



**PROGRAMA DE VIGILANCIA AMBIENTAL DEL VERTIDO AL  
MAR DE LA SALMUERA PROCEDENTE DE LAS PLANTAS  
DESALINIZADORAS I Y II DEL NUEVO CANAL DE  
CARTAGENA EN SAN PEDRO DEL PINATAR:**

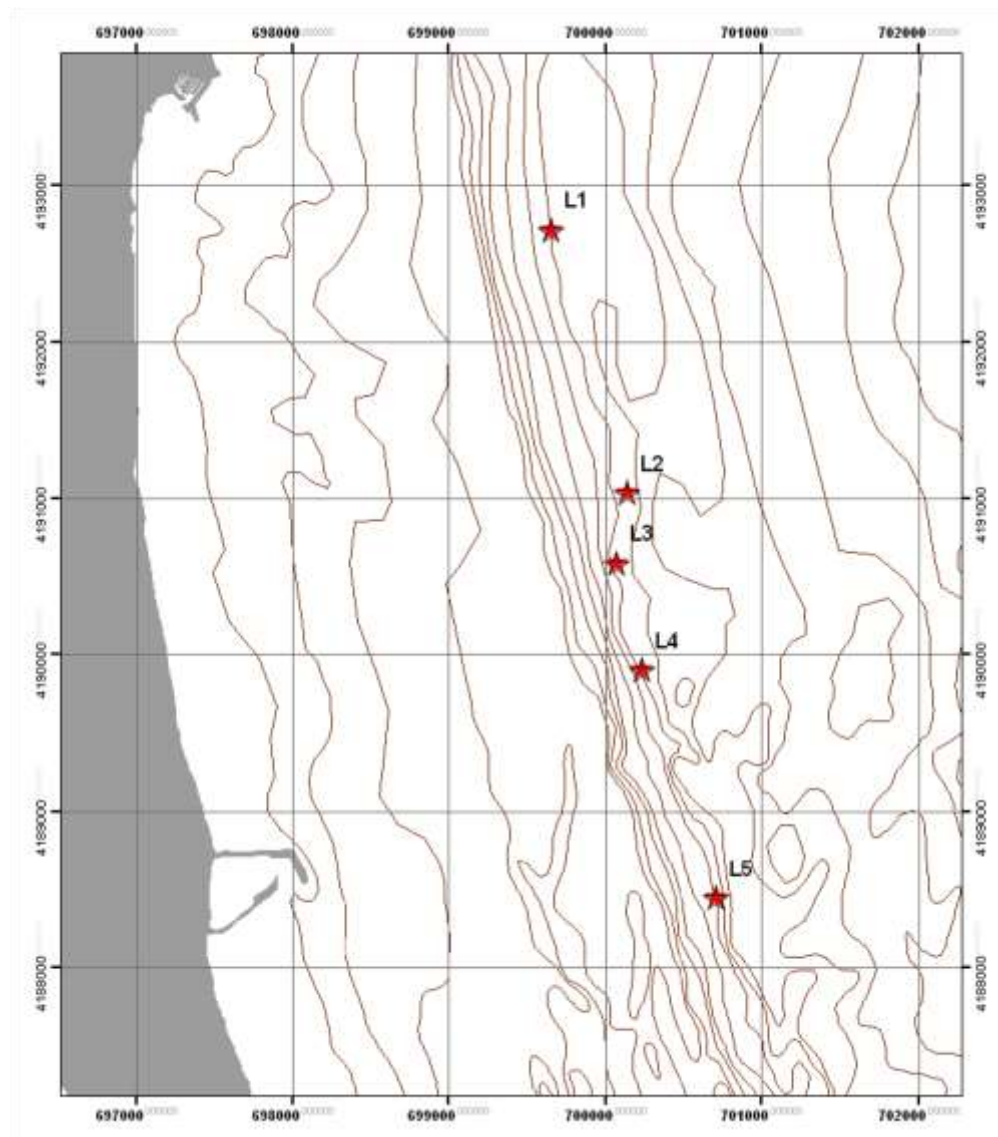
**Cuarto informe trimestral desde octubre hasta diciembre de 2020**

**VALORACIÓN:** Los valores de salinidad registrados son normales y similares en todas las estaciones por lo que el vertido de las desalinizadoras no alcanza el límite inferior de las praderas de *Posidonia oceanica*.



## Control de salinidad y temperatura en las aguas receptoras.

La figura siguiente indica la posición de los sensores de registro de salinidad y temperatura situados aproximadamente a 26 m de profundidad. Además, existen otros equipos en las arquetas del vertido.



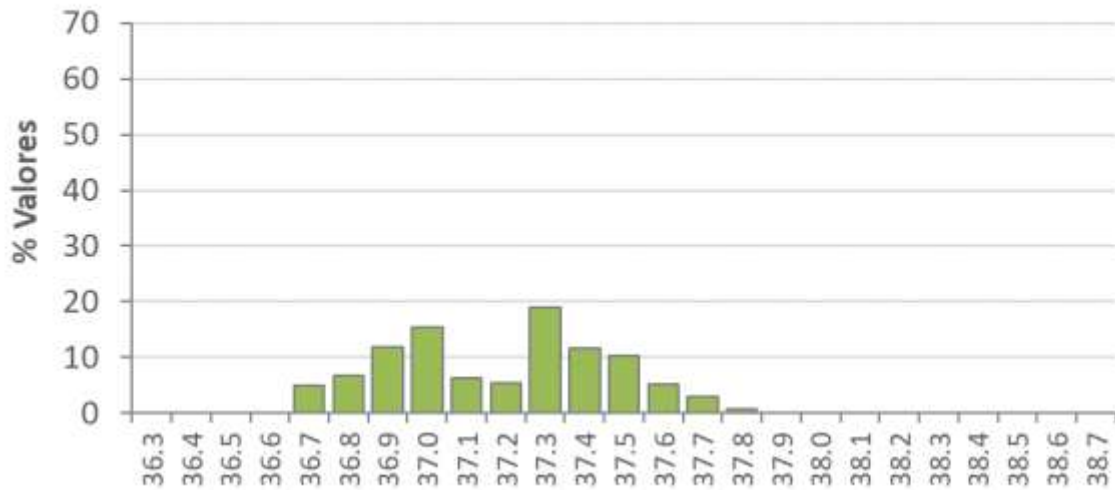


Salinidad Localidad 1. Octubre - Diciembre 2020



| Máximo | Mínimo | Promedio |
|--------|--------|----------|
| 37.84  | 36.71  | 37.24    |

Histograma Salinidad Localidad 1. Octubre - Diciembre 2020



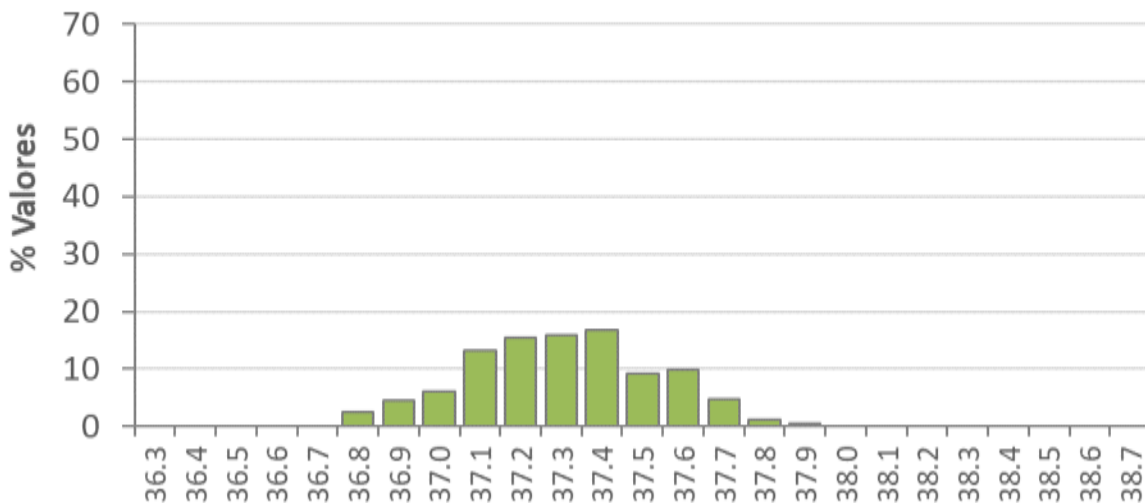


Salinidad Localidad 2. Octubre - Diciembre 2020



| Máximo | Mínimo | Promedio |
|--------|--------|----------|
| 38.02  | 36.82  | 37.37    |

Histograma Salinidad Localidad 2. Octubre - Diciembre 2020



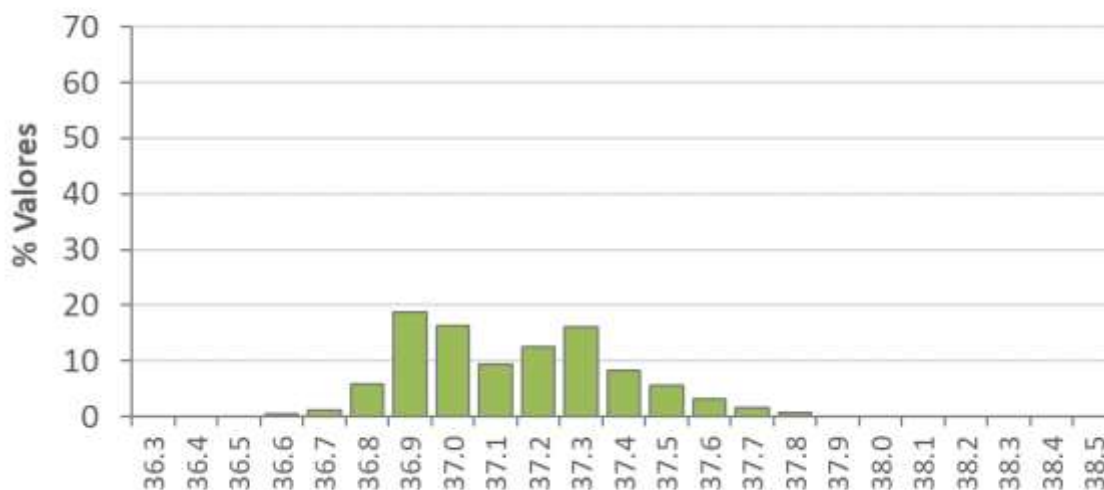


Salinidad Localidad 3. Octubre - Diciembre 2020



| Máximo | Mínimo | Promedio |
|--------|--------|----------|
| 37.83  | 36.62  | 37.25    |

Histograma Salinidad Localidad 3. Octubre - Diciembre 2020



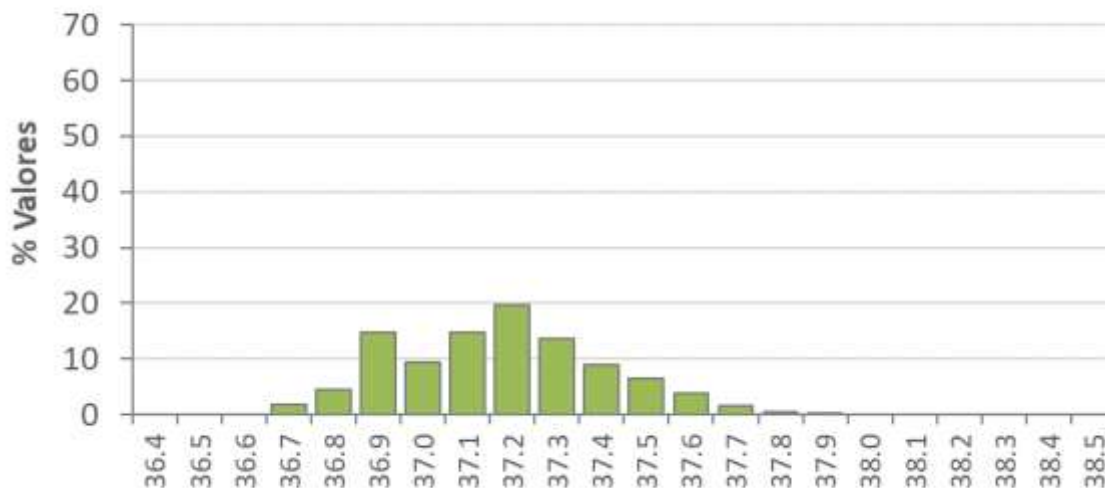


Salinidad Localidad 4. Octubre - Diciembre 2020



| Máximo | Mínimo | Promedio |
|--------|--------|----------|
| 38.01  | 36.76  | 37.24    |

Histograma Salinidad Localidad 4. Octubre - Diciembre 2020



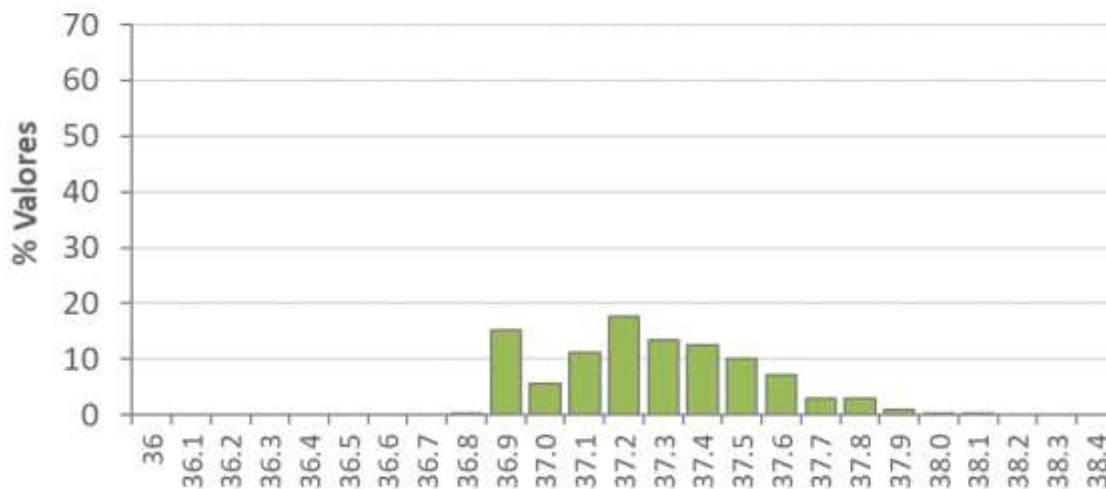


Salinidad Localidad 5. Octubre - Diciembre 2020



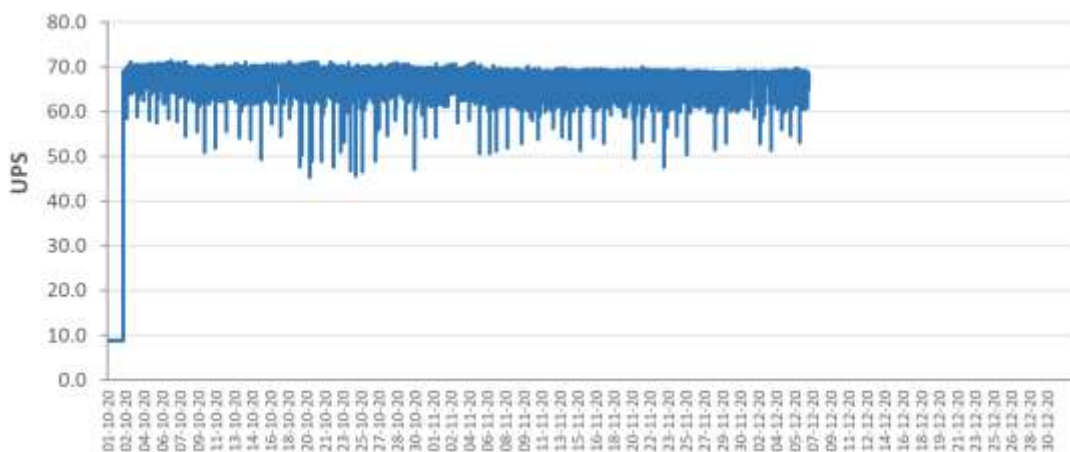
| Máximo | Mínimo | Promedio |
|--------|--------|----------|
| 38.11  | 36.86  | 37.37    |

Histograma Salinidad Localidad 5. Octubre - Diciembre 2020





Salinidad Arqueta 1. Octubre - Diciembre 2020



Salinidad Arqueta 2. Octubre - Diciembre 2020



Salinidad Arqueta Conjunta. Octubre - Diciembre 2020







## GRÁFICAS DE TEMPERATURA EN LAS DISTINTAS LOCALIDADES DE CONTROL

Temperatura Localidad 1. Octubre - Diciembre 2020

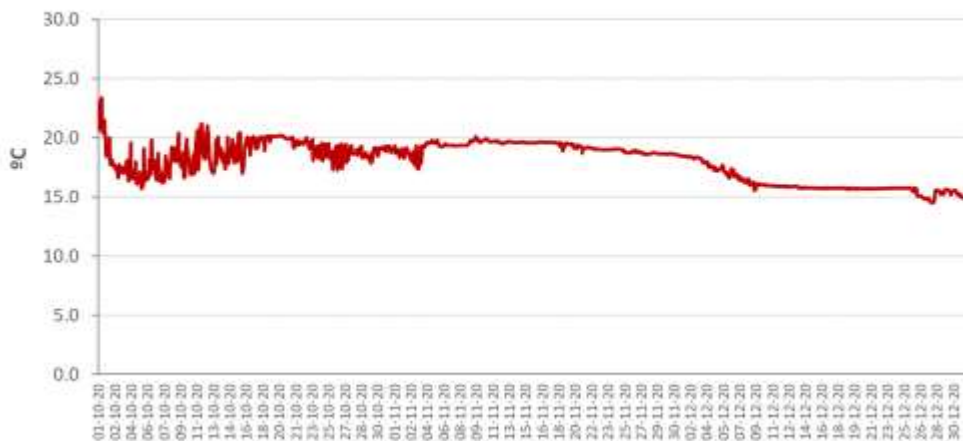


Temperatura Localidad 2. Octubre - Diciembre 2020





Temperatura Localidad 3. Octubre - Diciembre 2020



Temperatura Localidad 4. Octubre - Diciembre 2020



Temperatura Localidad 5. Octubre - Diciembre 2020





**Caudales vertidos:** Las tablas siguientes presentan los caudales de agua captados, producidos y vertidos durante los meses de enero, febrero y marzo de 2020 por las desalinizadoras de San Pedro I y II.

**DESALINIZADORA ANTONIO LEÓN MARTÍNEZ CAMPOS**

| <b>San Pedro I</b> | <b>VOLUMEN DE AGUA CAPTADA (m<sup>3</sup>/d)</b> | <b>VOLUMEN DE AGUA PRODUCTO (m<sup>3</sup>/d)</b> | <b>VOLUMEN DE AGUA RECHAZO (m<sup>3</sup>/d)</b> |
|--------------------|--|---|--|
| 2020/10/01         | 138,569  | 68,130  | 70,439   |
| 2020/10/02         | 141,378  | 69,829  | 71,549   |
| 2020/10/03         | 140,999  | 69,465  | 71,534   |
| 2020/10/04         | 140,219  | 68,962  | 71,257   |
| 2020/10/05         | 139,996  | 68,844  | 71,152   |
| 2020/10/06         | 140,669  | 69,377  | 71,292   |
| 2020/10/07         | 136,295  | 67,395  | 68,900   |
| 2020/10/08         | 134,230  | 66,528  | 67,702   |
| 2020/10/09         | 116,898  | 57,417  | 59,481   |
| 2020/10/10         | 116,961  | 57,955  | 59,006   |
| 2020/10/11         | 119,802  | 58,699  | 61,103   |
| 2020/10/12         | 125,933  | 61,973  | 63,960   |
| 2020/10/13         | 120,506  | 59,288  | 61,218   |
| 2020/10/14         | 114,404  | 56,527  | 57,877   |
| 2020/10/15         | 114,082  | 56,437  | 57,645   |
| 2020/10/16         | 113,136  | 55,826  | 57,310   |
| 2020/10/17         | 111,283  | 55,520  | 55,763   |
| 2020/10/18         | 114,629  | 57,163  | 57,466   |
| 2020/10/19         | 116,818  | 56,915  | 59,903   |
| 2020/10/20         | 112,964  | 56,128  | 56,836   |
| 2020/10/21         | 112,251  | 55,752  | 56,499   |
| 2020/10/22         | 114,039  | 56,668  | 57,371   |
| 2020/10/23         | 113,050  | 56,147  | 56,903   |
| 2020/10/24         | 115,180  | 57,319  | 57,861   |
| 2020/10/25         | 116,012  | 57,718  | 58,294   |
| 2020/10/26         | 125,277  | 62,241  | 63,036   |
| 2020/10/27         | 127,347  | 63,590  | 63,757   |
| 2020/10/28         | 129,310  | 63,642  | 65,668   |
| 2020/10/29         | 129,490  | 63,643  | 65,847   |
| 2020/10/30         | 122,438  | 60,474  | 61,964   |
| 2020/10/31         | 110,793  | 54,916  | 55,877   |



|              |              |              |              |
|--------------|--------------|--------------|--------------|
| <b>TOTAL</b> | 3,824,958.00 | 1,890,488.00 | 1,934,470.00 |
|--------------|--------------|--------------|--------------|

| <b>San Pedro I</b> | <b>VOLUMEN DE AGUA CAPTADA (m<sup>3</sup>/d)</b> | <b>VOLUMEN DE AGUA PRODUCTO (m<sup>3</sup>/d)</b> | <b>VOLUMEN DE AGUA RECHAZO (m<sup>3</sup>/d)</b> |
|--------------------|--|---|--|
| 2020/11/01         | 113,401  | 56,288  | 57,113   |
| 2020/11/02         | 124,787  | 62,025  | 62,762   |
| 2020/11/03         | 128,404  | 63,585  | 64,819   |
| 2020/11/04         | 132,944  | 65,678  | 67,266   |
| 2020/11/05         | 118,765  | 58,940  | 59,825   |
| 2020/11/06         | 113,191  | 56,407  | 56,784   |
| 2020/11/07         | 114,302  | 57,017  | 57,285   |
| 2020/11/08         | 113,297  | 56,543  | 56,754   |
| 2020/11/09         | 115,781  | 57,599  | 58,182   |
| 2020/11/10         | 114,025  | 56,756  | 57,269   |
| 2020/11/11         | 114,057  | 56,718  | 57,339   |
| 2020/11/12         | 114,502  | 56,850  | 57,652   |
| 2020/11/13         | 113,069  | 56,471  | 56,598   |
| 2020/11/14         | 111,444  | 55,908  | 55,536   |
| 2020/11/15         | 116,177  | 57,473  | 58,704   |
| 2020/11/16         | 114,202  | 56,707  | 57,495   |
| 2020/11/17         | 113,406  | 56,389  | 57,017   |
| 2020/11/18         | 115,194  | 57,231  | 57,963   |
| 2020/11/19         | 111,532  | 55,421  | 56,111   |
| 2020/11/20         | 113,953  | 56,698  | 57,255   |
| 2020/11/21         | 112,862  | 56,132  | 56,730   |
| 2020/11/22         | 113,839  | 56,573  | 57,266   |
| 2020/11/23         | 115,872  | 57,515  | 58,357   |
| 2020/11/24         | 111,587  | 55,445  | 56,142   |
| 2020/11/25         | 114,461  | 56,685  | 57,776   |
| 2020/11/26         | 113,752  | 56,400  | 57,352   |
| 2020/11/27         | 110,681  | 54,864  | 55,817   |
| 2020/11/28         | 113,349  | 55,967  | 57,382   |
| 2020/11/29         | 112,001  | 55,452  | 56,549   |
| 2020/11/30         | 117,661  | 58,532  | 59,129   |
| <b>TOTAL</b>       | 3,462,498.00                                     | 1,720,269.00                                      | 1,742,229.00                                     |



| San Pedro I  | VOLUMEN DE AGUA CAPTADA (m <sup>3</sup> /d) | VOLUMEN DE AGUA PRODUCTO (m <sup>3</sup> /d) | VOLUMEN DE AGUA RECHAZO (m <sup>3</sup> /d) |
|--------------|---|--|---|
| 2020/12/01   | 114,035                                     | 56,666                                       | 57,369                                      |
| 2020/12/02   | 113,707                                     | 56,316                                       | 57,391                                      |
| 2020/12/03   | 114,780                                     | 56,734                                       | 58,046                                      |
| 2020/12/04   | 113,939                                     | 56,654                                       | 57,285                                      |
| 2020/12/05   | 114,007                                     | 56,956                                       | 57,051                                      |
| 2020/12/06   | 112,126                                     | 55,562                                       | 56,564                                      |
| 2020/12/07   | 108,939                                     | 53,834                                       | 55,105                                      |
| 2020/12/08   | 116,916                                     | 57,592                                       | 59,324                                      |
| 2020/12/09   | 115,686                                     | 57,299                                       | 58,387                                      |
| 2020/12/10   | 115,553                                     | 57,209                                       | 58,344                                      |
| 2020/12/11   | 114,425                                     | 56,523                                       | 57,902                                      |
| 2020/12/12   | 109,628                                     | 54,886                                       | 54,742                                      |
| 2020/12/13   | 114,485                                     | 56,498                                       | 57,987                                      |
| 2020/12/14   | 116,390                                     | 56,149                                       | 60,241                                      |
| 2020/12/15   | 113,090                                     | 57,097                                       | 55,993                                      |
| 2020/12/16   | 115,900                                     | 57,425                                       | 58,475                                      |
| 2020/12/17   | 124,928                                     | 61,792                                       | 63,136                                      |
| 2020/12/18   | 126,136                                     | 62,384                                       | 63,752                                      |
| 2020/12/19   | 117,581                                     | 58,398                                       | 59,183                                      |
| 2020/12/20   | 115,975                                     | 57,375                                       | 58,600                                      |
| 2020/12/21   | 116,823                                     | 57,879                                       | 58,944                                      |
| 2020/12/22   | 119,437                                     | 59,078                                       | 60,359                                      |
| 2020/12/23   | 109,513                                     | 54,444                                       | 55,069                                      |
| 2020/12/24   | 10,042                                      | 50,401                                       | 51,641                                      |
| 2020/12/25   | 125,296                                     | 62,824                                       | 62,472                                      |
| 2020/12/26   | 110,793                                     | 54,175                                       | 56,618                                      |
| 2020/12/27   | 114,910                                     | 58,070                                       | 56,840                                      |
| 2020/12/28   | 112,226                                     | 54,435                                       | 57,791                                      |
| 2020/12/29   | 96,357                                      | 47,433                                       | 48,924                                      |
| 2020/12/30   | 98,036                                      | 48,362                                       | 49,674                                      |
| 2020/12/31   | 92,817                                      | 45,747                                       | 47,070                                      |
| <b>TOTAL</b> | <b>3,414,476.00</b>                         | <b>1,736,197.00</b>                          | <b>1,770,279.00</b>                         |



**DESALINIZADORA DEL NUEVO CANAL DE CARTAGENA II**

| <b>San Pedro II</b> | <b>VOLUMEN DE AGUA CAPTADA (m<sup>3</sup>/d)</b> | <b>VOLUMEN DE AGUA PRODUCTO (m<sup>3</sup>/d)</b> | <b>VOLUMEN DE AGUA RECHAZO (m<sup>3</sup>/d)</b> |
|---------------------|--|---|--|
| 2020/10/01          | 88,703   | 38,958  | 49,745   |
| 2020/10/02          | 88,464   | 39,061  | 49,403   |
| 2020/10/03          | 88,078   | 38,922  | 49,156   |
| 2020/10/04          | 88,301   | 38,849  | 49,452   |
| 2020/10/05          | 87,037   | 38,075  | 48,962   |
| 2020/10/06          | 84,626   | 37,269  | 47,357   |
| 2020/10/07          | 84,194   | 37,214  | 46,980   |
| 2020/10/08          | 69,825   | 30,198  | 39,627   |
| 2020/10/09          | 49,437   | 21,757  | 27,680   |
| 2020/10/10          | 49,595   | 21,778  | 27,817   |
| 2020/10/11          | 49,813   | 21,809  | 28,004   |
| 2020/10/12          | 49,422   | 21,809  | 27,613   |
| 2020/10/13          | 49,362   | 21,832  | 27,530   |
| 2020/10/14          | 49,415   | 21,983  | 27,432   |
| 2020/10/15          | 49,301   | 21,700  | 27,601   |
| 2020/10/16          | 49,391   | 21,760  | 27,631   |
| 2020/10/17          | 49,316   | 21,724  | 27,592   |
| 2020/10/18          | 49,303   | 21,762  | 27,541   |
| 2020/10/19          | 49,414   | 21,901  | 27,513   |
| 2020/10/20          | 49,335   | 21,698  | 27,637   |
| 2020/10/21          | 47,777   | 20,784  | 26,993   |
| 2020/10/22          | 49,102   | 21,573  | 27,529   |
| 2020/10/23          | 49,072   | 21,638  | 27,434   |
| 2020/10/24          | 49,237   | 21,646  | 27,591   |
| 2020/10/25          | 49,202   | 21,595  | 27,607   |
| 2020/10/26          | 48,908   | 21,606  | 27,302   |
| 2020/10/27          | 49,062   | 21,576  | 27,486   |
| 2020/10/28          | 49,217   | 21,601  | 27,616   |
| 2020/10/29          | 49,174   | 21,605  | 27,569   |
| 2020/10/30          | 49,307   | 21,602  | 27,705   |
| 2020/10/31          | 49,427   | 21,632  | 27,795   |
| <b>TOTAL</b>        | <b>1,811,817.00</b>                              | <b>796,917.00</b>                                 | <b>1,014,900.00</b>                              |



| <b>San Pedro II</b> | <b>VOLUMEN DE AGUA CAPTADA (m<sup>3</sup>/d)</b> | <b>VOLUMEN DE AGUA PRODUCTO (m<sup>3</sup>/d)</b> | <b>VOLUMEN DE AGUA RECHAZO (m<sup>3</sup>/d)</b> |
|---------------------|--|---|--|
| 2020/11/01          | 49,268   | 21,642  | 27,626   |
| 2020/11/02          | 49,042   | 21,599  | 27,443   |
| 2020/11/03          | 49,180   | 21,595  | 27,585   |
| 2020/11/04          | 49,150   | 21,608  | 27,542   |
| 2020/11/05          | 49,950   | 21,986  | 27,964   |
| 2020/11/06          | 49,385   | 21,792  | 27,593   |
| 2020/11/07          | 49,367   | 21,769  | 27,598   |
| 2020/11/08          | 49,644   | 21,756  | 27,888   |
| 2020/11/09          | 49,546   | 21,706  | 27,840   |
| 2020/11/10          | 48,535   | 20,071  | 28,464   |
| 2020/11/11          | 49,396   | 21,789  | 27,607   |
| 2020/11/12          | 49,341   | 21,795  | 27,546   |
| 2020/11/13          | 49,253   | 21,744  | 27,509   |
| 2020/11/14          | 49,598   | 21,695  | 27,903   |
| 2020/11/15          | 49,942   | 21,732  | 28,210   |
| 2020/11/16          | 49,758   | 21,725  | 28,033   |
| 2020/11/17          | 49,622   | 21,366  | 28,256   |
| 2020/11/18          | 49,775   | 21,681  | 28,094   |
| 2020/11/19          | 49,502   | 21,750  | 27,752   |
| 2020/11/20          | 49,642   | 21,701  | 27,941   |
| 2020/11/21          | 49,533   | 21,665  | 27,868   |
| 2020/11/22          | 49,656   | 21,664  | 27,992   |
| 2020/11/23          | 51,384   | 22,021  | 29,363   |
| 2020/11/24          | 49,766   | 21,750  | 28,016   |
| 2020/11/25          | 48,607   | 21,123  | 27,868   |
| 2020/11/26          | 49,339   | 21,842  | 27,497   |
| 2020/11/27          | 49,121   | 21,726  | 27,395   |
| 2020/11/28          | 49,557   | 21,710  | 27,847   |
| 2020/11/29          | 49,230   | 21,806  | 27,868   |
| 2020/11/30          | 49,567   | 21,784  | 27,783   |
| <b>TOTAL</b>        | <b>1,484,656.00</b>                              | <b>649,593.00</b>                                 | <b>29,363.00</b>                                 |



| San Pedro II | VOLUMEN DE AGUA CAPTADA (m <sup>3</sup> /d) | VOLUMEN DE AGUA PRODUCTO (m <sup>3</sup> /d) | VOLUMEN DE AGUA RECHAZO (m <sup>3</sup> /d) |
|--------------|---|--|---|
| 2020/12/01   | 24,647                                      | 8,642  | 16,005                                      |
| 2020/12/02   | 50,057                                      | 21,782                                       | 28,275                                      |
| 2020/12/03   | 49,960                                      | 21,664                                       | 28,296                                      |
| 2020/12/04   | 49,813                                      | 21,616                                       | 28,197                                      |
| 2020/12/05   | 49,828                                      | 21,621                                       | 28,207                                      |
| 2020/12/06   | 50,017                                      | 21,700                                       | 28,317                                      |
| 2020/12/07   | 49,891                                      | 21,703                                       | 28,188                                      |
| 2020/12/08   | 49,677                                      | 21,657                                       | 28,020                                      |
| 2020/12/09   | 49,787                                      | 21,669                                       | 28,118                                      |
| 2020/12/10   | 50,337                                      | 21,722                                       | 28,615                                      |
| 2020/12/11   | 50,618                                      | 21,793                                       | 28,825                                      |
| 2020/12/12   | 49,881                                      | 21,804                                       | 28,077                                      |
| 2020/12/13   | 49,664                                      | 21,817                                       | 27,847                                      |
| 2020/12/14   | 49,938                                      | 21,739                                       | 28,199                                      |
| 2020/12/15   | 49,620                                      | 21,754                                       | 27,866                                      |
| 2020/12/16   | 66,289                                      | 28,563                                       | 37,726                                      |
| 2020/12/17   | 91,171                                      | 40,660                                       | 50,511                                      |
| 2020/12/18   | 91,766                                      | 43,499                                       | 48,267                                      |
| 2020/12/19   | 66,336                                      | 29,182                                       | 37,154                                      |
| 2020/12/20   | 49,202                                      | 29,158                                       | 20,044                                      |
| 2020/12/21   | 49,355                                      | 29,160                                       | 20,195                                      |
| 2020/12/22   | 49,340                                      | 29,146                                       | 20,194                                      |
| 2020/12/23   | 49,122                                      | 29,157                                       | 19,965                                      |
| 2020/12/24   | 49,110                                      | 21,599                                       | 27,511                                      |
| 2020/12/25   | 49,148                                      | 21,595                                       | 27,553                                      |
| 2020/12/26   | 48,932                                      | 21,541                                       | 27,391                                      |
| 2020/12/27   | 48,722                                      | 21,569                                       | 27,153                                      |
| 2020/12/28   | 48,860                                      | 21,645                                       | 27,215                                      |
| 2020/12/29   | 49,054                                      | 21,611                                       | 27,443                                      |
| 2020/12/30   | 49,041                                      | 21,618                                       | 27,423                                      |
| 2020/12/31   | 49,392                                      | 21,582                                       | 27,810                                      |
| <b>TOTAL</b> | 1,628,575.00                                | 743,968.00                                   | 29,363.00                                   |





## RESULTADOS DEL ANÁLISIS DE SALMUERA TOMADA EN LA ARQUETA DE LA IDAM

Los análisis fueron realizados siguiendo los procedimientos establecidos en el  
“*Standard Methods for the examination of water*”.

|                                     | <b>Octubre</b> | <b>Noviembre</b> | <b>Diciembre</b> |
|-------------------------------------|----------------|------------------|------------------|
| <b>Sólidos en Suspensión (mg/L)</b> | 4.0            | 2.0              | 1.0              |
| <b>DBO (mg/L)</b>                   | <0.5           | <0.5             | <0.5             |
| <b>DQO (mg/L)</b>                   | <5             | <5               | <5               |
| <b>pH (Ud. pH)</b>                  | 8.22           | 7.82             | 8.12             |
| <b>Nitrógeno Total (mg/L)</b>       | 0.28           | 0.31             | <0.15            |
| <b>Fósforo Total (µg/L)</b>         | 94             | 96               | 103              |
| <b>Temperatura</b>                  | 22.38          | 21.44            | 19.45            |
| <b>Salinidad (ups)</b>              | 64.02          | 64.42            | 64.84            |
| <b>Detergentes (mg/L LAS)</b>       | <0.1           | <0.1             | <0.1             |
| <b>Hierro (µg/L)</b>                | 22             | 21               | 20               |
| <b>Níquel (µg/L)</b>                | 1.5            | 1.3              | <1.4             |
| <b>Cobre (µg/L)</b>                 | 18             | 27               | 3.1              |
| <b>Cloro residual total (mg/L)</b>  | <0.1           | <0.1             | <0.1             |