                  | -                |
| <b>TOTAL (Ton)</b>                                 | <b>3.041,53</b> | <b>5.980,19</b> | <b>479,29</b>       | <b>2.373,47</b>    | <b>30,04</b>            | <b>57.061,71</b> | <b>44.370,51</b> | <b>113336,74</b> |
| <b>PROMEDIO (Ton)</b>                              | <b>1.520,77</b> | <b>2.990,10</b> | <b>239,65</b>       | <b>1.186,74</b>    | <b>15,02</b>            | <b>28.530,86</b> | <b>22.185,26</b> | <b>56.668,37</b> |



| DIA       | PROMEDIO |
|-----------|----------|
| DOMINGO   | 98159    |
| LUNES     | 149144   |
| MARTES    | 2.493,82 |
| MIÉRCOLES | 2.372,6  |
| JUEVES    | 1854,13  |
| VIERNES   | 1847,28  |
| SABADO    | 2.083,76 |



## 2. ESTACIONES DE TRANSFERENCIA

### ET NORTE

| DIA             | EMASEO (TON)     | PARTICULARES (TON) | TRANSPORTADO (TON) | RECICLADO (TON) | INGRESADO (TON)  | SALIDA (TON)     |
|-----------------|------------------|--------------------|--------------------|-----------------|------------------|------------------|
| sáb-01          | 1.039,05         | 9,89               | 1.017,38           | 1,45            | 1.048,94         | 1.018,83         |
| dom-02          | 386,07           | 37,29              | 453,28             | -               | 423,36           | 453,28           |
| lun-03          | 977,83           | 15,32              | 874,13             | 18,50           | 993,15           | 892,63           |
| mar-04          | 1.316,02         | 12,17              | 1.289,54           | 22,64           | 1.328,19         | 1.312,18         |
| mié-05          | 910,90           | 29,16              | 962,82             | 31,10           | 940,06           | 993,92           |
| jue-06          | 964,10           | 10,56              | 963,62             | 24,36           | 974,66           | 987,98           |
| vie-07          | 961,60           | 10,19              | 938,14             | 14,79           | 971,79           | 952,93           |
| sáb-08          | 1.024,62         | 6,45               | 1.055,27           | 0,38            | 1.031,07         | 1.055,65         |
| dom-09          | 374,73           | 25,96              | 433,66             | -               | 400,69           | 433,66           |
| lun-10          | 1.003,67         | 17,62              | 878,97             | 31,69           | 1.021,29         | 910,66           |
| mar-11          | 1.292,43         | 17,75              | 1.241,64           | 21,28           | 1.310,18         | 1.262,92         |
| mié-12          | 871,38           | 19,16              | 949,85             | 16,12           | 890,54           | 965,97           |
| jue-13          | 1.034,96         | 9,12               | 997,49             | 19,74           | 1.044,08         | 1.017,23         |
| vie-14          | 925,46           | 12,93              | 956,81             | 30,56           | 938,39           | 987,37           |
| sáb-15          | 1.030,69         | 6,06               | 1.035,81           | 6,77            | 1.036,75         | 1.042,58         |
| dom-16          | 374,54           | 12,45              | 419,96             | -               | 386,99           | 419,96           |
| lun-17          | 1.043,85         | 10,89              | 747,65             | 12,93           | 1.054,74         | 760,58           |
| mar-18          | 1.393,40         | 24,11              | 1.276,53           | 35,90           | 1.417,51         | 1.312,43         |
| mié-19          | 916,33           | 15,55              | 1.253,13           | 25,94           | 931,88           | 1.279,07         |
| jue-20          | 1.027,90         | 7,91               | 1.032,11           | 41,81           | 1.035,81         | 1.073,92         |
| vie-21          | 982,65           | 24,47              | 929,04             | 18,38           | 1.007,12         | 947,42           |
| sáb-22          | 1.036,21         | 11,34              | 1.065,83           | 2,98            | 1.047,55         | 1.068,81         |
| dom-23          | 426,87           | 34,41              | 463,56             | -               | 461,28           | 463,56           |
| lun-24          | 944,85           | 10,89              | 890,36             | 14,47           | 955,74           | 904,83           |
| mar-25          | 1.364,24         | 11,43              | 1.105,99           | 47,59           | 1.375,67         | 1.153,58         |
| mié-26          | 914,39           | 15,84              | 1.147,73           | 20,55           | 930,23           | 1.168,28         |
| jue-27          | 1.001,55         | 8,72               | 952,94             | 28,87           | 1.010,27         | 981,81           |
| vie-28          | 933,94           | 12,80              | 959,01             | 18,81           | 946,74           | 977,82           |
|                 |                  |                    |                    |                 |                  |                  |
|                 |                  |                    |                    |                 |                  |                  |
|                 |                  |                    |                    |                 |                  |                  |
| <b>TOTAL</b>    | <b>26.474,23</b> | <b>440,44</b>      | <b>26.292,25</b>   | <b>507,61</b>   | <b>26.914,67</b> | <b>26.799,86</b> |
| <b>PROMEDIO</b> | <b>854,01</b>    | <b>14,21</b>       | <b>848,14</b>      | <b>16,37</b>    | <b>868,22</b>    | <b>864,51</b>    |

Fuente: Información proporcionada por Fiscalización de la EMGIRS-EP

**ET SUR**

| <b>DIA</b>      | <b>EMASEO (TON)</b> | <b>PARTICULARES (TON)</b> | <b>TRANSPORTADO (TON)</b> | <b>INGRESADO (TON)</b> | <b>SALIDA (TON)</b> |
|-----------------|---------------------|---------------------------|---------------------------|------------------------|---------------------|
| sáb-01          | 796,31              | 11,82                     | 823,41                    | 808,13                 | 823,41              |
| dom-02          | 287,76              | 13,57                     | 342,72                    | 301,33                 | 342,72              |
| lun-03          | 789,54              | 10,48                     | 621,32                    | 800,02                 | 621,32              |
| mar-04          | 1.043,78            | 18,95                     | 1.022,70                  | 1.062,73               | 1.022,70            |
| mié-05          | 780,90              | 17,64                     | 991,92                    | 798,54                 | 991,92              |
| jue-06          | 683,02              | 2,94                      | 682,92                    | 685,96                 | 682,92              |
| vie-07          | 706,07              | 18,16                     | 621,85                    | 724,23                 | 621,85              |
| sáb-08          | 819,95              | 15,37                     | 948,05                    | 835,32                 | 948,05              |
| dom-09          | 288,59              | 13,74                     | 330,43                    | 302,33                 | 330,43              |
| lun-10          | 788,20              | 6,49                      | 595,12                    | 794,69                 | 595,12              |
| mar-11          | 1.022,73            | 14,91                     | 886,66                    | 1.037,64               | 886,66              |
| mié-12          | 721,86              | 10,95                     | 993,59                    | 732,81                 | 993,59              |
| jue-13          | 648,63              | 17,95                     | 705,03                    | 666,58                 | 705,03              |
| vie-14          | 687,59              | 18,33                     | 658,76                    | 705,92                 | 658,76              |
| sáb-15          | 776,60              | 8,32                      | 738,82                    | 784,92                 | 738,82              |
| dom-16          | 307,27              | 12,76                     | 350,68                    | 320,03                 | 350,68              |
| lun-17          | 803,35              | 8,07                      | 702,30                    | 811,42                 | 702,30              |
| mar-18          | 1.092,08            | 17,99                     | 1.021,40                  | 1.110,07               | 1.021,40            |
| mié-19          | 758,53              | 11,38                     | 967,94                    | 769,91                 | 967,94              |
| jue-20          | 651,48              | 16,66                     | 706,18                    | 668,14                 | 706,18              |
| vie-21          | 765,69              | 13,92                     | 650,19                    | 779,61                 | 650,19              |
| sáb-22          | 773,53              | 12,08                     | 877,29                    | 785,61                 | 877,29              |
| dom-23          | 281,15              | 9,58                      | 285,70                    | 290,73                 | 285,70              |
| lun-24          | 760,94              | 5,87                      | 524,65                    | 766,81                 | 524,65              |
| mar-25          | 952,85              | 14,37                     | 1.050,98                  | 967,22                 | 1.050,98            |
| mié-26          | 776,29              | 8,82                      | 852,56                    | 785,11                 | 852,56              |
| jue-27          | 680,98              | 6,78                      | 722,76                    | 687,76                 | 722,76              |
| vie-28          | 730,74              | 9,09                      | 744,89                    | 739,83                 | 744,89              |
|                 |                     |                           |                           |                        |                     |
|                 |                     |                           |                           |                        |                     |
|                 |                     |                           |                           |                        |                     |
| <b>TOTAL</b>    | <b>20.176,41</b>    | <b>346,99</b>             | <b>20.420,82</b>          | <b>20.523,40</b>       | <b>20.420,82</b>    |
| <b>PROMEDIO</b> | <b>650,85</b>       | <b>11,19</b>              | <b>658,74</b>             | <b>662,05</b>          | <b>658,74</b>       |

Fuente: Información proporcionada por Fiscalización de la EMGIRS-EP

### 3. TRATAMIENTO RESUMEN TRATAMIENTO LIXIVIADOS FEBRERO 2014

Tabla 1: Resumen tratamiento de lixiviados

| FECHA           | VOLUMEN ACUMULADO, m3 | INGRESO POR CUBETOS   | PLANTA MBR              | PLANTA VSEP              | TRATAMIENTO                          | VARIABLES DE OPERACIÓN                         |   |
|-----------------|-----------------------|-----------------------|-------------------------|--------------------------|--------------------------------------|--|---|
|                 |                       | VOLUMEN INGRESADO, m3 | VOL TRATADO OSMOSIS, m3 | VOLUMEN TRATADO VSEP, m3 | VOL TOTAL TRATADO: OSMOSIS + VSEP m3 | VOLUMEN INGRESA POR AGUA LLUVIA+AGUA LIMPIA m3 | VOLUMEN SALIDA POR EVAPORACIÓN FORZADA Y SOLAR (1) m3 |
| 1-feb-14        | 86.727,86             | 279,03                | 21,49                   | 0,00                     | 21,49                                | 3,15   | 178,04  |
| 2-feb-14        | 86.810,51             | 305,54                | 23,98                   | 0,00                     | 23,98                                | 3,15   | 178,04  |
| 3-feb-14        | 86.917,18             | 271,01                | 17,35                   | 7,47                     | 24,82                                | 3,15   | 178,04  |
| 4-feb-14        | 86.988,48             | 286,01                | 8,38                    | 68,60                    | 76,98                                | 3,15   | 178,04  |
| 5-feb-14        | 87.022,62             | 339,88                | 23,22                   | 111,96                   | 135,18                               | 3,15   | 178,04  |
| 6-feb-14        | 87.052,43             | 336,26                | 21,92                   | 64,41                    | 86,33                                | 3,15   | 178,04  |
| 7-feb-14        | 87.127,47             | 314,21                | 21,61                   | 97,13                    | 118,74                               | 3,15   | 178,04  |
| 8-feb-14        | 87.148,05             | 323,50                | 20,85                   | 215,17                   | 236,02                               | 3,15   | 178,04  |
| 9-feb-14        | 87.060,64             | 305,77                | 21,83                   | 255,81                   | 277,64                               | 3,15   | 178,04  |
| 10-feb-14       | 86.913,88             | 317,24                | 22,05                   | 84,15                    | 106,20                               | 3,15   | 178,04  |
| 11-feb-14       | 86.950,03             | 266,04                | 18,31                   | 70,32                    | 88,63                                | 3,15   | 178,04  |
| 12-feb-14       | 86.952,55             | 268,86                | 19,08                   | 85,72                    | 104,80                               | 3,15   | 178,04  |
| 13-feb-14       | 86.941,73             | 268,86                | 18,25                   | 168,02                   | 186,27                               | 3,15   | 178,04  |
| 14-feb-14       | 86.849,43             | 299,07                | 20,49                   | 121,26                   | 141,75                               | 3,15   | 178,04  |
| 15-feb-14       | 86.831,86             | 285,97                | 20,78                   | 179,95                   | 200,73                               | 3,15   | 178,04  |
| 16-feb-14       | 86.742,21             | 327,89                | 17,53                   | 260,06                   | 277,59                               | 3,15   | 178,04  |
| 17-feb-14       | 86.617,62             | 423,49                | 16,78                   | 45,50                    | 62,28                                | 3,15   | 178,04  |
| 18-feb-14       | 86.803,94             | 432,46                | 5,49                    | 55,41                    | 60,90                                | 3,15   | 178,04  |
| 19-feb-14       | 87.000,61             | 422,61                | 19,68                   | 267,57                   | 287,25                               | 3,15   | 178,04  |
| 20-feb-14       | 86.961,08             | 347,76                | 19,08                   | 243,25                   | 262,33                               | 3,15   | 178,04  |
| 21-feb-14       | 86.871,62             | 315,46                | 18,31                   | 6,97                     | 25,28                                | 3,15   | 178,04  |
| 22-feb-14       | 86.986,91             | 312,61                | 23,21                   | 54,56                    | 77,77                                | 3,15   | 178,04  |
| 23-feb-14       | 87.046,86             | 325,65                | 43,47                   | 200,86                   | 244,33                               | 3,15   | 178,04  |
| 24-feb-14       | 86.953,29             | 321,67                | 24,98                   | 29,99                    | 54,97                                | 3,15   | 178,04  |
| 25-feb-14       | 87.045,10             | 308,31                | 33,72                   | 234,60                   | 268,32                               | 3,15   | 178,04  |
| 26-feb-14       | 86.910,20             | 351,81                | 36,73                   | 315,90                   | 352,63                               | 3,15   | 178,04  |
| 27-feb-14       | 86.734,49             | 351,81                | 30,02                   | 320,33                   | 350,35                               | 3,15   | 178,04  |
| 28-feb-14       | 86.561,06             | 351,81                | 30,02                   | 320,33                   | 350,35                               | 3,15   | 178,04  |
| <b>PROMEDIO</b> | <b>86.911,78</b>      | <b>323,59</b>         | <b>22,09</b>            | <b>138,76</b>            | <b>160,85</b>                        | <b>3,15</b>                                    | <b>178,04</b>   |

(1) Valor proyectado de acuerdo a las condiciones climáticas. Valor únicamente teórico

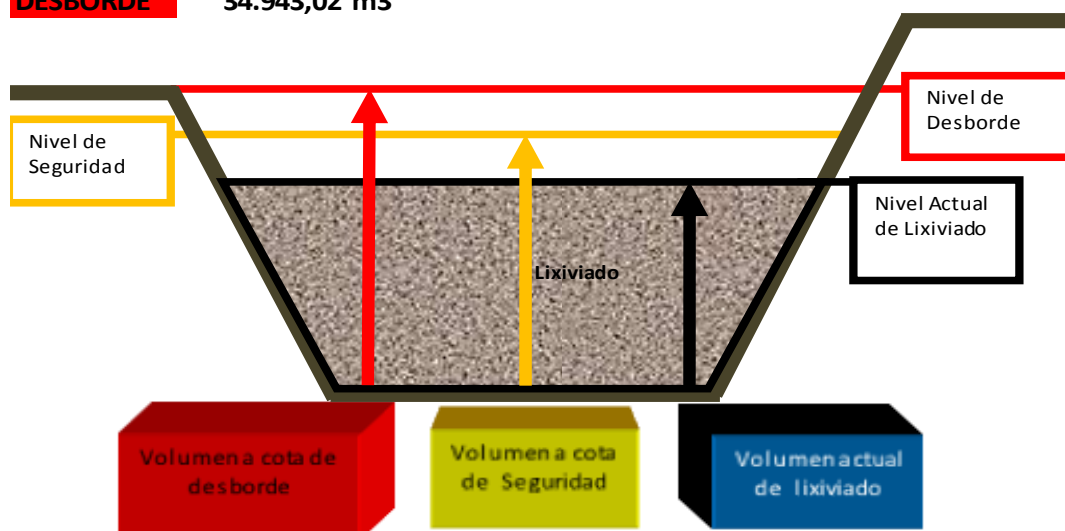
**Tabla 2: Resumen volumen final de piscinas de lixiviado 28 de febrero 2014**

|              |                   |                   |                  |
|--------------|-------------------|-------------------|------------------|
| P4           | 1.154,77          | 974,17            | 149,85           |
| P5           | 2.150,35          | 1.899,38          | 1.612,44         |
| P9           | 23.459,23         | 22.905,73         | 8.752,41         |
| P11          | 2.615,75          | 2.344,35          | 2.288,29         |
| P12          | 9.132,00          | 8.294,77          | 8.610,02         |
| P13          | 5.750,98          | 5.215,48          | 5.388,20         |
| P14          | 3.979,95          | 3.781,47          | 3.520,40         |
| P15          | 1.127,23          | 1.008,42          | 381,39           |
| P16/P17      | 15.985,68         | 13.888,91         | 15.039,55        |
| P18          | 210,00            | 176,94            | 124,76           |
| P20          | 2.995,64          | 2.710,72          | 1.782,77         |
| P21          | 30.162,11         | 27.912,89         | 19.102,27        |
| P22          | 5.069,57          | 4.731,95          | 4.631,48         |
| P23          | 5.069,57          | 4.731,95          | 4.604,57         |
| <b>TOTAL</b> | <b>112.662,69</b> | <b>103.243,52</b> | <b>77.719,66</b> |

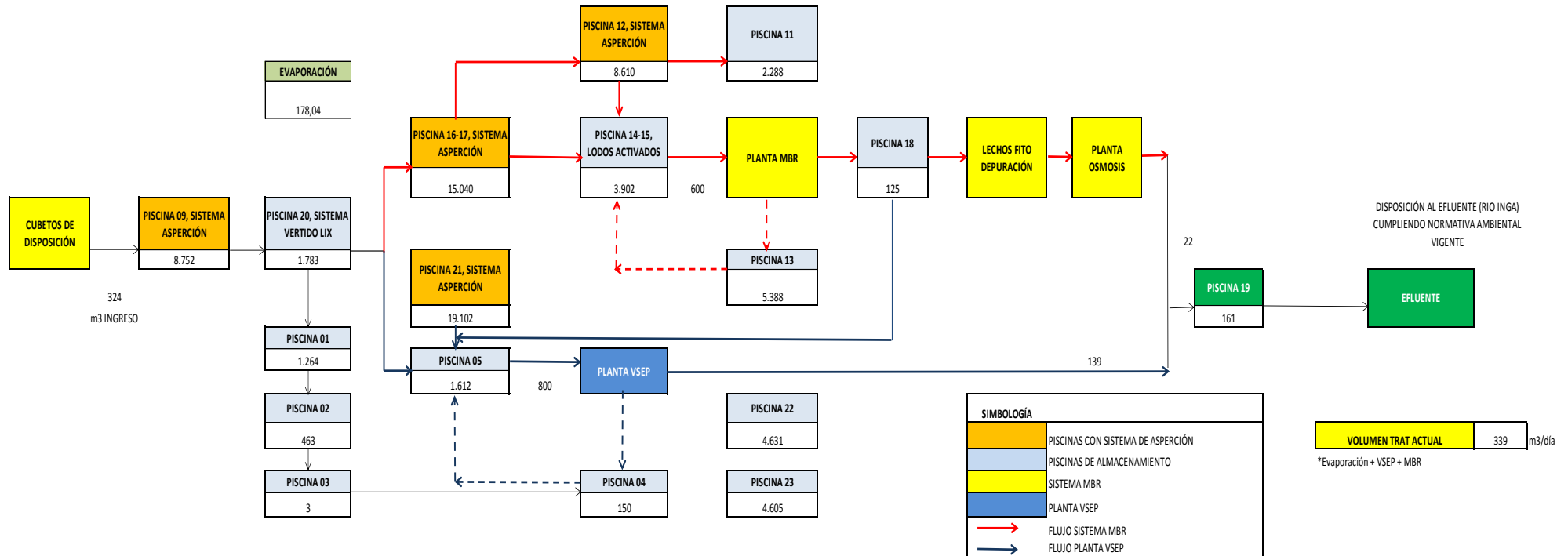
Volumen que falta para llegar al límite de:

**SEGURIDAD** 25.523,86 m<sup>3</sup>

**DESBORDE** 34.943,02 m<sup>3</sup>



**Diagrama 2: Flujo grama tratamiento de lixiviado**





#### 4. TRATAMIENTO DE RESIDUOS HOSPITALARIOS

| DIA             | Hosp sin Procesar<br>Ton | Hosp Procesados<br>Ton |
|-----------------|--------------------------|------------------------|
| sáb-01          | -                        | -                      |
| dom-02          | -                        | -                      |
| lun-03          | 15,85                    | 7,85                   |
| mar-04          | 12,13                    | 18,47                  |
| miér-05         | 10,36                    | 12,67                  |
| jue-06          | 9,52                     | 9,60                   |
| vie-07          | 10,51                    | 10,52                  |
| sáb-08          | -                        | -                      |
| dom-09          | -                        | -                      |
| lun-10          | 15,94                    | 15,22                  |
| mar-11          | 11,38                    | 12,73                  |
| miér-12         | 10,27                    | 8,46                   |
| jue-13          | 9,20                     | 6,42                   |
| vie-14          | 10,93                    | 14,74                  |
| sáb-15          | -                        | -                      |
| dom-16          | -                        | -                      |
| lun-17          | 15,32                    | 10,41                  |
| mar-18          | 10,87                    | 13,95                  |
| miér-19         | 9,73                     | 10,10                  |
| jue-20          | 9,70                     | 11,63                  |
| vie-21          | 9,90                     | 10,03                  |
| sáb-22          | -                        | -                      |
| dom-23          | -                        | -                      |
| lun-24          | 16,43                    | 10,97                  |
| mar-25          | 10,04                    | 16,12                  |
| miér-26         | 10,22                    | 8,25                   |
| jue-27          | 8,79                     | 7,19                   |
| vie-28          | 10,88                    | 15,43                  |
| <b>TOTAL</b>    | <b>227,97</b>            | <b>230,76</b>          |
| <b>PROMEDIO</b> | <b>11,40</b>             | <b>11,54</b>           |