

**TERCERA SECCION**  
**PODER EJECUTIVO**  
**SECRETARIA DE MEDIO AMBIENTE**  
**Y RECURSOS NATURALES**

**ACUERDO por el que se actualiza la disponibilidad media anual de las aguas superficiales en las cuencas hidrológicas Río San Pedro, Presa Calles, Presa El Niágara, Presa El Cuarenta, Río de Lagos, Presa Ajojuar, Río Grande, Río Encarnación, Río Aguascalientes, Río San Miguel, Río del Valle, Río Verde 1, Río Verde 2, Río Palomas, Presa El Chique, Río Juchipila 1, Río Juchipila 2, Río Santiago 1, Río Santiago 2, Presa Santa Rosa, Río Santiago 3, Río Tepetongo, Río Tlaltenango, Arroyo Lobatos, Río Bolaños 1, Río Bolaños 2, Río San Juan, Río Atengo, Río Jesús María, Río Huaynamota, Río Santiago 4, Río Santiago 5 y Río Santiago 6, mismas que forman parte de la subregión hidrológica Río Santiago de la región hidrológica número 12 Lerma-Santiago, y su ubicación geográfica.**

Al margen un sello con el Escudo Nacional, que dice: Estados Unidos Mexicanos.- Secretaría de Medio Ambiente y Recursos Naturales.

JOSE LUIS LUEGE TAMARGO, Director General de la Comisión Nacional del Agua, Organismo Administrativo Desconcentrado de la Secretaría de Medio Ambiente y Recursos Naturales, de conformidad con lo dispuesto en los artículos 32 Bis fracciones III, XXIII y XLI de la Ley Orgánica de la Administración Pública Federal; 1, 2, 4, 7 BIS fracción IV, 9 fracciones I, VI, XVII, XX, XXXII, XXXV, XXXVI, XXXVII, XLV, XLVI y LIV, 12 fracciones I, VIII, XI y XII, 19 BIS, 22 segundo y último párrafos y séptimo transitorio de la Ley de Aguas Nacionales; 1, 8 primer párrafo y 13 fracción XIII inciso b) del Reglamento Interior de la Comisión Nacional del Agua, y

**CONSIDERANDO**

Que el artículo 4 de la Ley de Aguas Nacionales, establece que corresponde al Ejecutivo Federal la autoridad y administración en materia de aguas nacionales y sus bienes públicos inherentes, quien las ejercerá directamente o a través de la Comisión Nacional del Agua;

Que el artículo 22 segundo párrafo de la Ley de Aguas Nacionales, señala que para el otorgamiento de concesiones o asignaciones, debe tomarse en consideración la disponibilidad media anual del recurso, para lo cual, el propio precepto dispone que la Comisión Nacional del Agua debe publicar la disponibilidad media anual de aguas nacionales por cuenca hidrológica, región hidrológica o localidad, y en ese sentido el día 28 de agosto de 2006 se publicó en el Diario Oficial de la Federación, el "Acuerdo por el que se da a conocer el resultado de los estudios de disponibilidad media anual de las aguas superficiales en las cuencas hidrológicas de los Ríos San Pedro, Presa Calles, Presa El Niágara, Presa El Cuarenta, Río de Lagos, Presa Ajojuar, Río Grande, Río Encarnación, Río Aguascalientes, Río San Miguel, Río del Valle, Río Verde 1, Río Verde 2, Río Palomas, Presa El Chique, Río Juchipila 1, Río Juchipila 2, Río Juchipila 3, Río Santiago 1, Río Santiago 2, Presa Santa Rosa, Río Santiago 3, Río Tepetongo, Río Tlaltenango, Arroyo Lobatos, Río Bolaños 1, Río Bolaños 2, Río San Juan, Río Atengo, Río Jesús María, Río Huaynamota, Río Santiago 4 y Río Santiago 5, mismos que forman parte de la porción de la región hidrológica denominada Río Santiago";

Que por otra parte y en virtud de que existían diversas fuentes de información geográfica, cada una de ellas atendiendo a distintos métodos de referencia, surge la necesidad de que el Gobierno Federal cuente con un solo marco de referencia cartográfico, por lo cual, el Instituto Nacional de Estadística, Geografía e Informática, emitió la Cartografía Básica Nacional, a escala 1:50,000 digitalizada y georreferenciada, en el que se basa el sistema único de referencia para la gestión de las aguas superficiales;

Que atendiendo a lo anterior, es necesario ajustar la ubicación geográfica de las cuencas hidrológicas, a efecto de hacerlas acordes con la Cartografía Básica Nacional y tener una ubicación más exacta de las mismas, por lo que mediante el presente acuerdo se modifica la ubicación geográfica de las citadas cuencas, misma que se estableció en el citado anteriormente "Acuerdo por el que se da a conocer el resultado de los estudios de disponibilidad media anual de las aguas superficiales en las cuencas hidrológicas de los Ríos San Pedro, Presa Calles, Presa El Niágara, Presa El Cuarenta, Río de Lagos, Presa Ajojuar, Río Grande, Río Encarnación, Río Aguascalientes, Río San Miguel, Río del Valle, Río Verde 1, Río Verde 2, Río Palomas, Presa El Chique, Río Juchipila 1, Río Juchipila 2, Río Juchipila 3, Río Santiago 1, Río Santiago 2, Presa Santa Rosa, Río Santiago 3, Río Tepetongo, Río Tlaltenango, Arroyo Lobatos, Río Bolaños 1, Río Bolaños 2, Río San Juan, Río Atengo, Río Jesús María, Río Huaynamota, Río Santiago 4 y Río Santiago 5, mismos que forman parte de la porción de la región hidrológica denominada Río Santiago", señalando con ello la subregión hidrológica Río Santiago, correspondiente a la región hidrológica número 12 Lerma-Santiago;

Que asimismo, el citado artículo 22 en sus párrafos segundo y último, establece el que la disponibilidad media anual deberá actualizarse por la Comisión Nacional del Agua, por lo que en cumplimiento a la obligación citada se ha determinado, con base en la Norma Oficial Mexicana "NOM-011-CONAGUA-2000, Conservación del Recurso Agua-Que establece las especificaciones y el método para determinar la disponibilidad media anual de las aguas nacionales", la actualización de la disponibilidad de aguas superficiales de las treinta y tres cuencas hidrológicas denominadas Río San Pedro, Presa Calles, Presa El Niágara, Presa El Cuarenta, Río de Lagos, Presa Ajojuar, Río Grande, Río Encarnación, Río Aguascalientes, Río San Miguel, Río del Valle, Río Verde 1, Río Verde 2, Río Palomas, Presa El Chique, Río Juchipila 1, Río Juchipila 2, Río Santiago 1, Río Santiago 2, Presa Santa Rosa, Río Santiago 3, Río Tepetongo, Río Tlaltenango, Arroyo Lobatos, Río Bolaños 1, Río Bolaños 2, Río San Juan, Río Atengo, Río Jesús María, Río Huaynamota, Río Santiago 4, Río Santiago 5 y Río Santiago 6, localizadas en la ahora subregión hidrológica Río Santiago, de la región hidrológica número 12 Lerma-Santiago, así como su ubicación geográfica;

Que el 21 de agosto de 1931 se publicó en el Diario Oficial de la Federación el "Acuerdo que establece veda sobre concesión de aguas del Río Tlaltenango, en el Estado de Zacatecas", expedido por el entonces Secretario de Agricultura y Fomento, y comprende toda la cuenca tributaria del Río Tlaltenango, dentro del Estado de Zacatecas, desde el origen de la corriente hasta su confluencia con el Río Colotlán;

Que el 22 de agosto de 1931 se publicó en el Diario Oficial de la Federación el "Acuerdo que establece veda concesión de aguas del Río Santiago, en el Estado de Aguascalientes", expedido por el entonces Secretario de Agricultura y Fomento, y comprende toda la cuenca tributaria del Río Santiago, dentro del Estado de Aguascalientes y desde sus orígenes hasta donde esta corriente pasa al Estado de Jalisco;

Que el 22 de agosto de 1931 se publicó en el Diario Oficial de la Federación el "Acuerdo que establece veda sobre concesión de aguas del Río Santiago, en el Estado de Jalisco", expedido por el entonces Secretario de Agricultura y Fomento, y comprende toda la cuenca tributaria del Río Santiago, dentro del Estado de Jalisco, desde su nacimiento en el Lago de Chapala hasta antes de la confluencia del Río Verde;

Que el 17 de diciembre de 1931 se publicó en el Diario Oficial de la Federación el "Acuerdo que establece veda sobre concesión de aguas del Río Aguascalientes y sus afluentes, dentro del Estado de igual nombre", expedido por el entonces Secretario de Agricultura y Fomento, y comprende toda la cuenca tributaria del Río Aguascalientes y sus afluentes, desde sus orígenes hasta donde esta corriente pasa del Estado de Aguascalientes al de Jalisco;

Que el 10 de septiembre de 1947 se publicó en el Diario Oficial de la Federación el "Acuerdo que declara veda de concesión de aguas, por tiempo indefinido, en toda la cuenca tributaria del Río Santiago o Tololotlán, en los Estados de Jalisco y Nayarit", expedido por el entonces Secretario de Recursos Hidráulicos, y comprende desde su nacimiento en el Lago de Chapala, hasta su desembocadura en el Océano Pacífico;

Que el 7 de abril de 1995 se publicó en el Diario Oficial de la Federación el "Decreto por el que se declara la reserva de las aguas nacionales superficiales en la cuenca del Río Verde, para uso doméstico y público urbano", Decreto que fue expedido por el titular del Ejecutivo Federal y en el que se señaló que el Volumen Máximo Anual que se reserva para uso doméstico y urbano es de 504'576,000 metros cúbicos de agua, de los cuales para el Estado de Guanajuato se reserva 119'837,000 y para Jalisco 384'739,000 metros cúbicos de agua;

Que el 17 de noviembre de 1997 se publicó en el Diario Oficial de la Federación el "Decreto que reforma los párrafos primero y segundo del artículo 2o. del Decreto del 3 de abril de 1995, publicado el 7 del mismo mes y año, por el que se declara la reserva de las aguas nacionales superficiales en la cuenca del Río Verde, para uso doméstico y público urbano", Decreto que fue expedido por el titular del Ejecutivo Federal y en el que se señaló que es factible reducir a los 384'739,000 metros cúbicos de agua que tenía reservado el Estado de Jalisco, la cantidad de 12'600,000 metros cúbicos de agua para actividades pecuarias en el mismo Estado de Jalisco, por lo que el Volumen Máximo Anual que se reserva para uso doméstico y urbano es de 491'976,000 metros cúbicos de agua, de los cuales para el Estado de Guanajuato se reserva 119'837,000 metros cúbicos de agua y para Jalisco 372'139,000 metros cúbicos de agua;

Que con base en el artículo séptimo transitorio de la Ley de Aguas Nacionales en vigor a partir de 1992 y tercero, cuarto, quinto y sexto transitorios de su Reglamento; en los Decretos mediante los que se otorgaron facilidades administrativas y se condonaron contribuciones a los usuarios de aguas nacionales y sus bienes públicos inherentes que realizaran actividades agrícolas, silvícolas, pecuarias, acuícolas, industriales, comerciales y de servicios y sus reformas, publicados en el Diario Oficial de la Federación el 11 de octubre de 1995 y 11 de octubre de 1996, respectivamente, así como en el "Decreto por el que se otorgan facilidades administrativas

para la regularización de usuarios de aguas nacionales que realicen actividades de carácter agrícola", publicado en dicho órgano de difusión el 4 de febrero de 2002, se han otorgado títulos de concesión a dichos usuarios, mismos que quedan comprendidos en el volumen concesionado que se cita en el presente Acuerdo;

Que entre los elementos que se tomaron en consideración para la actualización de la disponibilidad media anual de aguas nacionales en el área geográfica materia de este Acuerdo, se encuentran los relativos al cálculo del escurrimiento natural de la cuenca hidrológica, escurrimiento desde la cuenca hidrológica aguas arriba, retornos, importaciones, exportaciones, extracción de agua superficial, escurrimiento de la cuenca hidrológica hacia aguas abajo y volumen actual comprometido aguas abajo, mismos que se mencionan en la citada Norma Oficial Mexicana;

Que asimismo, para la actualización de la disponibilidad media anual se consideró la información hidrométrica y pluviométrica de las cuencas hidrológicas a que se refiere este Acuerdo, habiéndose considerado además, para la realización de los estudios técnicos correspondientes, mismos que se efectuaron por el Organismo de Cuenca "Lerma Santiago Pacífico", que es uno de aquellos en los que se ha dividido el territorio nacional para la gestión del recurso a partir de las cuencas hidrológicas, los datos históricos relativos a las características y el comportamiento de las cuencas hidrológicas, y los volúmenes de agua superficial concesionados e inscritos en el Registro Público de Derechos de Agua, al 31 de diciembre de 2007, por lo que, he tenido a bien expedir el siguiente:

**ACUERDO POR EL QUE SE ACTUALIZA LA DISPONIBILIDAD MEDIA ANUAL  
DE LAS AGUAS SUPERFICIALES EN LAS CUENCAS HIDROLOGICAS RIO SAN PEDRO,  
PRESA CALLES, PRESA EL NIAGARA, PRESA EL CUARENTA, RIO DE LAGOS,  
PRESA AJOJUCAR, RIO GRANDE, RIO ENCARNACION, RIO AGUASCALIENTES,  
RIO SAN MIGUEL, RIO DEL VALLE, RIO VERDE 1, RIO VERDE 2, RIO PALOMAS,  
PRESA EL CHIQUE, RIO JUCHIPILA 1, RIO JUCHIPILA 2, RIO SANTIAGO 1,  
RIO SANTIAGO 2, PRESA SANTA ROSA, RIO SANTIAGO 3, RIO TEPETONGO,  
RIO TLALTENANGO, ARROYO LOBATOS, RIO BOLAÑOS 1, RIO BOLAÑOS 2,  
RIO SAN JUAN, RIO ATENGO, RIO JESUS MARIA, RIO HUAYNAMOTA,  
RIO SANTIAGO 4, RIO SANTIAGO 5 Y RIO SANTIAGO 6,  
MISMAS QUE FORMAN PARTE DE LA SUBREGION HIDROLOGICA  
RIO SANTIAGO DE LA REGION HIDROLOGICA NUMERO 12  
LERMA-SANTIAGO, Y SU UBICACION GEOGRAFICA**

**ARTICULO PRIMERO.-** Se modifican la ubicación geográfica de las treinta y tres cuencas hidrológicas localizadas en la subregión hidrológica Río Santiago, establecida en el "Acuerdo por el que se da a conocer el resultado de los estudios de disponibilidad media anual de las aguas superficiales en las cuencas hidrológicas de los Ríos San Pedro, Presa Calles, Presa El Niágara, Presa El Cuarenta, Río de Lagos, Presa Ajojuar, Río Grande, Río Encarnación, Río Aguascalientes, Río San Miguel, Río del Valle, Río Verde 1, Río Verde 2, Río Palomas, Presa El Chique, Río Juchipila 1, Río Juchipila 2, Río Juchipila 3, Río Santiago 1, Río Santiago 2, Presa Santa Rosa, Río Tepetongo, Río Tlaltenango, Arroyo Lobatos, Río Bolaños 1, Río Bolaños 2, Río San Juan, Río Atengo, Río Jesús María, Río Huaynamota, Río Santiago 4 y Río Santiago 5, mismos que forman parte de la porción de la región hidrológica Río Santiago", publicado en el Diario Oficial de la Federación el 28 de agosto de 2006, para quedar en los términos que se contienen en el presente Acuerdo.

**ARTICULO SEGUNDO.-** La actualización de la disponibilidad media anual de aguas superficiales en las cuencas hidrológicas que a continuación se mencionan, mismas que forman parte de la subregión hidrológica Río Santiago, son los siguientes:

I.- CUENCA HIDROLOGICA RIO SAN PEDRO: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 0.24 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).

El volumen disponible que se señala en el párrafo anterior, comprende desde el nacimiento del Río San Pedro hasta donde se localiza la estación climatológica San Francisco de Los Romo.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río San Pedro tiene una superficie de aportación de 2,669.4 kilómetros cuadrados y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por la región hidrológica número 37 El Salado, al Sur por las cuencas hidrológicas Presa Calles y Presa El Niágara, al Este por la región hidrológica número 37 El Salado y cuenca hidrológica Presa El Niágara y al Oeste por las cuencas hidrológicas Río Palomas y Presa El Chique.

La poligonal a que se refiere esta fracción es la siguiente:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| A-1     | 102            | 6       | 5.98     | 22            | 28      | 8.98     |
| A-2     | 102            | 6       | 19.15    | 22            | 27      | 31.64    |
| A-3     | 102            | 6       | 7.45     | 22            | 26      | 56.90    |
| A-4     | 102            | 6       | 23.72    | 22            | 26      | 37.21    |
| A-5     | 102            | 6       | 36.90    | 22            | 26      | 40.31    |
| A-6     | 102            | 6       | 37.94    | 22            | 26      | 19.36    |
| A-7     | 102            | 6       | 13.82    | 22            | 24      | 37.33    |
| A-8     | 102            | 6       | 27.79    | 22            | 22      | 43.07    |
| A-9     | 102            | 6       | 17.06    | 22            | 22      | 8.04     |
| A-10    | 102            | 7       | 16.79    | 22            | 21      | 49.43    |
| A-11    | 102            | 6       | 53.10    | 22            | 21      | 41.40    |
| A-12    | 102            | 6       | 54.79    | 22            | 21      | 12.46    |
| A-13    | 102            | 7       | 10.34    | 22            | 20      | 40.85    |
| A-14    | 102            | 7       | 36.88    | 22            | 20      | 24.00    |
| A-15    | 102            | 7       | 43.64    | 22            | 19      | 53.40    |
| A-16    | 102            | 7       | 15.06    | 22            | 19      | 46.60    |
| A-17    | 102            | 7       | 10.78    | 22            | 18      | 24.19    |
| A-18    | 102            | 7       | 33.46    | 22            | 17      | 50.53    |
| A-19    | 102            | 7       | 5.77     | 22            | 16      | 33.82    |
| A-20    | 102            | 7       | 21.22    | 22            | 15      | 59.08    |
| A-21    | 102            | 7       | 52.90    | 22            | 15      | 38.88    |
| A-22    | 102            | 7       | 9.77     | 22            | 14      | 50.57    |
| A-23    | 102            | 7       | 19.31    | 22            | 14      | 14.14    |
| A-24    | 102            | 6       | 59.76    | 22            | 13      | 1.70     |
| A-25    | 102            | 7       | 4.62     | 22            | 12      | 46.04    |
| A-26    | 102            | 7       | 56.46    | 22            | 12      | 26.06    |
| A-27    | 102            | 7       | 47.93    | 22            | 12      | 18.83    |
| A-28    | 102            | 8       | 1.54     | 22            | 11      | 39.44    |
| A-29    | 102            | 7       | 38.35    | 22            | 11      | 21.34    |
| A-30    | 102            | 7       | 59.12    | 22            | 10      | 58.91    |
| A-31    | 102            | 7       | 29.46    | 22            | 9       | 41.36    |
| A-32    | 102            | 7       | 22.87    | 22            | 8       | 17.56    |
| A-33    | 102            | 9       | 26.60    | 22            | 7       | 37.99    |
| A-34    | 102            | 9       | 18.29    | 22            | 7       | 3.29     |
| A-35    | 102            | 9       | 47.84    | 22            | 5       | 54.64    |
| A-36    | 102            | 11      | 38.44    | 22            | 4       | 17.29    |
| A-37    | 102            | 12      | 33.34    | 22            | 4       | 9.05     |
| A-38    | 102            | 14      | 58.13    | 22            | 4       | 48.86    |
| A-39    | 102            | 19      | 39.90    | 22            | 4       | 57.47    |
| A-40    | 102            | 20      | 42.54    | 22            | 5       | 22.20    |
| A-41    | 102            | 21      | 16.45    | 22            | 5       | 12.37    |
| A-42    | 102            | 21      | 24.30    | 22            | 6       | 15.08    |
| A-43    | 102            | 22      | 20.93    | 22            | 5       | 58.24    |
| A-44    | 102            | 22      | 23.92    | 22            | 5       | 29.11    |
| A-45    | 102            | 22      | 55.85    | 22            | 5       | 21.16    |
| A-46    | 102            | 22      | 45.48    | 22            | 4       | 42.56    |
| A-47    | 102            | 22      | 58.94    | 22            | 3       | 34.09    |
| A-48    | 102            | 23      | 26.34    | 22            | 3       | 7.24     |
| A-49    | 102            | 23      | 45.85    | 22            | 3       | 38.20    |
| A-50    | 102            | 24      | 26.64    | 22            | 4       | 4.19     |
| A-51    | 102            | 24      | 18.11    | 22            | 4       | 26.29    |
| A-52    | 102            | 24      | 29.99    | 22            | 5       | 11.90    |
| A-53    | 102            | 24      | 11.63    | 22            | 5       | 16.40    |
| A-54    | 102            | 24      | 9.32     | 22            | 5       | 46.82    |
| A-55    | 102            | 24      | 48.42    | 22            | 7       | 20.68    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| A-56    | 102            | 24      | 14.36    | 22            | 7       | 46.63    |
| A-57    | 102            | 25      | 5.88     | 22            | 8       | 19.86    |
| A-58    | 102            | 25      | 1.78     | 22            | 8       | 28.68    |
| A-59    | 102            | 23      | 46.43    | 22            | 8       | 17.48    |
| A-60    | 102            | 22      | 46.20    | 22            | 8       | 29.47    |
| A-61    | 102            | 23      | 8.66     | 22            | 9       | 30.17    |
| A-62    | 102            | 22      | 41.48    | 22            | 10      | 36.77    |
| A-63    | 102            | 22      | 10.67    | 22            | 10      | 48.00    |
| A-64    | 102            | 22      | 7.90     | 22            | 11      | 28.54    |
| A-65    | 102            | 23      | 15.22    | 22            | 12      | 25.81    |
| A-66    | 102            | 24      | 45.25    | 22            | 12      | 48.38    |
| A-67    | 102            | 26      | 14.17    | 22            | 13      | 48.47    |
| A-68    | 102            | 26      | 59.39    | 22            | 13      | 41.12    |
| A-69    | 102            | 27      | 9.83     | 22            | 14      | 7.40     |
| A-70    | 102            | 28      | 33.89    | 22            | 14      | 25.98    |
| A-71    | 102            | 28      | 45.05    | 22            | 14      | 42.83    |
| A-72    | 102            | 29      | 11.04    | 22            | 14      | 31.13    |
| A-73    | 102            | 30      | 22.14    | 22            | 14      | 55.43    |
| A-74    | 102            | 31      | 49.66    | 22            | 14      | 18.31    |
| A-75    | 102            | 32      | 15.72    | 22            | 14      | 33.54    |
| A-76    | 102            | 33      | 30.53    | 22            | 14      | 19.07    |
| A-77    | 102            | 34      | 20.32    | 22            | 14      | 30.01    |
| A-78    | 102            | 34      | 58.37    | 22            | 15      | 38.30    |
| A-79    | 102            | 34      | 52.57    | 22            | 16      | 37.92    |
| A-80    | 102            | 35      | 7.51     | 22            | 17      | 2.33     |
| A-81    | 102            | 36      | 18.11    | 22            | 17      | 26.16    |
| A-82    | 102            | 36      | 26.35    | 22            | 16      | 53.08    |
| A-83    | 102            | 37      | 14.63    | 22            | 17      | 1.03     |
| A-84    | 102            | 37      | 21.22    | 22            | 17      | 34.01    |
| A-85    | 102            | 37      | 40.19    | 22            | 17      | 47.69    |
| A-86    | 102            | 37      | 32.016   | 22            | 18      | 14.62    |
| A-87    | 102            | 37      | 40.40    | 22            | 18      | 27.97    |
| A-88    | 102            | 37      | 1.06     | 22            | 20      | 12.44    |
| A-89    | 102            | 37      | 25.82    | 22            | 20      | 51.40    |
| A-90    | 102            | 36      | 52.02    | 22            | 21      | 43.85    |
| A-91    | 102            | 36      | 38.66    | 22            | 21      | 46.98    |
| A-92    | 102            | 36      | 40.64    | 22            | 22      | 7.36     |
| A-93    | 102            | 36      | 11.81    | 22            | 22      | 49.19    |
| A-94    | 102            | 35      | 49.63    | 22            | 22      | 45.62    |
| A-95    | 102            | 35      | 26.448   | 22            | 23      | 7.12     |
| A-96    | 102            | 35      | 35.34    | 22            | 23      | 33.00    |
| A-97    | 102            | 35      | 25.87    | 22            | 23      | 49.38    |
| A-98    | 102            | 35      | 44.81    | 22            | 24      | 5.87     |
| A-99    | 102            | 35      | 32.03    | 22            | 24      | 19.66    |
| A-100   | 102            | 35      | 33.86    | 22            | 25      | 37.56    |
| A-101   | 102            | 36      | 9.22     | 22            | 26      | 34.40    |
| A-102   | 102            | 36      | 30.78    | 22            | 26      | 37.68    |
| A-103   | 102            | 36      | 35.24    | 22            | 26      | 58.56    |
| A-104   | 102            | 36      | 7.488    | 22            | 27      | 27.18    |
| A-105   | 102            | 35      | 51.504   | 22            | 27      | 27.18    |
| A-106   | 102            | 35      | 36.31    | 22            | 27      | 42.84    |
| A-107   | 102            | 35      | 40.60    | 22            | 29      | 21.05    |
| A-108   | 102            | 36      | 6.48     | 22            | 29      | 44.27    |
| A-109   | 102            | 36      | 43.67    | 22            | 29      | 43.94    |
| A-110   | 102            | 36      | 33.08    | 22            | 30      | 24.84    |
| A-111   | 102            | 36      | 51.624   | 22            | 30      | 41.26    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| A-112   | 102            | 37      | 11.93    | 22            | 30      | 43.56    |
| A-113   | 102            | 37      | 5.844    | 22            | 30      | 50.80    |
| A-114   | 102            | 37      | 18.80    | 22            | 31      | 26.15    |
| A-115   | 102            | 37      | 44.15    | 22            | 31      | 35.08    |
| A-116   | 102            | 37      | 40.91    | 22            | 32      | 58.52    |
| A-117   | 102            | 37      | 27.77    | 22            | 33      | 18.47    |
| A-118   | 102            | 36      | 31.79    | 22            | 33      | 54.61    |
| A-119   | 102            | 36      | 11.02    | 22            | 34      | 47.42    |
| A-120   | 102            | 35      | 12.44    | 22            | 35      | 40.92    |
| A-121   | 102            | 34      | 39.58    | 22            | 35      | 30.26    |
| A-122   | 102            | 34      | 18.08    | 22            | 35      | 4.70     |
| A-123   | 102            | 31      | 43.90    | 22            | 34      | 55.81    |
| A-124   | 102            | 31      | 0.95     | 22            | 34      | 17.76    |
| A-125   | 102            | 30      | 3.89     | 22            | 35      | 4.52     |
| A-126   | 102            | 28      | 46.38    | 22            | 35      | 40.13    |
| A-127   | 102            | 28      | 30.36    | 22            | 36      | 17.03    |
| A-128   | 102            | 27      | 34.63    | 22            | 36      | 47.09    |
| A-129   | 102            | 27      | 46.33    | 22            | 37      | 19.45    |
| A-130   | 102            | 27      | 35.60    | 22            | 37      | 31.30    |
| A-131   | 102            | 26      | 48.55    | 22            | 37      | 41.92    |
| A-132   | 102            | 26      | 29.54    | 22            | 37      | 26.72    |
| A-133   | 102            | 26      | 19.00    | 22            | 37      | 37.16    |
| A-134   | 102            | 27      | 4.68     | 22            | 39      | 8.46     |
| A-135   | 102            | 27      | 0.04     | 22            | 40      | 24.28    |
| A-136   | 102            | 26      | 25.19    | 22            | 42      | 4.86     |
| A-137   | 102            | 25      | 24.13    | 22            | 42      | 13.14    |
| A-138   | 102            | 24      | 48.46    | 22            | 42      | 2.05     |
| A-139   | 102            | 24      | 54.50    | 22            | 42      | 15.12    |
| A-140   | 102            | 24      | 29.52    | 22            | 43      | 9.44     |
| A-141   | 102            | 22      | 11.96    | 22            | 42      | 53.35    |
| A-142   | 102            | 22      | 16.97    | 22            | 42      | 18.11    |
| A-143   | 102            | 21      | 51.62    | 22            | 41      | 58.81    |
| A-144   | 102            | 18      | 1.80     | 22            | 42      | 39.28    |
| A-145   | 102            | 15      | 1.04     | 22            | 42      | 13.86    |
| A-146   | 102            | 14      | 5.86     | 22            | 42      | 26.32    |
| A-147   | 102            | 12      | 36.40    | 22            | 42      | 11.63    |
| A-148   | 102            | 12      | 6.62     | 22            | 41      | 51.86    |
| A-149   | 102            | 12      | 7.09     | 22            | 41      | 15.32    |
| A-150   | 102            | 11      | 39.98    | 22            | 40      | 29.35    |
| A-151   | 102            | 11      | 59.42    | 22            | 39      | 48.42    |
| A-152   | 102            | 11      | 1.25     | 22            | 39      | 20.02    |
| A-153   | 102            | 11      | 10.61    | 22            | 38      | 18.02    |
| A-154   | 102            | 10      | 18.19    | 22            | 37      | 23.52    |
| A-155   | 102            | 10      | 31.58    | 22            | 37      | 16.90    |
| A-156   | 102            | 10      | 28.09    | 22            | 36      | 59.94    |
| A-157   | 102            | 10      | 54.05    | 22            | 36      | 51.34    |
| A-158   | 102            | 10      | 42.10    | 22            | 36      | 16.20    |
| A-159   | 102            | 10      | 12.32    | 22            | 36      | 5.44     |
| A-160   | 102            | 9       | 55.62    | 22            | 36      | 19.08    |
| A-161   | 102            | 10      | 40.33    | 22            | 33      | 34.27    |
| A-162   | 102            | 10      | 43.75    | 22            | 32      | 15.79    |
| A-163   | 102            | 10      | 25.75    | 22            | 31      | 45.59    |
| A-164   | 102            | 11      | 28.28    | 22            | 30      | 51.34    |
| A-165   | 102            | 10      | 26.44    | 22            | 30      | 21.46    |
| A-166   | 102            | 10      | 53.80    | 22            | 29      | 34.12    |
| A-167   | 102            | 10      | 45.41    | 22            | 29      | 8.02     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| A-168   | 102            | 10      | 28.63    | 22            | 29      | 0.20     |
| A-169   | 102            | 10      | 40.51    | 22            | 28      | 38.53    |
| A-170   | 102            | 10      | 1.13     | 22            | 28      | 18.48    |
| A-171   | 102            | 9       | 47.09    | 22            | 27      | 43.81    |
| A-172   | 102            | 9       | 12.17    | 22            | 27      | 37.15    |
| A-173   | 102            | 9       | 14.15    | 22            | 28      | 1.42     |
| A-174   | 102            | 8       | 45.28    | 22            | 28      | 18.23    |
| A-175   | 102            | 8       | 0.78     | 22            | 28      | 5.70     |

II.- CUENCA HIDROLOGICA PRESA CALLES: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 0.10 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).

El volumen disponible que se señala en el párrafo anterior, comprende desde el nacimiento del Río Santiago, hasta donde se localiza la Presa Plutarco Elías Calles.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Presa Calles tiene una superficie de aportación de 592.3 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por la cuenca hidrológica Río San Pedro, al Sur por la cuenca hidrológica Presa El Niágara, al Este por las cuencas hidrológicas Río San Pedro y Presa El Niágara y al Oeste por las cuencas hidrológicas Presa El Chique y Río Juchipila 1. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| B-1     | 102            | 24      | 13.25    | 22            | 2       | 1.97     |
| B-2     | 102            | 25      | 5.70     | 22            | 1       | 28.45    |
| B-3     | 102            | 25      | 20.96    | 22            | 0       | 11.16    |
| B-4     | 102            | 26      | 11.51    | 21            | 59      | 52.84    |
| B-5     | 102            | 26      | 39.52    | 21            | 59      | 20.47    |
| B-6     | 102            | 27      | 6.01     | 21            | 59      | 16.04    |
| B-7     | 102            | 27      | 11.99    | 21            | 58      | 57.68    |
| B-8     | 102            | 27      | 37.12    | 21            | 59      | 17.70    |
| B-9     | 102            | 27      | 33.34    | 21            | 59      | 52.12    |
| B-10    | 102            | 27      | 58.46    | 21            | 59      | 59.03    |
| B-11    | 102            | 28      | 33.96    | 21            | 59      | 46.03    |
| B-12    | 102            | 28      | 51.13    | 21            | 59      | 10.86    |
| B-13    | 102            | 29      | 27.92    | 21            | 59      | 14.75    |
| B-14    | 102            | 30      | 2.48     | 21            | 59      | 2.98     |
| B-15    | 102            | 30      | 45.50    | 21            | 58      | 22.26    |
| B-16    | 102            | 31      | 16.00    | 21            | 58      | 26.69    |
| B-17    | 102            | 31      | 37.24    | 21            | 58      | 15.28    |
| B-18    | 102            | 32      | 33.14    | 21            | 58      | 46.67    |
| B-19    | 102            | 33      | 9.76     | 21            | 58      | 48.18    |
| B-20    | 102            | 33      | 21.53    | 21            | 58      | 37.24    |
| B-21    | 102            | 33      | 27.25    | 21            | 59      | 34.76    |
| B-22    | 102            | 33      | 41.51    | 21            | 59      | 40.78    |
| B-23    | 102            | 33      | 57.60    | 21            | 59      | 22.13    |
| B-24    | 102            | 34      | 49.76    | 21            | 59      | 46.93    |
| B-25    | 102            | 35      | 28.07    | 22            | 1       | 12.07    |
| B-26    | 102            | 35      | 16.98    | 22            | 1       | 28.99    |
| B-27    | 102            | 35      | 50.89    | 22            | 1       | 29.03    |
| B-28    | 102            | 35      | 59.35    | 22            | 2       | 17.48    |
| B-29    | 102            | 36      | 18.79    | 22            | 2       | 31.42    |
| B-30    | 102            | 35      | 37.54    | 22            | 3       | 28.94    |
| B-31    | 102            | 35      | 39.88    | 22            | 3       | 59.08    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| B-32    | 102            | 35      | 22.20    | 22            | 4       | 32.52    |
| B-33    | 102            | 35      | 30.12    | 22            | 4       | 56.03    |
| B-34    | 102            | 35      | 19.07    | 22            | 5       | 35.34    |
| B-35    | 102            | 35      | 51.40    | 22            | 6       | 30.28    |
| B-36    | 102            | 35      | 24.40    | 22            | 7       | 9.59     |
| B-37    | 102            | 35      | 53.95    | 22            | 7       | 35.58    |
| B-38    | 102            | 35      | 54.13    | 22            | 8       | 25.62    |
| B-39    | 102            | 35      | 30.95    | 22            | 8       | 57.77    |
| B-40    | 102            | 35      | 42.72    | 22            | 10      | 11.50    |
| B-41    | 102            | 35      | 26.88    | 22            | 10      | 54.34    |
| B-42    | 102            | 36      | 12.28    | 22            | 10      | 55.09    |
| B-43    | 102            | 36      | 20.41    | 22            | 11      | 19.25    |
| B-44    | 102            | 37      | 11.86    | 22            | 11      | 44.70    |
| B-45    | 102            | 37      | 37.49    | 22            | 11      | 43.19    |
| B-46    | 102            | 38      | 15.65    | 22            | 12      | 3.06     |
| B-47    | 102            | 38      | 22.20    | 22            | 11      | 51.97    |
| B-48    | 102            | 38      | 35.95    | 22            | 11      | 53.70    |
| B-49    | 102            | 38      | 40.92    | 22            | 12      | 37.44    |
| B-50    | 102            | 38      | 54.78    | 22            | 12      | 42.23    |
| B-51    | 102            | 38      | 57.12    | 22            | 12      | 58.00    |
| B-52    | 102            | 38      | 48.73    | 22            | 13      | 14.66    |
| B-53    | 102            | 38      | 23.46    | 22            | 13      | 18.59    |
| B-54    | 102            | 38      | 13.78    | 22            | 13      | 35.54    |
| B-55    | 102            | 38      | 24.72    | 22            | 13      | 55.27    |
| B-56    | 102            | 38      | 10.93    | 22            | 14      | 13.02    |
| B-57    | 102            | 38      | 33.36    | 22            | 14      | 28.64    |
| B-58    | 102            | 36      | 39.24    | 22            | 16      | 4.44     |
| B-59    | 102            | 36      | 40.10    | 22            | 16      | 18.37    |
| B-60    | 102            | 36      | 26.28    | 22            | 16      | 25.36    |
| A-82    | 102            | 36      | 26.35    | 22            | 16      | 53.08    |
| A-81    | 102            | 36      | 18.11    | 22            | 17      | 26.16    |
| A-80    | 102            | 35      | 7.51     | 22            | 17      | 2.33     |
| A-79    | 102            | 34      | 52.57    | 22            | 16      | 37.92    |
| A-78    | 102            | 34      | 58.37    | 22            | 15      | 38.30    |
| A-77    | 102            | 34      | 20.32    | 22            | 14      | 30.01    |
| A-76    | 102            | 33      | 30.53    | 22            | 14      | 19.07    |
| A-75    | 102            | 32      | 15.72    | 22            | 14      | 33.54    |
| A-74    | 102            | 31      | 49.66    | 22            | 14      | 18.31    |
| A-73    | 102            | 30      | 22.14    | 22            | 14      | 55.43    |
| A-72    | 102            | 29      | 11.04    | 22            | 14      | 31.13    |
| A-71    | 102            | 28      | 45.05    | 22            | 14      | 42.83    |
| A-70    | 102            | 28      | 33.89    | 22            | 14      | 25.98    |
| A-69    | 102            | 27      | 9.83     | 22            | 14      | 7.40     |
| A-68    | 102            | 26      | 59.39    | 22            | 13      | 41.12    |
| A-67    | 102            | 26      | 14.17    | 22            | 13      | 48.47    |
| A-66    | 102            | 24      | 45.25    | 22            | 12      | 48.38    |
| A-65    | 102            | 23      | 15.22    | 22            | 12      | 25.81    |
| A-64    | 102            | 22      | 7.90     | 22            | 11      | 28.54    |
| A-63    | 102            | 22      | 10.67    | 22            | 10      | 48.00    |
| A-62    | 102            | 22      | 41.48    | 22            | 10      | 36.77    |
| A-61    | 102            | 23      | 8.66     | 22            | 9       | 30.17    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| A-60    | 102            | 22      | 46.20    | 22            | 8       | 29.47    |
| A-59    | 102            | 23      | 46.43    | 22            | 8       | 17.48    |
| A-58    | 102            | 25      | 1.78     | 22            | 8       | 28.68    |
| A-57    | 102            | 25      | 5.88     | 22            | 8       | 19.86    |
| A-56    | 102            | 24      | 14.36    | 22            | 7       | 46.63    |
| A-55    | 102            | 24      | 48.42    | 22            | 7       | 20.68    |
| A-54    | 102            | 24      | 9.32     | 22            | 5       | 46.82    |
| A-53    | 102            | 24      | 11.63    | 22            | 5       | 16.40    |
| A-52    | 102            | 24      | 29.99    | 22            | 5       | 11.90    |
| A-51    | 102            | 24      | 18.11    | 22            | 4       | 26.29    |
| A-50    | 102            | 24      | 26.64    | 22            | 4       | 4.19     |
| A-49    | 102            | 23      | 45.85    | 22            | 3       | 38.20    |
| A-48    | 102            | 23      | 26.34    | 22            | 3       | 7.24     |

**III.- CUENCA HIDROLOGICA PRESA EL NIAGARA: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 0.43 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde la estación climatológica San Francisco de los Romo y la Presa Plutarco Elías Calles, hasta donde se localiza la Presa El Niágara.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Presa El Niágara, tiene una superficie de aportación de 2,322.9 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por la región hidrológica número 37 El Salado y por la cuenca hidrológica Río San Pedro, al Sur por las cuencas hidrológicas Río Encarnación y Presa Ajojuar, al Este por la región hidrológica número 37 El Salado y al Oeste por las cuencas hidrológicas Presa Calles y Río Juchipila 1. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| C-1     | 101            | 49      | 7.36     | 21            | 55      | 57.83    |
| C-2     | 101            | 49      | 28.27    | 21            | 56      | 7.80     |
| C-3     | 101            | 50      | 7.87     | 21            | 55      | 55.88    |
| C-4     | 101            | 52      | 31.40    | 21            | 56      | 34.40    |
| C-5     | 101            | 52      | 44.44    | 21            | 56      | 3.66     |
| C-6     | 101            | 53      | 26.05    | 21            | 55      | 47.64    |
| C-7     | 101            | 54      | 10.08    | 21            | 56      | 55.79    |
| C-8     | 101            | 54      | 18.11    | 21            | 56      | 55.43    |
| C-9     | 101            | 54      | 7.09     | 21            | 57      | 21.31    |
| C-10    | 101            | 54      | 27.90    | 21            | 58      | 13.51    |
| C-11    | 101            | 54      | 52.20    | 21            | 58      | 25.10    |
| C-12    | 101            | 55      | 17.29    | 21            | 58      | 8.33     |
| C-13    | 101            | 55      | 44.72    | 21            | 58      | 9.01     |
| C-14    | 101            | 56      | 3.26     | 21            | 58      | 34.86    |
| C-15    | 101            | 55      | 50.88    | 21            | 58      | 48.47    |
| C-16    | 101            | 56      | 3.34     | 21            | 58      | 49.84    |
| C-17    | 101            | 56      | 2.08     | 21            | 59      | 17.95    |
| C-18    | 101            | 57      | 11.09    | 21            | 59      | 40.56    |
| C-19    | 101            | 57      | 40.57    | 22            | 0       | 4.86     |
| C-20    | 101            | 57      | 25.42    | 22            | 0       | 19.55    |
| C-21    | 101            | 57      | 37.04    | 22            | 0       | 38.34    |
| C-22    | 101            | 59      | 1.46     | 22            | 0       | 38.77    |
| C-23    | 102            | 0       | 31.14    | 22            | 1       | 28.09    |
| C-24    | 102            | 1       | 55.38    | 22            | 1       | 31.76    |
| C-25    | 102            | 2       | 15.97    | 22            | 1       | 18.80    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| C-26    | 102            | 3       | 4.93     | 22            | 0       | 1.69     |
| C-27    | 102            | 3       | 24.70    | 21            | 57      | 53.21    |
| C-28    | 102            | 3       | 53.03    | 21            | 57      | 11.70    |
| C-29    | 102            | 3       | 22.82    | 21            | 56      | 7.40     |
| C-30    | 102            | 3       | 30.17    | 21            | 55      | 5.88     |
| C-31    | 102            | 4       | 11.75    | 21            | 54      | 22.07    |
| C-32    | 102            | 4       | 33.89    | 21            | 53      | 5.96     |
| C-33    | 102            | 6       | 2.20     | 21            | 52      | 30.22    |
| C-34    | 102            | 7       | 59.20    | 21            | 51      | 19.87    |
| C-35    | 102            | 9       | 41.44    | 21            | 50      | 33.79    |
| C-36    | 102            | 11      | 15.04    | 21            | 48      | 45.43    |
| C-37    | 102            | 12      | 13.46    | 21            | 47      | 56.76    |
| C-38    | 102            | 13      | 22.40    | 21            | 47      | 26.34    |
| C-39    | 102            | 14      | 13.27    | 21            | 47      | 33.47    |
| C-40    | 102            | 14      | 32.57    | 21            | 47      | 51.32    |
| C-41    | 102            | 15      | 22.14    | 21            | 48      | 1.40     |
| C-42    | 102            | 18      | 51.59    | 21            | 49      | 17.69    |
| C-43    | 102            | 18      | 59.65    | 21            | 48      | 58.21    |
| C-44    | 102            | 19      | 43.61    | 21            | 48      | 49.61    |
| C-45    | 102            | 20      | 16.19    | 21            | 48      | 24.23    |
| C-46    | 102            | 20      | 41.50    | 21            | 48      | 32.83    |
| C-47    | 102            | 21      | 11.23    | 21            | 47      | 1.21     |
| C-48    | 102            | 21      | 57.42    | 21            | 46      | 42.89    |
| C-49    | 102            | 22      | 17.08    | 21            | 46      | 46.09    |
| C-50    | 102            | 22      | 50.05    | 21            | 47      | 28.50    |
| C-51    | 102            | 23      | 35.70    | 21            | 47      | 28.25    |
| C-52    | 102            | 24      | 12.20    | 21            | 47      | 8.12     |
| C-53    | 102            | 25      | 48.54    | 21            | 47      | 56.11    |
| C-54    | 102            | 25      | 57.61    | 21            | 48      | 15.12    |
| C-55    | 102            | 25      | 53.33    | 21            | 48      | 38.88    |
| C-56    | 102            | 25      | 25.82    | 21            | 49      | 17.11    |
| C-57    | 102            | 25      | 48.07    | 21            | 49      | 29.28    |
| C-58    | 102            | 25      | 44.87    | 21            | 50      | 6.97     |
| C-59    | 102            | 25      | 57.40    | 21            | 50      | 20.72    |
| C-60    | 102            | 25      | 59.48    | 21            | 50      | 41.46    |
| C-61    | 102            | 26      | 9.53     | 21            | 51      | 5.72     |
| C-62    | 102            | 26      | 38.22    | 21            | 51      | 21.20    |
| C-63    | 102            | 27      | 15.44    | 21            | 51      | 24.19    |
| C-64    | 102            | 27      | 47.30    | 21            | 51      | 53.39    |
| C-65    | 102            | 29      | 46.14    | 21            | 52      | 39.72    |
| C-66    | 102            | 30      | 18.40    | 21            | 53      | 26.81    |
| C-67    | 102            | 30      | 44.71    | 21            | 53      | 34.66    |
| C-68    | 102            | 31      | 9.84     | 21            | 53      | 56.44    |
| C-69    | 102            | 31      | 43.57    | 21            | 54      | 0.83     |
| C-70    | 102            | 32      | 3.84     | 21            | 55      | 20.42    |
| C-71    | 102            | 33      | 6.70     | 21            | 55      | 21.04    |
| C-72    | 102            | 33      | 42.05    | 21            | 55      | 10.27    |
| C-73    | 102            | 34      | 26.72    | 21            | 55      | 50.30    |
| C-74    | 102            | 34      | 41.52    | 21            | 55      | 49.80    |
| C-75    | 102            | 34      | 55.27    | 21            | 56      | 15.72    |
| C-76    | 102            | 35      | 36.56    | 21            | 56      | 45.38    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| C-77    | 102            | 35      | 33.18    | 21            | 57      | 23.47    |
| C-78    | 102            | 34      | 39.43    | 21            | 58      | 17.04    |
| C-79    | 102            | 34      | 41.41    | 21            | 58      | 53.40    |
| C-80    | 102            | 34      | 6.17     | 21            | 58      | 59.88    |
| B-23    | 102            | 33      | 57.60    | 21            | 59      | 22.13    |
| B-22    | 102            | 33      | 41.51    | 21            | 59      | 40.78    |
| B-21    | 102            | 33      | 27.25    | 21            | 59      | 34.76    |
| B-20    | 102            | 33      | 21.53    | 21            | 58      | 37.24    |
| B-19    | 102            | 33      | 9.76     | 21            | 58      | 48.18    |
| B-18    | 102            | 32      | 33.14    | 21            | 58      | 46.67    |
| B-17    | 102            | 31      | 37.24    | 21            | 58      | 15.28    |
| B-16    | 102            | 31      | 16.00    | 21            | 58      | 26.69    |
| B-15    | 102            | 30      | 45.50    | 21            | 58      | 22.26    |
| B-14    | 102            | 30      | 2.48     | 21            | 59      | 2.98     |
| B-13    | 102            | 29      | 27.92    | 21            | 59      | 14.75    |
| B-12    | 102            | 28      | 51.13    | 21            | 59      | 10.86    |
| B-11    | 102            | 28      | 33.96    | 21            | 59      | 46.03    |
| B-10    | 102            | 27      | 58.46    | 21            | 59      | 59.03    |
| B-9     | 102            | 27      | 33.34    | 21            | 59      | 52.12    |
| B-8     | 102            | 27      | 37.12    | 21            | 59      | 17.70    |
| B-7     | 102            | 27      | 11.99    | 21            | 58      | 57.68    |
| B-6     | 102            | 27      | 6.01     | 21            | 59      | 16.04    |
| B-5     | 102            | 26      | 39.52    | 21            | 59      | 20.47    |
| B-4     | 102            | 26      | 11.51    | 21            | 59      | 52.84    |
| B-3     | 102            | 25      | 20.96    | 22            | 0       | 11.16    |
| B-2     | 102            | 25      | 5.70     | 22            | 1       | 28.45    |
| B-1     | 102            | 24      | 13.25    | 22            | 2       | 1.97     |
| A-48    | 102            | 23      | 26.34    | 22            | 3       | 7.24     |
| A-47    | 102            | 22      | 58.94    | 22            | 3       | 34.09    |
| A-46    | 102            | 22      | 45.48    | 22            | 4       | 42.56    |
| A-45    | 102            | 22      | 55.85    | 22            | 5       | 21.16    |
| A-44    | 102            | 22      | 23.92    | 22            | 5       | 29.11    |
| A-43    | 102            | 22      | 20.93    | 22            | 5       | 58.24    |
| A-42    | 102            | 21      | 24.30    | 22            | 6       | 15.08    |
| A-41    | 102            | 21      | 16.45    | 22            | 5       | 12.37    |
| A-40    | 102            | 20      | 42.54    | 22            | 5       | 22.20    |
| A-39    | 102            | 19      | 39.90    | 22            | 4       | 57.47    |
| A-38    | 102            | 14      | 58.13    | 22            | 4       | 48.86    |
| A-37    | 102            | 12      | 33.34    | 22            | 4       | 9.05     |
| A-36    | 102            | 11      | 38.44    | 22            | 4       | 17.29    |
| A-35    | 102            | 9       | 47.84    | 22            | 5       | 54.64    |
| A-34    | 102            | 9       | 18.29    | 22            | 7       | 3.29     |
| A-33    | 102            | 9       | 26.60    | 22            | 7       | 37.99    |
| A-32    | 102            | 7       | 22.87    | 22            | 8       | 17.56    |
| A-31    | 102            | 7       | 29.46    | 22            | 9       | 41.36    |
| A-30    | 102            | 7       | 59.12    | 22            | 10      | 58.91    |
| A-29    | 102            | 7       | 38.35    | 22            | 11      | 21.34    |
| A-28    | 102            | 8       | 1.54     | 22            | 11      | 39.44    |
| A-27    | 102            | 7       | 47.93    | 22            | 12      | 18.83    |
| A-26    | 102            | 7       | 56.46    | 22            | 12      | 26.06    |
| A-25    | 102            | 7       | 4.62     | 22            | 12      | 46.04    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| C-81    | 102            | 6       | 56.45    | 22            | 12      | 45.54    |
| C-82    | 102            | 6       | 47.92    | 22            | 12      | 55.80    |
| C-83    | 102            | 5       | 55.25    | 22            | 13      | 18.08    |
| C-84    | 102            | 5       | 24.47    | 22            | 13      | 41.77    |
| C-85    | 102            | 5       | 19.28    | 22            | 13      | 59.88    |
| C-86    | 102            | 4       | 53.83    | 22            | 14      | 20.98    |
| C-87    | 102            | 4       | 9.16     | 22            | 13      | 54.66    |
| C-88    | 102            | 2       | 44.23    | 22            | 14      | 24.43    |
| C-89    | 102            | 1       | 52.90    | 22            | 14      | 20.76    |
| C-90    | 102            | 0       | 55.01    | 22            | 14      | 33.25    |
| C-91    | 101            | 58      | 57.50    | 22            | 15      | 56.05    |
| C-92    | 101            | 58      | 0.44     | 22            | 16      | 51.53    |
| C-93    | 101            | 56      | 50.57    | 22            | 17      | 5.35     |
| C-94    | 101            | 56      | 29.44    | 22            | 17      | 19.68    |
| C-95    | 101            | 55      | 52.86    | 22            | 17      | 24.43    |
| C-96    | 101            | 55      | 46.85    | 22            | 17      | 33.43    |
| C-97    | 101            | 55      | 52.86    | 22            | 18      | 25.70    |
| C-98    | 101            | 55      | 50.74    | 22            | 18      | 38.63    |
| C-99    | 101            | 55      | 36.23    | 22            | 18      | 58.28    |
| C-100   | 101            | 55      | 40.12    | 22            | 19      | 21.90    |
| C-101   | 101            | 55      | 0.23     | 22            | 20      | 2.65     |
| C-102   | 101            | 54      | 18.25    | 22            | 19      | 33.10    |
| C-103   | 101            | 54      | 10.40    | 22            | 19      | 39.58    |
| C-104   | 101            | 53      | 28.64    | 22            | 21      | 7.52     |
| C-105   | 101            | 53      | 31.63    | 22            | 21      | 35.89    |
| C-106   | 101            | 52      | 57.29    | 22            | 22      | 7.07     |
| C-107   | 101            | 53      | 26.38    | 22            | 22      | 57.18    |
| C-108   | 101            | 53      | 32.03    | 22            | 23      | 32.82    |
| C-109   | 101            | 53      | 19.64    | 22            | 23      | 55.07    |
| C-110   | 101            | 53      | 6.54     | 22            | 23      | 54.89    |
| C-111   | 101            | 52      | 36.41    | 22            | 23      | 29.36    |
| C-112   | 101            | 52      | 13.26    | 22            | 22      | 43.07    |
| C-113   | 101            | 52      | 0.19     | 22            | 21      | 20.92    |
| C-114   | 101            | 51      | 32.29    | 22            | 20      | 33.58    |
| C-115   | 101            | 51      | 27.29    | 22            | 20      | 6.29     |
| C-116   | 101            | 51      | 54.14    | 22            | 19      | 41.88    |
| C-117   | 101            | 51      | 57.53    | 22            | 19      | 27.34    |
| C-118   | 101            | 51      | 49.18    | 22            | 18      | 54.36    |
| C-119   | 101            | 51      | 22.97    | 22            | 18      | 13.32    |
| C-120   | 101            | 51      | 4.90     | 22            | 18      | 1.33     |
| C-121   | 101            | 50      | 11.15    | 22            | 17      | 49.45    |
| C-122   | 101            | 48      | 39.24    | 22            | 16      | 34.00    |
| C-123   | 101            | 46      | 50.99    | 22            | 15      | 22.39    |
| C-124   | 101            | 46      | 57.61    | 22            | 14      | 43.48    |
| C-125   | 101            | 47      | 25.55    | 22            | 14      | 20.18    |
| C-126   | 101            | 48      | 12.10    | 22            | 12      | 56.30    |
| C-127   | 101            | 49      | 0.55     | 22            | 12      | 2.09     |
| C-128   | 101            | 49      | 6.38     | 22            | 11      | 28.43    |
| C-129   | 101            | 48      | 0.90     | 22            | 11      | 17.70    |
| C-130   | 101            | 47      | 53.81    | 22            | 11      | 4.38     |
| C-131   | 101            | 48      | 39.31    | 22            | 10      | 29.53    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| C-132   | 101            | 48      | 47.05    | 22            | 8       | 59.32    |
| C-133   | 101            | 49      | 14.59    | 22            | 8       | 14.82    |
| C-134   | 101            | 49      | 7.10     | 22            | 7       | 25.25    |
| C-135   | 101            | 48      | 51.66    | 22            | 7       | 20.24    |
| C-136   | 101            | 48      | 46.26    | 22            | 7       | 1.49     |
| C-137   | 101            | 47      | 51.47    | 22            | 6       | 57.17    |
| C-138   | 101            | 47      | 38.36    | 22            | 6       | 50.80    |
| C-139   | 101            | 47      | 36.89    | 22            | 6       | 40.90    |
| C-140   | 101            | 47      | 5.14     | 22            | 6       | 33.37    |
| C-141   | 101            | 46      | 43.43    | 22            | 7       | 8.40     |
| C-142   | 101            | 45      | 51.55    | 22            | 7       | 3.36     |
| C-143   | 101            | 45      | 28.01    | 22            | 6       | 21.06    |
| C-144   | 101            | 45      | 0.79     | 22            | 6       | 2.34     |
| C-145   | 101            | 45      | 37.62    | 22            | 5       | 51.61    |
| C-146   | 101            | 45      | 35.96    | 22            | 5       | 37.46    |
| C-147   | 101            | 45      | 44.96    | 22            | 5       | 20.76    |
| C-148   | 101            | 45      | 38.30    | 22            | 5       | 15.11    |
| C-149   | 101            | 45      | 41.33    | 22            | 4       | 59.34    |
| C-150   | 101            | 45      | 52.99    | 22            | 4       | 49.98    |
| C-151   | 101            | 45      | 59.40    | 22            | 3       | 57.67    |
| C-152   | 101            | 46      | 11.06    | 22            | 3       | 43.31    |
| C-153   | 101            | 46      | 4.15     | 22            | 3       | 29.81    |
| C-154   | 101            | 46      | 6.38     | 22            | 2       | 59.71    |
| C-155   | 101            | 46      | 14.41    | 22            | 2       | 41.71    |
| C-156   | 101            | 46      | 8.51     | 22            | 2       | 36.74    |
| C-157   | 101            | 46      | 7.03     | 22            | 2       | 17.05    |
| C-158   | 101            | 46      | 12.14    | 22            | 1       | 44.00    |
| C-159   | 101            | 47      | 24.79    | 22            | 0       | 19.94    |
| C-160   | 101            | 47      | 50.14    | 21            | 59      | 22.20    |
| C-161   | 101            | 47      | 12.91    | 21            | 57      | 57.89    |
| C-162   | 101            | 47      | 47.69    | 21            | 57      | 1.55     |
| C-163   | 101            | 48      | 40.75    | 21            | 57      | 6.91     |
| C-164   | 101            | 48      | 25.09    | 21            | 55      | 59.12    |

IV.- CUENCA HIDROLOGICA PRESA EL CUARENTA: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 0.41 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).

El volumen disponible que se señala en el párrafo anterior, comprende desde el nacimiento del Río de Lagos hasta donde se localiza la Presa El Cuarenta.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Presa El Cuarenta tiene una superficie de aportación de 2,267.4 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por región hidrológica número 37 Salado, al Sur por la subregión hidrológica Lerma-Chapala, al Este por la región hidrológica número 26 Pánuco y la subregión hidrológica Lerma-Chapala y al Oeste por las cuencas hidrológicas Río de Lagos y Río Encarnación. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| D-1     | 101            | 38      | 43.66    | 21            | 20      | 17.48    |
| D-2     | 101            | 38      | 27.20    | 21            | 20      | 33.97    |
| D-3     | 101            | 38      | 37.00    | 21            | 20      | 40.42    |
| D-4     | 101            | 38      | 33.68    | 21            | 21      | 16.06    |
| D-5     | 101            | 39      | 4.46     | 21            | 21      | 43.78    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| D-6     | 101            | 39      | 15.95    | 21            | 22      | 24.56    |
| D-7     | 101            | 39      | 57.53    | 21            | 22      | 34.82    |
| D-8     | 101            | 40      | 40.55    | 21            | 23      | 21.16    |
| D-9     | 101            | 41      | 4.81     | 21            | 23      | 28.54    |
| D-10    | 101            | 40      | 52.93    | 21            | 23      | 56.54    |
| D-11    | 101            | 41      | 10.32    | 21            | 24      | 44.24    |
| D-12    | 101            | 40      | 37.99    | 21            | 25      | 1.78     |
| D-13    | 101            | 40      | 32.52    | 21            | 25      | 29.93    |
| D-14    | 101            | 40      | 7.82     | 21            | 25      | 44.76    |
| D-15    | 101            | 39      | 56.74    | 21            | 26      | 17.30    |
| D-16    | 101            | 40      | 14.77    | 21            | 26      | 28.79    |
| D-17    | 101            | 39      | 31.72    | 21            | 27      | 0.86     |
| D-18    | 101            | 39      | 44.21    | 21            | 27      | 18.25    |
| D-19    | 101            | 40      | 54.44    | 21            | 27      | 40.14    |
| D-20    | 101            | 41      | 20.11    | 21            | 28      | 9.59     |
| D-21    | 101            | 42      | 5.44     | 21            | 28      | 11.42    |
| D-22    | 101            | 42      | 11.38    | 21            | 29      | 5.96     |
| D-23    | 101            | 43      | 36.95    | 21            | 29      | 21.66    |
| D-24    | 101            | 44      | 8.56     | 21            | 29      | 7.12     |
| D-25    | 101            | 44      | 4.81     | 21            | 29      | 30.41    |
| D-26    | 101            | 44      | 20.58    | 21            | 29      | 55.46    |
| D-27    | 101            | 44      | 10.72    | 21            | 31      | 15.31    |
| D-28    | 101            | 43      | 46.38    | 21            | 31      | 47.82    |
| D-29    | 101            | 43      | 50.74    | 21            | 33      | 27.86    |
| D-30    | 101            | 43      | 26.62    | 21            | 33      | 49.75    |
| D-31    | 101            | 43      | 31.69    | 21            | 34      | 10.67    |
| D-32    | 101            | 43      | 6.38     | 21            | 35      | 7.22     |
| D-33    | 101            | 42      | 19.48    | 21            | 35      | 50.46    |
| D-34    | 101            | 42      | 16.88    | 21            | 36      | 26.86    |
| D-35    | 101            | 42      | 38.12    | 21            | 36      | 57.28    |
| D-36    | 101            | 42      | 4.90     | 21            | 37      | 39.11    |
| D-37    | 101            | 43      | 1.92     | 21            | 37      | 51.02    |
| D-38    | 101            | 43      | 54.26    | 21            | 37      | 37.38    |
| D-39    | 101            | 44      | 48.26    | 21            | 37      | 52.28    |
| D-40    | 101            | 45      | 28.69    | 21            | 37      | 45.12    |
| D-41    | 101            | 45      | 27.50    | 21            | 38      | 6.90     |
| D-42    | 101            | 44      | 48.95    | 21            | 38      | 45.92    |
| D-43    | 101            | 45      | 3.35     | 21            | 39      | 9.43     |
| D-44    | 101            | 45      | 7.31     | 21            | 40      | 11.89    |
| D-45    | 101            | 44      | 2.90     | 21            | 40      | 19.78    |
| D-46    | 101            | 43      | 28.27    | 21            | 40      | 42.02    |
| D-47    | 101            | 44      | 4.49     | 21            | 41      | 30.41    |
| D-48    | 101            | 44      | 0.96     | 21            | 41      | 53.52    |
| D-49    | 101            | 43      | 16.14    | 21            | 41      | 40.16    |
| D-50    | 101            | 42      | 44.82    | 21            | 42      | 9.68     |
| D-51    | 101            | 42      | 14.87    | 21            | 42      | 6.34     |
| D-52    | 101            | 42      | 3.31     | 21            | 43      | 31.55    |
| D-53    | 101            | 42      | 17.50    | 21            | 44      | 27.92    |
| D-54    | 101            | 40      | 42.92    | 21            | 46      | 11.32    |
| D-55    | 101            | 40      | 37.74    | 21            | 46      | 28.60    |
| D-56    | 101            | 41      | 2.18     | 21            | 46      | 55.67    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| D-57    | 101            | 40      | 13.80    | 21            | 47      | 3.55     |
| D-58    | 101            | 41      | 3.62     | 21            | 48      | 1.58     |
| D-59    | 101            | 40      | 41.56    | 21            | 48      | 44.03    |
| D-60    | 101            | 40      | 8.76     | 21            | 49      | 21.54    |
| D-61    | 101            | 39      | 2.16     | 21            | 50      | 0.92     |
| D-62    | 101            | 37      | 49.08    | 21            | 49      | 42.31    |
| D-63    | 101            | 32      | 40.02    | 21            | 49      | 34.39    |
| D-64    | 101            | 31      | 48.47    | 21            | 50      | 18.89    |
| D-65    | 101            | 32      | 14.64    | 21            | 51      | 7.34     |
| D-66    | 101            | 31      | 58.94    | 21            | 52      | 5.56     |
| D-67    | 101            | 28      | 27.62    | 21            | 53      | 12.16    |
| D-68    | 101            | 24      | 52.70    | 21            | 54      | 57.67    |
| D-69    | 101            | 24      | 13.21    | 21            | 54      | 16.88    |
| D-70    | 101            | 23      | 46.82    | 21            | 51      | 41.44    |
| D-71    | 101            | 19      | 51.49    | 21            | 51      | 2.16     |
| D-72    | 101            | 18      | 54.68    | 21            | 50      | 27.64    |
| D-73    | 101            | 18      | 21.35    | 21            | 49      | 42.17    |
| D-74    | 101            | 18      | 42.55    | 21            | 49      | 19.16    |
| D-75    | 101            | 18      | 20.88    | 21            | 48      | 48.38    |
| D-76    | 101            | 16      | 51.71    | 21            | 47      | 48.73    |
| D-77    | 101            | 17      | 10.39    | 21            | 47      | 30.08    |
| D-78    | 101            | 16      | 39.25    | 21            | 46      | 42.28    |
| D-79    | 101            | 17      | 42.97    | 21            | 45      | 35.06    |
| D-80    | 101            | 18      | 3.78     | 21            | 44      | 25.48    |
| D-81    | 101            | 16      | 58.76    | 21            | 43      | 52.14    |
| D-82    | 101            | 16      | 2.32     | 21            | 41      | 52.94    |
| D-83    | 101            | 16      | 35.58    | 21            | 41      | 21.26    |
| D-84    | 101            | 16      | 50.20    | 21            | 39      | 42.23    |
| D-85    | 101            | 16      | 23.56    | 21            | 38      | 20.26    |
| D-86    | 101            | 17      | 8.16     | 21            | 38      | 8.99     |
| D-87    | 101            | 18      | 34.96    | 21            | 38      | 14.96    |
| D-88    | 101            | 19      | 24.56    | 21            | 37      | 35.65    |
| D-89    | 101            | 19      | 7.93     | 21            | 36      | 57.35    |
| D-90    | 101            | 19      | 28.27    | 21            | 36      | 28.58    |
| D-91    | 101            | 19      | 58.40    | 21            | 36      | 22.72    |
| D-92    | 101            | 20      | 20.44    | 21            | 36      | 46.69    |
| D-93    | 101            | 20      | 36.82    | 21            | 36      | 45.65    |
| D-94    | 101            | 20      | 55.64    | 21            | 36      | 33.23    |
| D-95    | 101            | 20      | 45.38    | 21            | 36      | 10.91    |
| D-96    | 101            | 21      | 29.48    | 21            | 35      | 57.48    |
| D-97    | 101            | 21      | 44.03    | 21            | 34      | 54.66    |
| D-98    | 101            | 21      | 6.77     | 21            | 33      | 51.37    |
| D-99    | 101            | 20      | 20.33    | 21            | 33      | 30.38    |
| D-100   | 101            | 20      | 37.75    | 21            | 32      | 49.60    |
| D-101   | 101            | 20      | 1.79     | 21            | 31      | 17.87    |
| D-102   | 101            | 20      | 46.93    | 21            | 30      | 47.30    |
| D-103   | 101            | 20      | 20.51    | 21            | 30      | 5.18     |
| D-104   | 101            | 19      | 47.10    | 21            | 29      | 55.54    |
| D-105   | 101            | 19      | 50.05    | 21            | 29      | 29.90    |
| D-106   | 101            | 19      | 33.71    | 21            | 29      | 16.15    |
| D-107   | 101            | 20      | 1.50     | 21            | 29      | 15.50    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| D-108   | 101            | 20      | 7.55     | 21            | 29      | 32.42    |
| D-109   | 101            | 23      | 3.23     | 21            | 29      | 49.92    |
| D-110   | 101            | 23      | 16.04    | 21            | 28      | 33.85    |
| D-111   | 101            | 24      | 2.02     | 21            | 27      | 59.29    |
| D-112   | 101            | 24      | 30.24    | 21            | 27      | 13.57    |
| D-113   | 101            | 23      | 49.49    | 21            | 26      | 23.64    |
| D-114   | 101            | 24      | 23.58    | 21            | 25      | 44.44    |
| D-115   | 101            | 24      | 0.61     | 21            | 24      | 51.91    |
| D-116   | 101            | 24      | 29.99    | 21            | 23      | 37.14    |
| D-117   | 101            | 24      | 21.67    | 21            | 23      | 8.99     |
| D-118   | 101            | 23      | 59.03    | 21            | 23      | 3.70     |
| D-119   | 101            | 24      | 7.34     | 21            | 20      | 21.88    |
| D-120   | 101            | 23      | 6.32     | 21            | 19      | 52.75    |
| D-121   | 101            | 23      | 24.47    | 21            | 18      | 57.49    |
| D-122   | 101            | 24      | 29.27    | 21            | 18      | 2.74     |
| D-123   | 101            | 25      | 8.11     | 21            | 18      | 15.16    |
| D-124   | 101            | 26      | 11.00    | 21            | 17      | 55.28    |
| D-125   | 101            | 26      | 35.02    | 21            | 17      | 32.86    |
| D-126   | 101            | 27      | 22.64    | 21            | 17      | 52.12    |
| D-127   | 101            | 29      | 23.10    | 21            | 17      | 40.27    |
| D-128   | 101            | 29      | 50.96    | 21            | 16      | 37.52    |
| D-129   | 101            | 29      | 29.72    | 21            | 15      | 49.61    |
| D-130   | 101            | 30      | 32.87    | 21            | 14      | 57.55    |
| D-131   | 101            | 30      | 41.58    | 21            | 14      | 23.93    |
| D-132   | 101            | 30      | 43.67    | 21            | 14      | 49.85    |
| D-133   | 101            | 31      | 34.43    | 21            | 15      | 35.57    |
| D-134   | 101            | 32      | 44.16    | 21            | 15      | 30.64    |
| D-135   | 101            | 32      | 29.69    | 21            | 15      | 42.26    |
| D-136   | 101            | 32      | 35.70    | 21            | 16      | 18.98    |
| D-137   | 101            | 35      | 11.72    | 21            | 17      | 35.77    |
| D-138   | 101            | 35      | 4.99     | 21            | 18      | 38.63    |
| D-139   | 101            | 35      | 24.25    | 21            | 19      | 5.23     |
| D-140   | 101            | 36      | 30.35    | 21            | 19      | 26.29    |
| D-141   | 101            | 36      | 49.64    | 21            | 20      | 5.86     |

V.- CUENCA HIDROLOGICA RIO DE LAGOS: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 1.71 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).

El volumen disponible que se señala en el párrafo anterior, comprende desde la Presa El Cuarenta hasta la confluencia del Río de Lagos con el Río Verde.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río de Lagos tiene una superficie de aportación de 2,794.8 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por las cuencas hidrológicas Río Grande, Río Encarnación y Río Aguascalientes, al Sur por la subregión hidrológica Lerma-Chapala, al Este por la subregión hidrológica Lerma-Chapala y la cuenca hidrológica Presa El Cuarenta y al Oeste por la cuenca hidrológica Río San Miguel. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| D-43    | 101            | 45      | 3.35     | 21            | 39      | 9.43     |
| D-42    | 101            | 44      | 48.95    | 21            | 38      | 45.92    |
| D-41    | 101            | 45      | 27.50    | 21            | 38      | 6.90     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| D-40    | 101            | 45      | 28.69    | 21            | 37      | 45.12    |
| D-39    | 101            | 44      | 48.26    | 21            | 37      | 52.28    |
| D-38    | 101            | 43      | 54.26    | 21            | 37      | 37.38    |
| D-37    | 101            | 43      | 1.92     | 21            | 37      | 51.02    |
| D-36    | 101            | 42      | 4.90     | 21            | 37      | 39.11    |
| D-35    | 101            | 42      | 38.12    | 21            | 36      | 57.28    |
| D-34    | 101            | 42      | 16.88    | 21            | 36      | 26.86    |
| D-33    | 101            | 42      | 19.48    | 21            | 35      | 50.46    |
| D-32    | 101            | 43      | 6.38     | 21            | 35      | 7.22     |
| D-31    | 101            | 43      | 31.69    | 21            | 34      | 10.67    |
| D-30    | 101            | 43      | 26.62    | 21            | 33      | 49.75    |
| D-29    | 101            | 43      | 50.74    | 21            | 33      | 27.86    |
| D-28    | 101            | 43      | 46.38    | 21            | 31      | 47.82    |
| D-27    | 101            | 44      | 10.72    | 21            | 31      | 15.31    |
| D-26    | 101            | 44      | 20.58    | 21            | 29      | 55.46    |
| D-25    | 101            | 44      | 4.81     | 21            | 29      | 30.41    |
| D-24    | 101            | 44      | 8.56     | 21            | 29      | 7.12     |
| D-23    | 101            | 43      | 36.95    | 21            | 29      | 21.66    |
| D-22    | 101            | 42      | 11.38    | 21            | 29      | 5.96     |
| D-21    | 101            | 42      | 5.44     | 21            | 28      | 11.42    |
| D-20    | 101            | 41      | 20.11    | 21            | 28      | 9.59     |
| D-19    | 101            | 40      | 54.44    | 21            | 27      | 40.14    |
| D-18    | 101            | 39      | 44.21    | 21            | 27      | 18.25    |
| D-17    | 101            | 39      | 31.72    | 21            | 27      | 0.86     |
| D-16    | 101            | 40      | 14.77    | 21            | 26      | 28.79    |
| D-15    | 101            | 39      | 56.74    | 21            | 26      | 17.30    |
| D-14    | 101            | 40      | 7.82     | 21            | 25      | 44.76    |
| D-13    | 101            | 40      | 32.52    | 21            | 25      | 29.93    |
| D-12    | 101            | 40      | 37.99    | 21            | 25      | 1.78     |
| D-11    | 101            | 41      | 10.32    | 21            | 24      | 44.24    |
| D-10    | 101            | 40      | 52.93    | 21            | 23      | 56.54    |
| D-9     | 101            | 41      | 4.81     | 21            | 23      | 28.54    |
| D-8     | 101            | 40      | 40.55    | 21            | 23      | 21.16    |
| D-7     | 101            | 39      | 57.53    | 21            | 22      | 34.82    |
| D-6     | 101            | 39      | 15.95    | 21            | 22      | 24.56    |
| D-5     | 101            | 39      | 4.46     | 21            | 21      | 43.78    |
| D-4     | 101            | 38      | 33.68    | 21            | 21      | 16.06    |
| D-3     | 101            | 38      | 37.00    | 21            | 20      | 40.42    |
| D-2     | 101            | 38      | 27.20    | 21            | 20      | 33.97    |
| D-1     | 101            | 38      | 43.66    | 21            | 20      | 17.48    |
| E-1     | 101            | 38      | 41.64    | 21            | 19      | 42.13    |
| E-2     | 101            | 39      | 2.41     | 21            | 19      | 38.42    |
| E-3     | 101            | 39      | 24.08    | 21            | 18      | 30.28    |
| E-4     | 101            | 40      | 43.75    | 21            | 17      | 45.28    |
| E-5     | 101            | 41      | 10.50    | 21            | 17      | 43.66    |
| E-6     | 101            | 41      | 32.10    | 21            | 17      | 59.68    |
| E-7     | 101            | 42      | 22.93    | 21            | 17      | 42.29    |
| E-8     | 101            | 42      | 46.19    | 21            | 18      | 5.65     |
| E-9     | 101            | 43      | 19.31    | 21            | 17      | 45.78    |
| E-10    | 101            | 43      | 57.68    | 21            | 17      | 58.42    |
| E-11    | 101            | 44      | 8.77     | 21            | 18      | 7.31     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| E-12    | 101            | 43      | 59.09    | 21            | 18      | 28.01    |
| E-13    | 101            | 44      | 30.08    | 21            | 18      | 20.05    |
| E-14    | 101            | 45      | 1.40     | 21            | 18      | 56.63    |
| E-15    | 101            | 47      | 6.97     | 21            | 18      | 51.73    |
| E-16    | 101            | 47      | 16.94    | 21            | 18      | 30.28    |
| E-17    | 101            | 47      | 43.33    | 21            | 18      | 49.50    |
| E-18    | 101            | 48      | 50.72    | 21            | 17      | 55.72    |
| E-19    | 101            | 49      | 37.34    | 21            | 17      | 52.87    |
| E-20    | 101            | 49      | 18.98    | 21            | 17      | 8.23     |
| E-21    | 101            | 53      | 8.81     | 21            | 14      | 40.56    |
| E-22    | 101            | 54      | 11.52    | 21            | 15      | 29.09    |
| E-23    | 101            | 57      | 55.84    | 21            | 15      | 7.45     |
| E-24    | 101            | 58      | 24.38    | 21            | 14      | 52.40    |
| E-25    | 101            | 58      | 38.17    | 21            | 14      | 41.78    |
| E-26    | 101            | 58      | 24.78    | 21            | 14      | 25.66    |
| E-27    | 101            | 58      | 35.33    | 21            | 13      | 14.59    |
| E-28    | 101            | 58      | 0.70     | 21            | 11      | 39.52    |
| E-29    | 101            | 58      | 45.98    | 21            | 11      | 14.42    |
| E-30    | 101            | 59      | 23.82    | 21            | 10      | 31.51    |
| E-31    | 101            | 59      | 5.53     | 21            | 9       | 27.90    |
| E-32    | 101            | 59      | 26.23    | 21            | 8       | 29.33    |
| E-33    | 101            | 59      | 17.77    | 21            | 8       | 13.34    |
| E-34    | 101            | 59      | 55.46    | 21            | 8       | 12.70    |
| E-35    | 102            | 1       | 5.38     | 21            | 7       | 47.21    |
| E-36    | 102            | 0       | 35.14    | 21            | 6       | 40.00    |
| E-37    | 102            | 1       | 4.48     | 21            | 2       | 32.53    |
| E-38    | 102            | 1       | 28.78    | 21            | 1       | 29.32    |
| E-39    | 102            | 2       | 15.07    | 21            | 1       | 3.76     |
| E-40    | 102            | 3       | 7.78     | 21            | 0       | 58.90    |
| E-41    | 102            | 3       | 28.19    | 21            | 0       | 28.12    |
| E-42    | 102            | 5       | 10.61    | 20            | 59      | 38.72    |
| E-43    | 102            | 5       | 42.72    | 20            | 59      | 6.58     |
| E-44    | 102            | 6       | 24.44    | 20            | 57      | 32.15    |
| E-45    | 102            | 9       | 9.65     | 20            | 55      | 38.53    |
| E-46    | 102            | 13      | 42.42    | 20            | 55      | 15.42    |
| E-47    | 102            | 15      | 36.43    | 20            | 55      | 20.68    |
| E-48    | 102            | 15      | 33.26    | 20            | 54      | 11.41    |
| E-49    | 102            | 16      | 42.78    | 20            | 54      | 27.32    |
| E-50    | 102            | 16      | 2.93     | 20            | 56      | 10.07    |
| E-51    | 102            | 16      | 8.29     | 20            | 57      | 2.16     |
| E-52    | 102            | 15      | 35.71    | 20            | 57      | 44.10    |
| E-53    | 102            | 14      | 3.19     | 20            | 57      | 39.49    |
| E-54    | 102            | 13      | 31.44    | 20            | 58      | 2.06     |
| E-55    | 102            | 14      | 32.39    | 21            | 0       | 37.26    |
| E-56    | 102            | 13      | 54.66    | 21            | 1       | 7.57     |
| E-57    | 102            | 13      | 28.78    | 21            | 4       | 2.28     |
| E-58    | 102            | 14      | 1.32     | 21            | 4       | 14.05    |
| E-59    | 102            | 13      | 55.02    | 21            | 5       | 9.82     |
| E-60    | 102            | 14      | 12.23    | 21            | 6       | 2.12     |
| E-61    | 102            | 14      | 45.06    | 21            | 6       | 37.44    |
| E-62    | 102            | 15      | 49.86    | 21            | 7       | 0.05     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| E-63    | 102            | 15      | 25.13    | 21            | 7       | 21.79    |
| E-64    | 102            | 15      | 36.00    | 21            | 8       | 18.10    |
| E-65    | 102            | 17      | 34.30    | 21            | 8       | 7.01     |
| E-66    | 102            | 18      | 26.46    | 21            | 8       | 26.09    |
| E-67    | 102            | 18      | 53.42    | 21            | 8       | 7.33     |
| E-68    | 102            | 19      | 36.55    | 21            | 9       | 15.23    |
| E-69    | 102            | 20      | 19.68    | 21            | 9       | 18.07    |
| E-70    | 102            | 20      | 38.58    | 21            | 9       | 40.21    |
| E-71    | 102            | 21      | 13.03    | 21            | 9       | 39.92    |
| E-72    | 102            | 21      | 6.41     | 21            | 10      | 11.60    |
| E-73    | 102            | 20      | 39.01    | 21            | 10      | 43.46    |
| E-74    | 102            | 21      | 39.35    | 21            | 10      | 44.00    |
| E-75    | 102            | 22      | 2.53     | 21            | 11      | 21.12    |
| E-76    | 102            | 22      | 50.30    | 21            | 10      | 45.88    |
| E-77    | 102            | 23      | 40.52    | 21            | 11      | 30.66    |
| E-78    | 102            | 24      | 16.06    | 21            | 11      | 34.66    |
| E-79    | 102            | 25      | 39.90    | 21            | 12      | 45.32    |
| E-80    | 102            | 26      | 19.14    | 21            | 12      | 34.45    |
| E-81    | 102            | 27      | 15.41    | 21            | 12      | 49.18    |
| E-82    | 102            | 27      | 49.25    | 21            | 13      | 4.98     |
| E-83    | 102            | 28      | 2.42     | 21            | 13      | 30.50    |
| E-84    | 102            | 29      | 24.83    | 21            | 13      | 47.71    |
| E-85    | 102            | 29      | 46.64    | 21            | 14      | 44.38    |
| E-86    | 102            | 31      | 20.28    | 21            | 15      | 9.68     |
| E-87    | 102            | 31      | 45.66    | 21            | 15      | 29.95    |
| E-88    | 102            | 32      | 10.07    | 21            | 15      | 24.84    |
| E-89    | 102            | 33      | 0.86     | 21            | 15      | 50.58    |
| E-90    | 102            | 32      | 0.02     | 21            | 16      | 19.27    |
| E-91    | 102            | 32      | 10.64    | 21            | 16      | 24.35    |
| E-92    | 102            | 31      | 55.24    | 21            | 17      | 19.97    |
| E-93    | 102            | 32      | 14.46    | 21            | 17      | 56.76    |
| E-94    | 102            | 31      | 58.76    | 21            | 17      | 56.65    |
| E-95    | 102            | 31      | 37.09    | 21            | 19      | 10.88    |
| E-96    | 102            | 30      | 46.73    | 21            | 19      | 18.23    |
| E-97    | 102            | 30      | 14.47    | 21            | 20      | 18.13    |
| E-98    | 102            | 29      | 37.18    | 21            | 20      | 33.58    |
| E-99    | 102            | 29      | 43.44    | 21            | 20      | 52.98    |
| E-100   | 102            | 29      | 32.46    | 21            | 21      | 6.01     |
| E-101   | 102            | 28      | 49.91    | 21            | 21      | 4.25     |
| E-102   | 102            | 28      | 47.17    | 21            | 21      | 25.81    |
| E-103   | 102            | 28      | 34.64    | 21            | 21      | 27.54    |
| E-104   | 102            | 28      | 20.50    | 21            | 21      | 48.96    |
| E-105   | 102            | 28      | 6.89     | 21            | 21      | 47.74    |
| E-106   | 102            | 26      | 55.10    | 21            | 21      | 26.60    |
| E-107   | 102            | 26      | 9.24     | 21            | 20      | 2.29     |
| E-108   | 102            | 23      | 47.44    | 21            | 19      | 43.86    |
| E-109   | 102            | 23      | 22.67    | 21            | 20      | 3.44     |
| E-110   | 102            | 21      | 39.46    | 21            | 19      | 37.42    |
| E-111   | 102            | 20      | 23.53    | 21            | 19      | 42.38    |
| E-112   | 102            | 19      | 49.69    | 21            | 19      | 27.52    |
| E-113   | 102            | 19      | 31.12    | 21            | 18      | 43.09    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| E-114   | 102            | 18      | 26.32    | 21            | 18      | 15.95    |
| E-115   | 102            | 17      | 39.01    | 21            | 17      | 8.77     |
| E-116   | 102            | 16      | 22.33    | 21            | 17      | 25.48    |
| E-117   | 102            | 15      | 59.62    | 21            | 17      | 17.66    |
| E-118   | 102            | 15      | 48.49    | 21            | 16      | 34.68    |
| E-119   | 102            | 15      | 26.32    | 21            | 16      | 8.00     |
| E-120   | 102            | 13      | 53.22    | 21            | 16      | 17.69    |
| E-121   | 102            | 11      | 53.84    | 21            | 17      | 45.71    |
| E-122   | 102            | 11      | 4.74     | 21            | 18      | 5.40     |
| E-123   | 102            | 9       | 57.06    | 21            | 20      | 9.89     |
| E-124   | 102            | 8       | 8.56     | 21            | 21      | 26.82    |
| E-125   | 102            | 7       | 52.03    | 21            | 22      | 41.84    |
| E-126   | 102            | 6       | 31.86    | 21            | 23      | 5.35     |
| E-127   | 102            | 6       | 44.64    | 21            | 24      | 10.73    |
| E-128   | 102            | 6       | 20.41    | 21            | 24      | 37.94    |
| E-129   | 102            | 6       | 15.62    | 21            | 25      | 5.63     |
| E-130   | 102            | 4       | 52.68    | 21            | 26      | 34.66    |
| E-131   | 102            | 4       | 20.78    | 21            | 26      | 15.68    |
| E-132   | 102            | 3       | 46.33    | 21            | 26      | 19.28    |
| E-133   | 102            | 2       | 6.61     | 21            | 27      | 27.54    |
| E-134   | 102            | 1       | 50.84    | 21            | 28      | 19.45    |
| E-135   | 102            | 2       | 0.92     | 21            | 28      | 24.28    |
| E-136   | 102            | 0       | 42.66    | 21            | 29      | 34.22    |
| E-137   | 102            | 0       | 38.74    | 21            | 30      | 10.01    |
| E-138   | 102            | 0       | 21.71    | 21            | 30      | 26.53    |
| E-139   | 102            | 0       | 52.24    | 21            | 30      | 36.00    |
| E-140   | 102            | 0       | 53.93    | 21            | 31      | 45.52    |
| E-141   | 102            | 0       | 30.42    | 21            | 32      | 20.11    |
| E-142   | 101            | 59      | 53.63    | 21            | 32      | 27.24    |
| E-143   | 101            | 59      | 33.43    | 21            | 32      | 56.98    |
| E-144   | 101            | 59      | 20.15    | 21            | 34      | 15.06    |
| E-145   | 101            | 58      | 11.28    | 21            | 34      | 50.74    |
| E-146   | 101            | 57      | 44.03    | 21            | 35      | 49.42    |
| E-147   | 101            | 57      | 15.30    | 21            | 35      | 43.55    |
| E-148   | 101            | 56      | 22.96    | 21            | 35      | 2.65     |
| E-149   | 101            | 55      | 59.34    | 21            | 35      | 2.44     |
| E-150   | 101            | 55      | 42.71    | 21            | 35      | 25.12    |
| E-151   | 101            | 53      | 38.72    | 21            | 35      | 19.54    |
| E-152   | 101            | 53      | 21.41    | 21            | 35      | 3.84     |
| E-153   | 101            | 52      | 21.94    | 21            | 36      | 1.30     |
| E-154   | 101            | 51      | 38.41    | 21            | 35      | 54.06    |
| E-155   | 101            | 50      | 5.14     | 21            | 38      | 1.90     |
| E-156   | 101            | 48      | 49.18    | 21            | 39      | 7.34     |
| E-157   | 101            | 47      | 54.35    | 21            | 39      | 28.66    |
| E-158   | 101            | 47      | 46.21    | 21            | 40      | 1.81     |
| E-159   | 101            | 46      | 52.03    | 21            | 39      | 45.90    |
| E-160   | 101            | 46      | 38.82    | 21            | 39      | 15.44    |
| E-161   | 101            | 45      | 53.39    | 21            | 38      | 40.63    |
| E-162   | 101            | 45      | 31.28    | 21            | 38      | 43.91    |

**VI.- CUENCA HIDROLOGICA PRESA AJOJUCAR: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 0.76 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde la Presa El Niágara hasta donde se localiza la Presa Ajojucar.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Presa Ajojucar tiene una superficie de aportación de 794.4 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por las cuencas hidrológicas Presa El Niágara y Río Juchipila 1, al Sur por las cuencas hidrológicas Río Encarnación y Río Aguascalientes, al Este por la cuenca hidrológica Río Encarnación y al Oeste por la cuenca hidrológica Río Aguascalientes. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| F-1     | 102            | 25      | 8.18     | 21            | 35      | 39.12    |
| F-2     | 102            | 25      | 29.89    | 21            | 34      | 47.46    |
| F-3     | 102            | 26      | 37.1     | 21            | 34      | 30.11    |
| F-4     | 102            | 26      | 42.18    | 21            | 34      | 11.46    |
| F-5     | 102            | 27      | 43.74    | 21            | 34      | 45.01    |
| F-6     | 102            | 28      | 32.09    | 21            | 34      | 57       |
| F-7     | 102            | 28      | 57.4     | 21            | 33      | 55.01    |
| F-8     | 102            | 30      | 3.85     | 21            | 34      | 2.35     |
| F-9     | 102            | 30      | 38.34    | 21            | 34      | 48.5     |
| F-10    | 102            | 30      | 49.54    | 21            | 34      | 40.01    |
| F-11    | 102            | 31      | 17.26    | 21            | 34      | 48.47    |
| F-12    | 102            | 31      | 37.38    | 21            | 34      | 41.05    |
| F-13    | 102            | 31      | 40.08    | 21            | 35      | 20.83    |
| F-14    | 102            | 32      | 47.51    | 21            | 36      | 11.05    |
| F-15    | 102            | 33      | 58.9     | 21            | 35      | 55.79    |
| F-16    | 102            | 34      | 53.72    | 21            | 37      | 46.63    |
| F-17    | 102            | 35      | 56.8     | 21            | 39      | 3.35     |
| F-18    | 102            | 36      | 7.38     | 21            | 41      | 13.67    |
| F-19    | 102            | 36      | 55.76    | 21            | 41      | 42.07    |
| F-20    | 102            | 37      | 47.28    | 21            | 42      | 41.4     |
| F-21    | 102            | 38      | 42.83    | 21            | 43      | 2.21     |
| F-22    | 102            | 39      | 20.95    | 21            | 42      | 53.32    |
| F-23    | 102            | 39      | 38.02    | 21            | 42      | 20.59    |
| F-24    | 102            | 39      | 49.1     | 21            | 42      | 28.51    |
| F-25    | 102            | 39      | 53.6     | 21            | 42      | 18.9     |
| F-26    | 102            | 40      | 39.5     | 21            | 42      | 17.75    |
| F-27    | 102            | 41      | 9.85     | 21            | 42      | 37.26    |
| F-28    | 102            | 41      | 35.84    | 21            | 42      | 52.16    |
| F-29    | 102            | 41      | 19.46    | 21            | 43      | 38.6     |
| F-30    | 102            | 41      | 53.3     | 21            | 44      | 17.74    |
| F-31    | 102            | 41      | 33.22    | 21            | 44      | 38.22    |
| F-32    | 102            | 41      | 47.58    | 21            | 44      | 54.24    |
| F-33    | 102            | 41      | 45.17    | 21            | 45      | 11.88    |
| F-34    | 102            | 41      | 17.7     | 21            | 45      | 11.2     |
| F-35    | 102            | 40      | 52.36    | 21            | 45      | 44.42    |
| F-36    | 102            | 39      | 13.86    | 21            | 45      | 51.55    |
| F-37    | 102            | 38      | 38.83    | 21            | 45      | 42.91    |
| F-38    | 102            | 38      | 3.08     | 21            | 46      | 0.41     |
| F-39    | 102            | 37      | 47.17    | 21            | 46      | 29.86    |
| F-40    | 102            | 37      | 14.74    | 21            | 46      | 42.06    |
| F-41    | 102            | 37      | 13.73    | 21            | 47      | 1.43     |
| F-42    | 102            | 36      | 44.39    | 21            | 47      | 22.13    |
| F-43    | 102            | 36      | 2.84     | 21            | 47      | 15.58    |
| F-44    | 102            | 35      | 10.64    | 21            | 47      | 38.47    |
| F-45    | 102            | 34      | 34.46    | 21            | 47      | 30.95    |
| F-46    | 102            | 34      | 36.98    | 21            | 47      | 43.55    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| F-47    | 102            | 34      | 10.78    | 21            | 48      | 4.72     |
| F-48    | 102            | 33      | 46.44    | 21            | 48      | 0.72     |
| F-49    | 102            | 33      | 33.66    | 21            | 48      | 9.29     |
| F-50    | 102            | 33      | 14.76    | 21            | 47      | 59.39    |
| F-51    | 102            | 31      | 49.87    | 21            | 48      | 43.74    |
| F-52    | 102            | 31      | 48.04    | 21            | 48      | 28.66    |
| F-53    | 102            | 31      | 31.94    | 21            | 48      | 18.29    |
| F-54    | 102            | 31      | 8.83     | 21            | 48      | 26.32    |
| F-55    | 102            | 30      | 57.35    | 21            | 48      | 49.43    |
| F-56    | 102            | 29      | 55.07    | 21            | 48      | 49.39    |
| F-57    | 102            | 29      | 37.61    | 21            | 49      | 20.57    |
| F-58    | 102            | 29      | 1.18     | 21            | 49      | 35.4     |
| F-59    | 102            | 28      | 52.43    | 21            | 50      | 2.94     |
| F-60    | 102            | 28      | 20.28    | 21            | 50      | 38.51    |
| F-61    | 102            | 27      | 7.92     | 21            | 50      | 56.8     |
| C-60    | 102            | 25      | 59.48    | 21            | 50      | 41.46    |
| C-59    | 102            | 25      | 57.4     | 21            | 50      | 20.72    |
| C-58    | 102            | 25      | 44.87    | 21            | 50      | 6.97     |
| C-57    | 102            | 25      | 48.07    | 21            | 49      | 29.28    |
| C-56    | 102            | 25      | 25.82    | 21            | 49      | 17.11    |
| C-55    | 102            | 25      | 53.33    | 21            | 48      | 38.88    |
| C-54    | 102            | 25      | 57.61    | 21            | 48      | 15.12    |
| C-53    | 102            | 25      | 48.54    | 21            | 47      | 56.11    |
| C-52    | 102            | 24      | 12.2     | 21            | 47      | 8.12     |
| C-51    | 102            | 23      | 35.7     | 21            | 47      | 28.25    |
| C-50    | 102            | 22      | 50.05    | 21            | 47      | 28.5     |
| C-49    | 102            | 22      | 17.08    | 21            | 46      | 46.09    |
| C-48    | 102            | 21      | 57.42    | 21            | 46      | 42.89    |
| C-47    | 102            | 21      | 11.23    | 21            | 47      | 1.21     |
| C-46    | 102            | 20      | 41.5     | 21            | 48      | 32.83    |
| C-45    | 102            | 20      | 16.19    | 21            | 48      | 24.23    |
| C-44    | 102            | 19      | 43.61    | 21            | 48      | 49.61    |
| C-43    | 102            | 18      | 59.65    | 21            | 48      | 58.21    |
| C-42    | 102            | 18      | 51.59    | 21            | 49      | 17.69    |
| C-41    | 102            | 15      | 22.14    | 21            | 48      | 1.4      |
| C-40    | 102            | 14      | 32.57    | 21            | 47      | 51.32    |
| C-39    | 102            | 14      | 13.27    | 21            | 47      | 33.47    |
| C-38    | 102            | 13      | 22.4     | 21            | 47      | 26.34    |
| C-37    | 102            | 12      | 13.46    | 21            | 47      | 56.76    |
| C-36    | 102            | 11      | 15.04    | 21            | 48      | 45.43    |
| C-35    | 102            | 9       | 41.44    | 21            | 50      | 33.79    |
| C-34    | 102            | 7       | 59.2     | 21            | 51      | 19.87    |
| C-33    | 102            | 6       | 2.2      | 21            | 52      | 30.22    |
| C-32    | 102            | 4       | 33.89    | 21            | 53      | 5.96     |
| F-62    | 102            | 5       | 7.66     | 21            | 50      | 22.42    |
| F-63    | 102            | 5       | 55.25    | 21            | 49      | 30.9     |
| F-64    | 102            | 10      | 8.26     | 21            | 46      | 39.94    |
| F-65    | 102            | 12      | 25.81    | 21            | 46      | 14.84    |
| F-66    | 102            | 14      | 48.59    | 21            | 44      | 59.21    |
| F-67    | 102            | 15      | 25.16    | 21            | 43      | 47.75    |
| F-68    | 102            | 16      | 56.71    | 21            | 43      | 44.87    |
| F-69    | 102            | 18      | 21.96    | 21            | 42      | 20.74    |
| F-70    | 102            | 19      | 18.3     | 21            | 42      | 34.27    |
| F-71    | 102            | 20      | 36.71    | 21            | 43      | 31.8     |
| F-72    | 102            | 21      | 40.86    | 21            | 43      | 50.99    |
| F-73    | 102            | 22      | 51.35    | 21            | 41      | 57.34    |
| F-74    | 102            | 23      | 23.35    | 21            | 41      | 59.86    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| F-75    | 102            | 24      | 3.53     | 21            | 41      | 29.69    |
| F-76    | 102            | 23      | 50.03    | 21            | 40      | 58.51    |
| F-77    | 102            | 23      | 58.96    | 21            | 40      | 3.11     |
| F-78    | 102            | 24      | 30.28    | 21            | 39      | 43.56    |
| F-79    | 102            | 24      | 46.87    | 21            | 39      | 5.72     |
| F-80    | 102            | 24      | 26.06    | 21            | 38      | 36.53    |
| F-81    | 102            | 24      | 35.86    | 21            | 37      | 49.15    |
| F-82    | 102            | 25      | 15.64    | 21            | 37      | 39.47    |
| F-83    | 102            | 25      | 37.56    | 21            | 36      | 22.97    |
| F-84    | 102            | 25      | 10.74    | 21            | 36      | 19.91    |

**VII.- CUENCA HIDROLOGICA RIO GRANDE: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 0.55 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde el nacimiento del Río Grande hasta donde se localiza la Presa Agostadero.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Grande tiene una superficie de aportación de 577.3 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por la cuenca hidrológica Río Encarnación, al Sur por las cuencas hidrológicas Río de Lagos y Río Aguascalientes, al Este por la cuenca hidrológica Río de Lagos y al Oeste por la cuenca hidrológica Río Aguascalientes. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| E-146   | 101            | 57      | 44.03    | 21            | 35      | 49.42    |
| E-145   | 101            | 58      | 11.28    | 21            | 34      | 50.74    |
| E-144   | 101            | 59      | 20.15    | 21            | 34      | 15.06    |
| E-143   | 101            | 59      | 33.43    | 21            | 32      | 56.98    |
| E-142   | 101            | 59      | 53.63    | 21            | 32      | 27.24    |
| E-141   | 102            | 0       | 30.42    | 21            | 32      | 20.11    |
| E-140   | 102            | 0       | 53.93    | 21            | 31      | 45.52    |
| E-139   | 102            | 0       | 52.24    | 21            | 30      | 36.00    |
| E-138   | 102            | 0       | 21.71    | 21            | 30      | 26.53    |
| E-137   | 102            | 0       | 38.74    | 21            | 30      | 10.01    |
| E-136   | 102            | 0       | 42.66    | 21            | 29      | 34.22    |
| E-135   | 102            | 2       | 0.92     | 21            | 28      | 24.28    |
| E-134   | 102            | 1       | 50.84    | 21            | 28      | 19.45    |
| E-133   | 102            | 2       | 6.61     | 21            | 27      | 27.54    |
| E-132   | 102            | 3       | 46.33    | 21            | 26      | 19.28    |
| E-131   | 102            | 4       | 20.78    | 21            | 26      | 15.68    |
| E-130   | 102            | 4       | 52.68    | 21            | 26      | 34.66    |
| E-129   | 102            | 6       | 15.62    | 21            | 25      | 5.63     |
| E-128   | 102            | 6       | 20.41    | 21            | 24      | 37.94    |
| E-127   | 102            | 6       | 44.64    | 21            | 24      | 10.73    |
| E-126   | 102            | 6       | 31.86    | 21            | 23      | 5.35     |
| E-125   | 102            | 7       | 52.03    | 21            | 22      | 41.84    |
| E-124   | 102            | 8       | 8.56     | 21            | 21      | 26.82    |
| E-123   | 102            | 9       | 57.06    | 21            | 20      | 9.89     |
| E-122   | 102            | 11      | 4.74     | 21            | 18      | 5.40     |
| E-121   | 102            | 11      | 53.84    | 21            | 17      | 45.71    |
| E-120   | 102            | 13      | 53.22    | 21            | 16      | 17.69    |
| E-119   | 102            | 15      | 26.32    | 21            | 16      | 8.00     |
| E-118   | 102            | 15      | 48.49    | 21            | 16      | 34.68    |
| E-117   | 102            | 15      | 59.62    | 21            | 17      | 17.66    |
| E-116   | 102            | 16      | 22.33    | 21            | 17      | 25.48    |
| E-115   | 102            | 17      | 39.01    | 21            | 17      | 8.77     |
| E-114   | 102            | 18      | 26.32    | 21            | 18      | 15.95    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| E-113   | 102            | 19      | 31.12    | 21            | 18      | 43.09    |
| E-112   | 102            | 19      | 49.69    | 21            | 19      | 27.52    |
| E-111   | 102            | 20      | 23.53    | 21            | 19      | 42.38    |
| G-1     | 102            | 20      | 19.57    | 21            | 21      | 43.99    |
| G-2     | 102            | 20      | 47.54    | 21            | 21      | 58.72    |
| G-3     | 102            | 20      | 31.20    | 21            | 22      | 9.80     |
| G-4     | 102            | 20      | 33.22    | 21            | 22      | 52.82    |
| G-5     | 102            | 20      | 6.43     | 21            | 23      | 13.85    |
| G-6     | 102            | 19      | 17.40    | 21            | 23      | 13.96    |
| G-7     | 102            | 18      | 27.54    | 21            | 24      | 23.15    |
| G-8     | 102            | 18      | 27.65    | 21            | 24      | 51.55    |
| G-9     | 102            | 17      | 47.90    | 21            | 25      | 41.52    |
| G-10    | 102            | 17      | 19.39    | 21            | 25      | 45.16    |
| G-11    | 102            | 17      | 22.60    | 21            | 26      | 19.64    |
| G-12    | 102            | 17      | 0.10     | 21            | 27      | 2.23     |
| G-13    | 102            | 15      | 31.21    | 21            | 28      | 52.57    |
| G-14    | 102            | 14      | 22.52    | 21            | 28      | 45.01    |
| G-15    | 102            | 13      | 58.33    | 21            | 29      | 3.19     |
| G-16    | 102            | 13      | 45.19    | 21            | 29      | 48.70    |
| G-17    | 102            | 11      | 29.47    | 21            | 30      | 24.08    |
| G-18    | 102            | 10      | 6.96     | 21            | 31      | 26.36    |
| G-19    | 102            | 7       | 49.44    | 21            | 31      | 36.26    |
| G-20    | 102            | 5       | 45.64    | 21            | 30      | 49.28    |
| G-21    | 102            | 3       | 53.46    | 21            | 31      | 19.13    |
| G-22    | 102            | 3       | 30.24    | 21            | 31      | 50.59    |
| G-23    | 102            | 3       | 40.90    | 21            | 32      | 43.44    |
| G-24    | 102            | 3       | 10.91    | 21            | 33      | 24.08    |
| G-25    | 102            | 3       | 0.14     | 21            | 34      | 15.31    |
| G-26    | 102            | 1       | 46.49    | 21            | 34      | 41.66    |
| G-27    | 102            | 1       | 48.65    | 21            | 36      | 24.30    |
| G-28    | 102            | 1       | 7.25     | 21            | 36      | 30.38    |
| G-29    | 101            | 59      | 57.91    | 21            | 36      | 5.80     |
| G-30    | 101            | 59      | 32.53    | 21            | 36      | 24.73    |
| G-31    | 101            | 59      | 13.70    | 21            | 36      | 18.50    |
| G-32    | 101            | 59      | 0.02     | 21            | 35      | 42.43    |
| G-33    | 101            | 58      | 10.16    | 21            | 35      | 58.70    |

**VIII.- CUENCA HIDROLOGICA RIO ENCARNACION: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 1.46 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde el nacimiento del Río Encarnación hasta su confluencia con el Río Verde.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Encarnación tiene una superficie de aportación de 2,644.7 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por las cuencas hidrológicas Presa El Niágara y Presa Ajojuar, al Sur por las cuencas hidrológicas Río de Lagos, Río Grande y Río Aguascalientes, al Este por la cuenca hidrológica Presa El Cuarenta y al Oeste por las cuencas hidrológicas Presa Ajojuar y Río Aguascalientes. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| H-1     | 101            | 48      | 19.76    | 21            | 55      | 18.19    |
| H-2     | 101            | 47      | 42.72    | 21            | 54      | 21.96    |
| H-3     | 101            | 47      | 21.37    | 21            | 54      | 22.46    |
| H-4     | 101            | 47      | 5.32     | 21            | 55      | 7.28     |
| H-5     | 101            | 46      | 32.52    | 21            | 54      | 33.41    |
| H-6     | 101            | 45      | 46.04    | 21            | 54      | 17.10    |
| H-7     | 101            | 45      | 30.28    | 21            | 52      | 43.36    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| H-8     | 101            | 46      | 0.37     | 21            | 52      | 30.07    |
| H-9     | 101            | 46      | 7.75     | 21            | 52      | 5.77     |
| H-10    | 101            | 45      | 16.60    | 21            | 51      | 1.80     |
| H-11    | 101            | 45      | 6.41     | 21            | 48      | 48.49    |
| H-12    | 101            | 41      | 43.19    | 21            | 48      | 59.54    |
| H-13    | 101            | 40      | 55.70    | 21            | 48      | 49.36    |
| D-59    | 101            | 40      | 41.56    | 21            | 48      | 44.03    |
| D-58    | 101            | 41      | 3.62     | 21            | 48      | 1.58     |
| D-57    | 101            | 40      | 13.80    | 21            | 47      | 3.55     |
| D-56    | 101            | 41      | 2.18     | 21            | 46      | 55.67    |
| D-55    | 101            | 40      | 37.74    | 21            | 46      | 28.60    |
| D-54    | 101            | 40      | 42.92    | 21            | 46      | 11.32    |
| D-53    | 101            | 42      | 17.50    | 21            | 44      | 27.92    |
| D-52    | 101            | 42      | 3.31     | 21            | 43      | 31.55    |
| D-51    | 101            | 42      | 14.87    | 21            | 42      | 6.34     |
| D-50    | 101            | 42      | 44.82    | 21            | 42      | 9.68     |
| D-49    | 101            | 43      | 16.14    | 21            | 41      | 40.16    |
| D-48    | 101            | 44      | 0.96     | 21            | 41      | 53.52    |
| D-47    | 101            | 44      | 4.49     | 21            | 41      | 30.41    |
| D-46    | 101            | 43      | 28.27    | 21            | 40      | 42.02    |
| D-45    | 101            | 44      | 2.90     | 21            | 40      | 19.78    |
| D-44    | 101            | 45      | 7.31     | 21            | 40      | 11.89    |
| D-43    | 101            | 45      | 3.35     | 21            | 39      | 9.43     |
| E-162   | 101            | 45      | 31.28    | 21            | 38      | 43.91    |
| E-161   | 101            | 45      | 53.39    | 21            | 38      | 40.63    |
| E-160   | 101            | 46      | 38.82    | 21            | 39      | 15.44    |
| E-159   | 101            | 46      | 52.03    | 21            | 39      | 45.90    |
| E-158   | 101            | 47      | 46.21    | 21            | 40      | 1.81     |
| E-157   | 101            | 47      | 54.35    | 21            | 39      | 28.66    |
| E-156   | 101            | 48      | 49.18    | 21            | 39      | 7.34     |
| E-155   | 101            | 50      | 5.14     | 21            | 38      | 1.90     |
| E-154   | 101            | 51      | 38.41    | 21            | 35      | 54.06    |
| E-153   | 101            | 52      | 21.94    | 21            | 36      | 1.30     |
| E-152   | 101            | 53      | 21.41    | 21            | 35      | 3.84     |
| E-151   | 101            | 53      | 38.72    | 21            | 35      | 19.54    |
| E-150   | 101            | 55      | 42.71    | 21            | 35      | 25.12    |
| E-149   | 101            | 55      | 59.34    | 21            | 35      | 2.44     |
| E-148   | 101            | 56      | 22.96    | 21            | 35      | 2.65     |
| E-147   | 101            | 57      | 15.30    | 21            | 35      | 43.55    |
| E-146   | 101            | 57      | 44.03    | 21            | 35      | 49.42    |
| G-33    | 101            | 58      | 10.16    | 21            | 35      | 58.70    |
| G-32    | 101            | 59      | 0.02     | 21            | 35      | 42.43    |
| G-31    | 101            | 59      | 13.70    | 21            | 36      | 18.50    |
| G-30    | 101            | 59      | 32.53    | 21            | 36      | 24.73    |
| G-29    | 101            | 59      | 57.91    | 21            | 36      | 5.80     |
| G-28    | 102            | 1       | 7.25     | 21            | 36      | 30.38    |
| G-27    | 102            | 1       | 48.65    | 21            | 36      | 24.30    |
| G-26    | 102            | 1       | 46.49    | 21            | 34      | 41.66    |
| G-25    | 102            | 3       | 0.14     | 21            | 34      | 15.31    |
| G-24    | 102            | 3       | 10.91    | 21            | 33      | 24.08    |
| G-23    | 102            | 3       | 40.90    | 21            | 32      | 43.44    |
| G-22    | 102            | 3       | 30.24    | 21            | 31      | 50.59    |
| G-21    | 102            | 3       | 53.46    | 21            | 31      | 19.13    |
| G-20    | 102            | 5       | 45.64    | 21            | 30      | 49.28    |
| G-19    | 102            | 7       | 49.44    | 21            | 31      | 36.26    |
| G-18    | 102            | 10      | 6.96     | 21            | 31      | 26.36    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| G-17    | 102            | 11      | 29.47    | 21            | 30      | 24.08    |
| G-16    | 102            | 13      | 45.19    | 21            | 29      | 48.70    |
| G-15    | 102            | 13      | 58.33    | 21            | 29      | 3.19     |
| G-14    | 102            | 14      | 22.52    | 21            | 28      | 45.01    |
| G-13    | 102            | 15      | 31.21    | 21            | 28      | 52.57    |
| G-12    | 102            | 17      | 0.10     | 21            | 27      | 2.23     |
| G-11    | 102            | 17      | 22.60    | 21            | 26      | 19.64    |
| G-10    | 102            | 17      | 19.39    | 21            | 25      | 45.16    |
| G-9     | 102            | 17      | 47.90    | 21            | 25      | 41.52    |
| G-8     | 102            | 18      | 27.65    | 21            | 24      | 51.55    |
| G-7     | 102            | 18      | 27.54    | 21            | 24      | 23.15    |
| G-6     | 102            | 19      | 17.40    | 21            | 23      | 13.96    |
| G-5     | 102            | 20      | 6.43     | 21            | 23      | 13.85    |
| G-4     | 102            | 20      | 33.22    | 21            | 22      | 52.82    |
| G-3     | 102            | 20      | 31.20    | 21            | 22      | 9.80     |
| G-2     | 102            | 20      | 47.54    | 21            | 21      | 58.72    |
| G-1     | 102            | 20      | 19.57    | 21            | 21      | 43.99    |
| E-111   | 102            | 20      | 23.53    | 21            | 19      | 42.38    |
| E-110   | 102            | 21      | 39.46    | 21            | 19      | 37.42    |
| E-109   | 102            | 23      | 22.67    | 21            | 20      | 3.44     |
| E-108   | 102            | 23      | 47.44    | 21            | 19      | 43.86    |
| E-107   | 102            | 26      | 9.24     | 21            | 20      | 2.29     |
| E-106   | 102            | 26      | 55.10    | 21            | 21      | 26.60    |
| E-105   | 102            | 28      | 6.89     | 21            | 21      | 47.74    |
| H-14    | 102            | 28      | 9.95     | 21            | 22      | 24.67    |
| H-15    | 102            | 28      | 55.49    | 21            | 23      | 17.95    |
| H-16    | 102            | 28      | 48.68    | 21            | 24      | 6.05     |
| H-17    | 102            | 29      | 21.95    | 21            | 25      | 9.91     |
| H-18    | 102            | 28      | 56.46    | 21            | 25      | 48.29    |
| H-19    | 102            | 28      | 19.06    | 21            | 26      | 8.95     |
| H-20    | 102            | 27      | 56.12    | 21            | 27      | 6.12     |
| H-21    | 102            | 27      | 11.34    | 21            | 27      | 29.74    |
| H-22    | 102            | 25      | 46.63    | 21            | 29      | 11.80    |
| H-23    | 102            | 25      | 24.17    | 21            | 30      | 1.80     |
| H-24    | 102            | 24      | 52.49    | 21            | 32      | 46.57    |
| H-25    | 102            | 25      | 1.49     | 21            | 33      | 15.70    |
| H-26    | 102            | 25      | 0.26     | 21            | 34      | 35.00    |
| H-27    | 102            | 24      | 36.04    | 21            | 34      | 57.68    |
| H-28    | 102            | 24      | 37.44    | 21            | 35      | 13.70    |
| F-1     | 102            | 25      | 8.18     | 21            | 35      | 39.12    |
| F-84    | 102            | 25      | 10.74    | 21            | 36      | 19.91    |
| F-83    | 102            | 25      | 37.56    | 21            | 36      | 22.97    |
| F-82    | 102            | 25      | 15.64    | 21            | 37      | 39.47    |
| F-81    | 102            | 24      | 35.86    | 21            | 37      | 49.15    |
| F-80    | 102            | 24      | 26.06    | 21            | 38      | 36.53    |
| F-79    | 102            | 24      | 46.87    | 21            | 39      | 5.72     |
| F-78    | 102            | 24      | 30.28    | 21            | 39      | 43.56    |
| F-77    | 102            | 23      | 58.96    | 21            | 40      | 3.11     |
| F-76    | 102            | 23      | 50.03    | 21            | 40      | 58.51    |
| F-75    | 102            | 24      | 3.53     | 21            | 41      | 29.69    |
| F-74    | 102            | 23      | 23.35    | 21            | 41      | 59.86    |
| F-73    | 102            | 22      | 51.35    | 21            | 41      | 57.34    |
| F-72    | 102            | 21      | 40.86    | 21            | 43      | 50.99    |
| F-71    | 102            | 20      | 36.71    | 21            | 43      | 31.80    |
| F-70    | 102            | 19      | 18.30    | 21            | 42      | 34.27    |
| F-69    | 102            | 18      | 21.96    | 21            | 42      | 20.74    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| F-68    | 102            | 16      | 56.71    | 21            | 43      | 44.87    |
| F-67    | 102            | 15      | 25.16    | 21            | 43      | 47.75    |
| F-66    | 102            | 14      | 48.59    | 21            | 44      | 59.21    |
| F-65    | 102            | 12      | 25.81    | 21            | 46      | 14.84    |
| F-64    | 102            | 10      | 8.26     | 21            | 46      | 39.94    |
| F-63    | 102            | 5       | 55.25    | 21            | 49      | 30.90    |
| F-62    | 102            | 5       | 7.66     | 21            | 50      | 22.42    |
| C-32    | 102            | 4       | 33.89    | 21            | 53      | 5.96     |
| C-31    | 102            | 4       | 11.75    | 21            | 54      | 22.07    |
| C-30    | 102            | 3       | 30.17    | 21            | 55      | 5.88     |
| C-29    | 102            | 3       | 22.82    | 21            | 56      | 7.40     |
| C-28    | 102            | 3       | 53.03    | 21            | 57      | 11.70    |
| C-27    | 102            | 3       | 24.70    | 21            | 57      | 53.21    |
| C-26    | 102            | 3       | 4.93     | 22            | 0       | 1.69     |
| C-25    | 102            | 2       | 15.97    | 22            | 1       | 18.80    |
| C-24    | 102            | 1       | 55.38    | 22            | 1       | 31.76    |
| C-23    | 102            | 0       | 31.14    | 22            | 1       | 28.09    |
| C-22    | 101            | 59      | 1.46     | 22            | 0       | 38.77    |
| C-21    | 101            | 57      | 37.04    | 22            | 0       | 38.34    |
| C-20    | 101            | 57      | 25.42    | 22            | 0       | 19.55    |
| C-19    | 101            | 57      | 40.57    | 22            | 0       | 4.86     |
| C-18    | 101            | 57      | 11.09    | 21            | 59      | 40.56    |
| C-17    | 101            | 56      | 2.08     | 21            | 59      | 17.95    |
| C-16    | 101            | 56      | 3.34     | 21            | 58      | 49.84    |
| C-15    | 101            | 55      | 50.88    | 21            | 58      | 48.47    |
| C-14    | 101            | 56      | 3.26     | 21            | 58      | 34.86    |
| C-13    | 101            | 55      | 44.72    | 21            | 58      | 9.01     |
| C-12    | 101            | 55      | 17.29    | 21            | 58      | 8.33     |
| C-11    | 101            | 54      | 52.20    | 21            | 58      | 25.10    |
| C-10    | 101            | 54      | 27.90    | 21            | 58      | 13.51    |
| C-9     | 101            | 54      | 7.09     | 21            | 57      | 21.31    |
| C-8     | 101            | 54      | 18.11    | 21            | 56      | 55.43    |
| C-7     | 101            | 54      | 10.08    | 21            | 56      | 55.79    |
| C-6     | 101            | 53      | 26.05    | 21            | 55      | 47.64    |
| C-5     | 101            | 52      | 44.44    | 21            | 56      | 3.66     |
| C-4     | 101            | 52      | 31.40    | 21            | 56      | 34.40    |
| C-3     | 101            | 50      | 7.87     | 21            | 55      | 55.88    |
| C-2     | 101            | 49      | 28.27    | 21            | 56      | 7.80     |
| C-1     | 101            | 49      | 7.36     | 21            | 55      | 57.83    |
| C-164   | 101            | 48      | 25.09    | 21            | 55      | 59.12    |

**IX.- CUENCA HIDROLOGICA RIO AGUASCALIENTES: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 3.40 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde las Presas Ajojuar y Agostadero y la confluencia del Río Encarnación con el Río Verde hasta donde se localiza la estación hidrométrica Paso del Sabino.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Aguascalientes tiene una superficie de aportación de 660.8 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por la cuenca hidrológica Presa Ajojuar, al Sur por las cuenca hidrológica Río de Lagos, al Este por las cuencas hidrológicas Río Grande y Río Encarnación y al Oeste por la cuenca hidrológica Río Verde 1. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| F-27    | 102            | 41      | 9.85     | 21            | 42      | 37.26    |
| F-26    | 102            | 40      | 39.50    | 21            | 42      | 17.75    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| F-25    | 102            | 39      | 53.60    | 21            | 42      | 18.90    |
| F-24    | 102            | 39      | 49.10    | 21            | 42      | 28.51    |
| F-23    | 102            | 39      | 38.02    | 21            | 42      | 20.59    |
| F-22    | 102            | 39      | 20.95    | 21            | 42      | 53.32    |
| F-21    | 102            | 38      | 42.83    | 21            | 43      | 2.21     |
| F-20    | 102            | 37      | 47.28    | 21            | 42      | 41.40    |
| F-19    | 102            | 36      | 55.76    | 21            | 41      | 42.07    |
| F-18    | 102            | 36      | 7.38     | 21            | 41      | 13.67    |
| F-17    | 102            | 35      | 56.80    | 21            | 39      | 3.35     |
| F-16    | 102            | 34      | 53.72    | 21            | 37      | 46.63    |
| F-15    | 102            | 33      | 58.90    | 21            | 35      | 55.79    |
| F-14    | 102            | 32      | 47.51    | 21            | 36      | 11.05    |
| F-13    | 102            | 31      | 40.08    | 21            | 35      | 20.83    |
| F-12    | 102            | 31      | 37.38    | 21            | 34      | 41.05    |
| F-11    | 102            | 31      | 17.26    | 21            | 34      | 48.47    |
| F-10    | 102            | 30      | 49.54    | 21            | 34      | 40.01    |
| F-9     | 102            | 30      | 38.34    | 21            | 34      | 48.50    |
| F-8     | 102            | 30      | 3.85     | 21            | 34      | 2.35     |
| F-7     | 102            | 28      | 57.40    | 21            | 33      | 55.01    |
| F-6     | 102            | 28      | 32.09    | 21            | 34      | 57.00    |
| F-5     | 102            | 27      | 43.74    | 21            | 34      | 45.01    |
| F-4     | 102            | 26      | 42.18    | 21            | 34      | 11.46    |
| F-3     | 102            | 26      | 37.10    | 21            | 34      | 30.11    |
| F-2     | 102            | 25      | 29.89    | 21            | 34      | 47.46    |
| F-1     | 102            | 25      | 8.18     | 21            | 35      | 39.12    |
| H-28    | 102            | 24      | 37.44    | 21            | 35      | 13.70    |
| H-27    | 102            | 24      | 36.04    | 21            | 34      | 57.68    |
| H-26    | 102            | 25      | 0.26     | 21            | 34      | 35.00    |
| H-25    | 102            | 25      | 1.49     | 21            | 33      | 15.70    |
| H-24    | 102            | 24      | 52.49    | 21            | 32      | 46.57    |
| H-23    | 102            | 25      | 24.17    | 21            | 30      | 1.80     |
| H-22    | 102            | 25      | 46.63    | 21            | 29      | 11.80    |
| H-21    | 102            | 27      | 11.34    | 21            | 27      | 29.74    |
| H-20    | 102            | 27      | 56.12    | 21            | 27      | 6.12     |
| H-19    | 102            | 28      | 19.06    | 21            | 26      | 8.95     |
| H-18    | 102            | 28      | 56.46    | 21            | 25      | 48.29    |
| H-17    | 102            | 29      | 21.95    | 21            | 25      | 9.91     |
| H-16    | 102            | 28      | 48.68    | 21            | 24      | 6.05     |
| H-15    | 102            | 28      | 55.49    | 21            | 23      | 17.95    |
| H-14    | 102            | 28      | 9.95     | 21            | 22      | 24.67    |
| E-105   | 102            | 28      | 6.89     | 21            | 21      | 47.74    |
| E-104   | 102            | 28      | 20.50    | 21            | 21      | 48.96    |
| E-103   | 102            | 28      | 34.64    | 21            | 21      | 27.54    |
| E-102   | 102            | 28      | 47.17    | 21            | 21      | 25.81    |
| E-101   | 102            | 28      | 49.91    | 21            | 21      | 4.25     |
| E-100   | 102            | 29      | 32.46    | 21            | 21      | 6.01     |
| E-99    | 102            | 29      | 43.44    | 21            | 20      | 52.98    |
| E-98    | 102            | 29      | 37.18    | 21            | 20      | 33.58    |
| E-97    | 102            | 30      | 14.47    | 21            | 20      | 18.13    |
| E-96    | 102            | 30      | 46.73    | 21            | 19      | 18.23    |
| E-95    | 102            | 31      | 37.09    | 21            | 19      | 10.88    |
| I-1     | 102            | 32      | 44.70    | 21            | 19      | 12.72    |
| I-2     | 102            | 33      | 5.58     | 21            | 19      | 33.10    |
| I-3     | 102            | 33      | 15.66    | 21            | 19      | 59.99    |
| I-4     | 102            | 33      | 32.33    | 21            | 20      | 7.91     |
| I-5     | 102            | 33      | 35.93    | 21            | 20      | 19.18    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| I-6     | 102            | 33      | 12.82    | 21            | 20      | 42.32    |
| I-7     | 102            | 33      | 37.98    | 21            | 21      | 46.01    |
| I-8     | 102            | 34      | 2.93     | 21            | 22      | 17.29    |
| I-9     | 102            | 33      | 57.17    | 21            | 23      | 14.71    |
| I-10    | 102            | 35      | 26.81    | 21            | 24      | 31.61    |
| I-11    | 102            | 35      | 17.77    | 21            | 25      | 19.38    |
| I-12    | 102            | 35      | 47.47    | 21            | 26      | 21.91    |
| I-13    | 102            | 36      | 9.47     | 21            | 26      | 40.92    |
| I-14    | 102            | 36      | 44.42    | 21            | 26      | 43.04    |
| I-15    | 102            | 37      | 4.94     | 21            | 27      | 36.04    |
| I-16    | 102            | 37      | 51.56    | 21            | 27      | 56.38    |
| I-17    | 102            | 37      | 45.34    | 21            | 29      | 19.79    |
| I-18    | 102            | 37      | 13.12    | 21            | 30      | 5.15     |
| I-19    | 102            | 38      | 38.00    | 21            | 30      | 55.37    |
| I-20    | 102            | 40      | 6.92     | 21            | 32      | 21.05    |
| I-21    | 102            | 41      | 5.68     | 21            | 32      | 41.71    |
| I-22    | 102            | 41      | 26.38    | 21            | 33      | 39.24    |
| I-23    | 102            | 41      | 19.46    | 21            | 34      | 9.08     |
| I-24    | 102            | 41      | 36.42    | 21            | 34      | 9.44     |
| I-25    | 102            | 41      | 54.17    | 21            | 35      | 9.67     |
| I-26    | 102            | 42      | 27.61    | 21            | 35      | 9.89     |
| I-27    | 102            | 42      | 49.64    | 21            | 35      | 57.80    |
| I-28    | 102            | 43      | 28.16    | 21            | 36      | 32.11    |
| I-29    | 102            | 43      | 7.79     | 21            | 37      | 20.64    |
| I-30    | 102            | 43      | 31.19    | 21            | 37      | 28.96    |
| I-31    | 102            | 42      | 59.15    | 21            | 37      | 54.55    |
| I-32    | 102            | 43      | 19.38    | 21            | 38      | 16.76    |
| I-33    | 102            | 43      | 12.47    | 21            | 38      | 27.13    |
| I-34    | 102            | 43      | 22.48    | 21            | 39      | 19.91    |
| I-35    | 102            | 43      | 11.46    | 21            | 39      | 52.52    |
| I-36    | 102            | 42      | 46.19    | 21            | 40      | 4.51     |
| I-37    | 102            | 43      | 32.70    | 21            | 40      | 34.28    |
| I-38    | 102            | 43      | 45.12    | 21            | 41      | 17.05    |
| I-39    | 102            | 44      | 28.25    | 21            | 41      | 45.46    |
| I-40    | 102            | 44      | 32.50    | 21            | 42      | 9.97     |
| I-41    | 102            | 45      | 2.09     | 21            | 42      | 43.16    |
| I-42    | 102            | 44      | 40.13    | 21            | 42      | 57.38    |
| I-43    | 102            | 44      | 52.33    | 21            | 43      | 1.85     |
| I-44    | 102            | 44      | 47.47    | 21            | 43      | 6.46     |
| I-45    | 102            | 44      | 20.26    | 21            | 43      | 15.56    |
| I-46    | 102            | 44      | 11.08    | 21            | 42      | 44.57    |
| I-47    | 102            | 43      | 20.93    | 21            | 42      | 24.30    |
| I-48    | 102            | 42      | 58.75    | 21            | 42      | 3.60     |
| I-49    | 102            | 42      | 47.56    | 21            | 42      | 12.02    |
| I-50    | 102            | 42      | 37.33    | 21            | 42      | 7.92     |
| I-51    | 102            | 42      | 23.04    | 21            | 42      | 20.70    |
| I-52    | 102            | 41      | 38.11    | 21            | 42      | 17.32    |

X.- CUENCA HIDROLOGICA RIO SAN MIGUEL: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 1.13 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).

El volumen disponible que se señala en el párrafo anterior, comprende desde el nacimiento del Río San Miguel hasta su confluencia con el Río Verde.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río San Miguel tiene una superficie de aportación de 1,108.9 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por las cuencas hidrológicas Río Verde 1 y Río de

Lagos, al Sur por la subregión hidrológica Lerma-Chapala, al Este por la cuenca hidrológica Río de Lagos y al Oeste por las cuencas hidrológicas Río del Valle y Río Verde 1. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| E-89    | 102            | 33      | 0.86     | 21            | 15      | 50.58    |
| E-88    | 102            | 32      | 10.07    | 21            | 15      | 24.84    |
| E-87    | 102            | 31      | 45.66    | 21            | 15      | 29.95    |
| E-86    | 102            | 31      | 20.28    | 21            | 15      | 9.68     |
| E-85    | 102            | 29      | 46.64    | 21            | 14      | 44.38    |
| E-84    | 102            | 29      | 24.83    | 21            | 13      | 47.71    |
| E-83    | 102            | 28      | 2.42     | 21            | 13      | 30.50    |
| E-82    | 102            | 27      | 49.25    | 21            | 13      | 4.98     |
| E-81    | 102            | 27      | 15.41    | 21            | 12      | 49.18    |
| E-80    | 102            | 26      | 19.14    | 21            | 12      | 34.45    |
| E-79    | 102            | 25      | 39.90    | 21            | 12      | 45.32    |
| E-78    | 102            | 24      | 16.06    | 21            | 11      | 34.66    |
| E-77    | 102            | 23      | 40.52    | 21            | 11      | 30.66    |
| E-76    | 102            | 22      | 50.30    | 21            | 10      | 45.88    |
| E-75    | 102            | 22      | 2.53     | 21            | 11      | 21.12    |
| E-74    | 102            | 21      | 39.35    | 21            | 10      | 44.00    |
| E-73    | 102            | 20      | 39.01    | 21            | 10      | 43.46    |
| E-72    | 102            | 21      | 6.41     | 21            | 10      | 11.60    |
| E-71    | 102            | 21      | 13.03    | 21            | 9       | 39.92    |
| E-70    | 102            | 20      | 38.58    | 21            | 9       | 40.21    |
| E-69    | 102            | 20      | 19.68    | 21            | 9       | 18.07    |
| E-68    | 102            | 19      | 36.55    | 21            | 9       | 15.23    |
| E-67    | 102            | 18      | 53.42    | 21            | 8       | 7.33     |
| E-66    | 102            | 18      | 26.46    | 21            | 8       | 26.09    |
| E-65    | 102            | 17      | 34.30    | 21            | 8       | 7.01     |
| E-64    | 102            | 15      | 36.00    | 21            | 8       | 18.10    |
| E-63    | 102            | 15      | 25.13    | 21            | 7       | 21.79    |
| E-62    | 102            | 15      | 49.86    | 21            | 7       | 0.05     |
| E-61    | 102            | 14      | 45.06    | 21            | 6       | 37.44    |
| E-60    | 102            | 14      | 12.23    | 21            | 6       | 2.12     |
| E-59    | 102            | 13      | 55.02    | 21            | 5       | 9.82     |
| E-58    | 102            | 14      | 1.32     | 21            | 4       | 14.05    |
| E-57    | 102            | 13      | 28.78    | 21            | 4       | 2.28     |
| E-56    | 102            | 13      | 54.66    | 21            | 1       | 7.57     |
| E-55    | 102            | 14      | 32.39    | 21            | 0       | 37.26    |
| E-54    | 102            | 13      | 31.44    | 20            | 58      | 2.06     |
| E-53    | 102            | 14      | 3.19     | 20            | 57      | 39.49    |
| E-52    | 102            | 15      | 35.71    | 20            | 57      | 44.10    |
| E-51    | 102            | 16      | 8.29     | 20            | 57      | 2.16     |
| E-50    | 102            | 16      | 2.93     | 20            | 56      | 10.07    |
| E-49    | 102            | 16      | 42.78    | 20            | 54      | 27.32    |
| J-1     | 102            | 17      | 8.52     | 20            | 54      | 58.07    |
| J-2     | 102            | 18      | 25.56    | 20            | 55      | 11.24    |
| J-3     | 102            | 19      | 50.48    | 20            | 54      | 1.15     |
| J-4     | 102            | 21      | 36.25    | 20            | 53      | 38.90    |
| J-5     | 102            | 22      | 54.77    | 20            | 52      | 54.59    |
| J-6     | 102            | 24      | 7.31     | 20            | 52      | 57.43    |
| J-7     | 102            | 24      | 16.13    | 20            | 52      | 38.71    |
| J-8     | 102            | 25      | 31.76    | 20            | 52      | 17.44    |
| J-9     | 102            | 26      | 2.40     | 20            | 52      | 23.70    |
| J-10    | 102            | 26      | 20.47    | 20            | 52      | 25.82    |
| J-11    | 102            | 26      | 45.56    | 20            | 51      | 55.30    |
| J-12    | 102            | 27      | 7.67     | 20            | 51      | 59.11    |
| J-13    | 102            | 28      | 28.34    | 20            | 53      | 5.82     |
| J-14    | 102            | 29      | 1.57     | 20            | 54      | 2.02     |
| J-15    | 102            | 29      | 1.07     | 20            | 55      | 15.24    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| J-16    | 102            | 28      | 9.08     | 20            | 56      | 18.92    |
| J-17    | 102            | 28      | 24.06    | 20            | 56      | 36.92    |
| J-18    | 102            | 30      | 38.99    | 20            | 57      | 16.63    |
| J-19    | 102            | 31      | 6.74     | 20            | 57      | 39.89    |
| J-20    | 102            | 31      | 31.19    | 20            | 58      | 38.21    |
| J-21    | 102            | 32      | 47.98    | 20            | 59      | 44.23    |
| J-22    | 102            | 32      | 30.77    | 21            | 0       | 57.10    |
| J-23    | 102            | 31      | 18.98    | 21            | 2       | 8.16     |
| J-24    | 102            | 30      | 37.08    | 21            | 2       | 34.87    |
| J-25    | 102            | 29      | 27.78    | 21            | 2       | 21.26    |
| J-26    | 102            | 27      | 47.48    | 21            | 3       | 3.46     |
| J-27    | 102            | 28      | 28.85    | 21            | 4       | 19.96    |
| J-28    | 102            | 31      | 14.09    | 21            | 5       | 36.82    |
| J-29    | 102            | 32      | 25.48    | 21            | 5       | 22.85    |
| J-30    | 102            | 33      | 0.22     | 21            | 5       | 2.83     |
| J-31    | 102            | 34      | 7.97     | 21            | 5       | 0.06     |
| J-32    | 102            | 34      | 57.36    | 21            | 5       | 7.15     |
| J-33    | 102            | 35      | 31.88    | 21            | 5       | 42.65    |
| J-34    | 102            | 35      | 44.70    | 21            | 5       | 5.53     |
| J-35    | 102            | 36      | 47.81    | 21            | 5       | 28.54    |
| J-36    | 102            | 38      | 33.22    | 21            | 4       | 24.24    |
| J-37    | 102            | 37      | 45.23    | 21            | 5       | 41.17    |
| J-38    | 102            | 38      | 8.59     | 21            | 6       | 57.67    |
| J-39    | 102            | 38      | 15.22    | 21            | 8       | 27.74    |
| J-40    | 102            | 38      | 33.94    | 21            | 8       | 49.99    |
| J-41    | 102            | 38      | 9.02     | 21            | 9       | 31.57    |
| J-42    | 102            | 38      | 40.45    | 21            | 10      | 16.14    |
| J-43    | 102            | 38      | 39.26    | 21            | 10      | 48.32    |
| J-44    | 102            | 39      | 15.16    | 21            | 11      | 5.93     |
| J-45    | 102            | 39      | 36.14    | 21            | 12      | 6.37     |
| J-46    | 102            | 38      | 57.23    | 21            | 12      | 21.38    |
| J-47    | 102            | 38      | 39.62    | 21            | 12      | 53.64    |
| J-48    | 102            | 38      | 40.09    | 21            | 13      | 38.46    |
| J-49    | 102            | 38      | 10.43    | 21            | 14      | 13.70    |
| J-50    | 102            | 37      | 14.84    | 21            | 14      | 22.34    |
| J-51    | 102            | 36      | 41.18    | 21            | 14      | 0.24     |
| J-52    | 102            | 36      | 13.72    | 21            | 14      | 13.49    |
| J-53    | 102            | 36      | 16.81    | 21            | 14      | 50.24    |
| J-54    | 102            | 35      | 33.72    | 21            | 15      | 29.84    |
| J-55    | 102            | 34      | 47.32    | 21            | 15      | 25.16    |
| J-56    | 102            | 33      | 53.96    | 21            | 16      | 5.23     |
| J-57    | 102            | 33      | 20.45    | 21            | 16      | 13.12    |

**XI.- CUENCA HIDROLOGICA RIO DEL VALLE: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 0.34 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde el nacimiento del Río del Valle hasta su confluencia con el Río Verde.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río del Valle tiene una superficie de aportación de 765.8 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por las cuencas hidrológicas Río Verde 1 y Río San Miguel, al Sur por la subregión hidrológica Lerma-Chapala, al Este por la cuenca hidrológica Río San Miguel y al Oeste por las cuencas hidrológicas Río Verde 2 y Río Santiago 1. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| K-1     | 102            | 26      | 11.62    | 20            | 52      | 9.08     |
| K-2     | 102            | 26      | 7.04     | 20            | 51      | 36.22    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| K-3     | 102            | 26      | 23.71    | 20            | 51      | 14.83    |
| K-4     | 102            | 26      | 1.18     | 20            | 51      | 0.18     |
| K-5     | 102            | 25      | 53.76    | 20            | 50      | 24.18    |
| K-6     | 102            | 27      | 6.16     | 20            | 49      | 23.63    |
| K-7     | 102            | 28      | 7.14     | 20            | 48      | 7.63     |
| K-8     | 102            | 28      | 55.34    | 20            | 48      | 18.25    |
| K-9     | 102            | 30      | 6.91     | 20            | 49      | 6.17     |
| K-10    | 102            | 30      | 35.46    | 20            | 49      | 6.56     |
| K-11    | 102            | 31      | 20.60    | 20            | 48      | 44.03    |
| K-12    | 102            | 31      | 48.72    | 20            | 46      | 37.52    |
| K-13    | 102            | 31      | 38.64    | 20            | 46      | 13.26    |
| K-14    | 102            | 30      | 51.01    | 20            | 46      | 5.56     |
| K-15    | 102            | 30      | 33.30    | 20            | 45      | 11.56    |
| K-16    | 102            | 32      | 50.03    | 20            | 44      | 33.25    |
| K-17    | 102            | 33      | 31.28    | 20            | 43      | 51.64    |
| K-18    | 102            | 33      | 33.44    | 20            | 43      | 33.42    |
| K-19    | 102            | 34      | 2.93     | 20            | 44      | 3.55     |
| K-20    | 102            | 34      | 11.28    | 20            | 44      | 33.32    |
| K-21    | 102            | 34      | 35.08    | 20            | 44      | 58.85    |
| K-22    | 102            | 35      | 19.90    | 20            | 45      | 18.97    |
| K-23    | 102            | 35      | 28.61    | 20            | 45      | 42.01    |
| K-24    | 102            | 35      | 13.78    | 20            | 46      | 2.14     |
| K-25    | 102            | 35      | 14.50    | 20            | 46      | 51.06    |
| K-26    | 102            | 34      | 30.43    | 20            | 48      | 29.12    |
| K-27    | 102            | 35      | 19.10    | 20            | 49      | 7.03     |
| K-28    | 102            | 35      | 40.45    | 20            | 49      | 37.02    |
| K-29    | 102            | 35      | 56.98    | 20            | 50      | 25.30    |
| K-30    | 102            | 36      | 17.75    | 20            | 50      | 34.08    |
| K-31    | 102            | 37      | 44.04    | 20            | 49      | 53.58    |
| K-32    | 102            | 37      | 56.21    | 20            | 50      | 4.56     |
| K-33    | 102            | 36      | 53.75    | 20            | 50      | 43.19    |
| K-34    | 102            | 36      | 50.80    | 20            | 52      | 5.52     |
| K-35    | 102            | 37      | 33.71    | 20            | 54      | 9.47     |
| K-36    | 102            | 37      | 52.14    | 20            | 53      | 23.42    |
| K-37    | 102            | 38      | 30.23    | 20            | 52      | 49.84    |
| K-38    | 102            | 39      | 17.96    | 20            | 52      | 42.67    |
| K-39    | 102            | 40      | 21.68    | 20            | 52      | 53.18    |
| K-40    | 102            | 41      | 30.80    | 20            | 53      | 47.15    |
| K-41    | 102            | 42      | 29.16    | 20            | 53      | 42.65    |
| K-42    | 102            | 43      | 59.92    | 20            | 54      | 35.50    |
| K-43    | 102            | 44      | 10.54    | 20            | 54      | 50.44    |
| K-44    | 102            | 44      | 4.20     | 20            | 55      | 4.30     |
| K-45    | 102            | 44      | 37.14    | 20            | 55      | 30.14    |
| K-46    | 102            | 44      | 36.64    | 20            | 55      | 42.35    |
| K-47    | 102            | 46      | 6.38     | 20            | 56      | 31.60    |
| K-48    | 102            | 46      | 42.82    | 20            | 57      | 14.62    |
| K-49    | 102            | 46      | 27.08    | 20            | 57      | 33.44    |
| K-50    | 102            | 46      | 46.13    | 20            | 58      | 43.07    |
| K-51    | 102            | 46      | 42.85    | 20            | 58      | 59.20    |
| K-52    | 102            | 46      | 19.20    | 20            | 59      | 4.67     |
| K-53    | 102            | 46      | 11.17    | 21            | 0       | 11.20    |
| K-54    | 102            | 46      | 29.86    | 21            | 0       | 36.25    |
| K-55    | 102            | 46      | 19.06    | 21            | 0       | 53.57    |
| K-56    | 102            | 46      | 22.84    | 21            | 1       | 8.40     |
| K-57    | 102            | 47      | 7.84     | 21            | 1       | 22.98    |
| K-58    | 102            | 47      | 23.35    | 21            | 1       | 53.29    |
| K-59    | 102            | 46      | 48.54    | 21            | 1       | 56.71    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| K-60    | 102            | 45      | 48.71    | 21            | 2       | 51.79    |
| K-61    | 102            | 45      | 30.35    | 21            | 3       | 17.75    |
| K-62    | 102            | 45      | 29.12    | 21            | 3       | 57.92    |
| K-63    | 102            | 43      | 49.30    | 21            | 4       | 45.95    |
| K-64    | 102            | 43      | 27.26    | 21            | 4       | 20.89    |
| K-65    | 102            | 42      | 23.18    | 21            | 4       | 9.66     |
| K-66    | 102            | 41      | 34.55    | 21            | 4       | 55.31    |
| K-67    | 102            | 40      | 51.71    | 21            | 4       | 53.90    |
| K-68    | 102            | 40      | 59.52    | 21            | 5       | 18.53    |
| K-69    | 102            | 40      | 20.78    | 21            | 5       | 22.78    |
| K-70    | 102            | 39      | 9.18     | 21            | 5       | 6.50     |
| K-71    | 102            | 38      | 43.08    | 21            | 4       | 24.67    |
| J-36    | 102            | 38      | 33.22    | 21            | 4       | 24.24    |
| J-35    | 102            | 36      | 47.81    | 21            | 5       | 28.54    |
| J-34    | 102            | 35      | 44.70    | 21            | 5       | 5.53     |
| J-33    | 102            | 35      | 31.88    | 21            | 5       | 42.65    |
| J-32    | 102            | 34      | 57.36    | 21            | 5       | 7.15     |
| J-31    | 102            | 34      | 7.97     | 21            | 5       | 0.06     |
| J-30    | 102            | 33      | 0.22     | 21            | 5       | 2.83     |
| J-29    | 102            | 32      | 25.48    | 21            | 5       | 22.85    |
| J-28    | 102            | 31      | 14.09    | 21            | 5       | 36.82    |
| J-27    | 102            | 28      | 28.85    | 21            | 4       | 19.96    |
| J-26    | 102            | 27      | 47.48    | 21            | 3       | 3.46     |
| J-25    | 102            | 29      | 27.78    | 21            | 2       | 21.26    |
| J-24    | 102            | 30      | 37.08    | 21            | 2       | 34.87    |
| J-23    | 102            | 31      | 18.98    | 21            | 2       | 8.16     |
| J-22    | 102            | 32      | 30.77    | 21            | 0       | 57.10    |
| J-21    | 102            | 32      | 47.98    | 20            | 59      | 44.23    |
| J-20    | 102            | 31      | 31.19    | 20            | 58      | 38.21    |
| J-19    | 102            | 31      | 6.74     | 20            | 57      | 39.89    |
| J-18    | 102            | 30      | 38.99    | 20            | 57      | 16.63    |
| J-17    | 102            | 28      | 24.06    | 20            | 56      | 36.92    |
| J-16    | 102            | 28      | 9.08     | 20            | 56      | 18.92    |
| J-15    | 102            | 29      | 1.07     | 20            | 55      | 15.24    |
| J-14    | 102            | 29      | 1.57     | 20            | 54      | 2.02     |
| J-13    | 102            | 28      | 28.34    | 20            | 53      | 5.82     |
| J-12    | 102            | 27      | 7.67     | 20            | 51      | 59.11    |
| J-11    | 102            | 26      | 45.56    | 20            | 51      | 55.30    |
| J-10    | 102            | 26      | 20.47    | 20            | 52      | 25.82    |
| J-9     | 102            | 26      | 2.40     | 20            | 52      | 23.70    |

**XII.- CUENCA HIDROLOGICA RIO VERDE 1: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 9.05 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde la estación hidrométrica Paso del Sabino y la confluencia de los Ríos de Lagos, San Miguel y Del Valle con el Río Verde, hasta la estación hidrométrica La Cuña.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la polygonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Verde 1 tiene una superficie de aportación de 2,128.7 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por la cuenca hidrológica Río Juchipila 1, al Sur por las cuencas hidrológicas Río del Valle y Río Verde 2, al Este por las cuencas hidrológicas Río Aguascalientes y Río San Miguel y al Oeste por la cuenca hidrológica Río Juchipila 2. Geográficamente se ubica dentro de la polygonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| E-95    | 102            | 31      | 37.09    | 21            | 19      | 10.88    |
| E-94    | 102            | 31      | 58.76    | 21            | 17      | 56.65    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| E-93    | 102            | 32      | 14.46    | 21            | 17      | 56.76    |
| E-92    | 102            | 31      | 55.24    | 21            | 17      | 19.97    |
| E-91    | 102            | 32      | 10.64    | 21            | 16      | 24.35    |
| E-90    | 102            | 32      | 0.02     | 21            | 16      | 19.27    |
| E-89    | 102            | 33      | 0.86     | 21            | 15      | 50.58    |
| J-57    | 102            | 33      | 20.45    | 21            | 16      | 13.12    |
| J-56    | 102            | 33      | 53.96    | 21            | 16      | 5.23     |
| J-55    | 102            | 34      | 47.32    | 21            | 15      | 25.16    |
| J-54    | 102            | 35      | 33.72    | 21            | 15      | 29.84    |
| J-53    | 102            | 36      | 16.81    | 21            | 14      | 50.24    |
| J-52    | 102            | 36      | 13.72    | 21            | 14      | 13.49    |
| J-51    | 102            | 36      | 41.18    | 21            | 14      | 0.24     |
| J-50    | 102            | 37      | 14.84    | 21            | 14      | 22.34    |
| J-49    | 102            | 38      | 10.43    | 21            | 14      | 13.70    |
| J-48    | 102            | 38      | 40.09    | 21            | 13      | 38.46    |
| J-47    | 102            | 38      | 39.62    | 21            | 12      | 53.64    |
| J-46    | 102            | 38      | 57.23    | 21            | 12      | 21.38    |
| J-45    | 102            | 39      | 36.14    | 21            | 12      | 6.37     |
| J-44    | 102            | 39      | 15.16    | 21            | 11      | 5.93     |
| J-43    | 102            | 38      | 39.26    | 21            | 10      | 48.32    |
| J-42    | 102            | 38      | 40.45    | 21            | 10      | 16.14    |
| J-41    | 102            | 38      | 9.02     | 21            | 9       | 31.57    |
| J-40    | 102            | 38      | 33.94    | 21            | 8       | 49.99    |
| J-39    | 102            | 38      | 15.22    | 21            | 8       | 27.74    |
| J-38    | 102            | 38      | 8.59     | 21            | 6       | 57.67    |
| J-37    | 102            | 37      | 45.23    | 21            | 5       | 41.17    |
| J-36    | 102            | 38      | 33.22    | 21            | 4       | 24.24    |
| K-71    | 102            | 38      | 43.08    | 21            | 4       | 24.67    |
| K-70    | 102            | 39      | 9.18     | 21            | 5       | 6.50     |
| K-69    | 102            | 40      | 20.78    | 21            | 5       | 22.78    |
| K-68    | 102            | 40      | 59.52    | 21            | 5       | 18.53    |
| K-67    | 102            | 40      | 51.71    | 21            | 4       | 53.90    |
| K-66    | 102            | 41      | 34.55    | 21            | 4       | 55.31    |
| K-65    | 102            | 42      | 23.18    | 21            | 4       | 9.66     |
| K-64    | 102            | 43      | 27.26    | 21            | 4       | 20.89    |
| K-63    | 102            | 43      | 49.30    | 21            | 4       | 45.95    |
| K-62    | 102            | 45      | 29.12    | 21            | 3       | 57.92    |
| K-61    | 102            | 45      | 30.35    | 21            | 3       | 17.75    |
| K-60    | 102            | 45      | 48.71    | 21            | 2       | 51.79    |
| K-59    | 102            | 46      | 48.54    | 21            | 1       | 56.71    |
| K-58    | 102            | 47      | 23.35    | 21            | 1       | 53.29    |
| K-57    | 102            | 47      | 7.84     | 21            | 1       | 22.98    |
| K-56    | 102            | 46      | 22.84    | 21            | 1       | 8.40     |
| K-55    | 102            | 46      | 19.06    | 21            | 0       | 53.57    |
| K-54    | 102            | 46      | 29.86    | 21            | 0       | 36.25    |
| K-53    | 102            | 46      | 11.17    | 21            | 0       | 11.20    |
| K-52    | 102            | 46      | 19.20    | 20            | 59      | 4.67     |
| K-51    | 102            | 46      | 42.85    | 20            | 58      | 59.20    |
| K-50    | 102            | 46      | 46.13    | 20            | 58      | 43.07    |
| K-49    | 102            | 46      | 27.08    | 20            | 57      | 33.44    |
| K-48    | 102            | 46      | 42.82    | 20            | 57      | 14.62    |
| L-1     | 102            | 47      | 23.42    | 20            | 57      | 14.11    |
| L-2     | 102            | 47      | 41.32    | 20            | 56      | 51.83    |
| L-3     | 102            | 48      | 26.96    | 20            | 57      | 20.12    |
| L-4     | 102            | 48      | 36.00    | 20            | 58      | 16.57    |
| L-5     | 102            | 48      | 56.84    | 20            | 58      | 45.48    |
| L-6     | 102            | 48      | 53.10    | 20            | 59      | 31.45    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| L-7     | 102            | 49      | 22.51    | 20            | 59      | 44.88    |
| L-8     | 102            | 49      | 18.44    | 21            | 0       | 22.61    |
| L-9     | 102            | 49      | 36.19    | 21            | 1       | 2.46     |
| L-10    | 102            | 50      | 6.29     | 21            | 1       | 15.67    |
| L-11    | 102            | 51      | 0.94     | 21            | 2       | 16.48    |
| L-12    | 102            | 50      | 56.90    | 21            | 3       | 29.95    |
| L-13    | 102            | 52      | 22.66    | 21            | 3       | 16.42    |
| L-14    | 102            | 52      | 17.22    | 21            | 4       | 32.95    |
| L-15    | 102            | 56      | 47.80    | 21            | 6       | 13.93    |
| L-16    | 102            | 57      | 55.55    | 21            | 6       | 24.37    |
| L-17    | 102            | 59      | 8.63     | 21            | 6       | 15.80    |
| L-18    | 103            | 2       | 14.10    | 21            | 6       | 42.84    |
| L-19    | 103            | 2       | 7.40     | 21            | 7       | 7.57     |
| L-20    | 103            | 2       | 48.62    | 21            | 8       | 14.57    |
| L-21    | 103            | 2       | 4.85     | 21            | 8       | 44.23    |
| L-22    | 103            | 2       | 1.36     | 21            | 9       | 37.04    |
| L-23    | 103            | 1       | 37.81    | 21            | 10      | 21.43    |
| L-24    | 103            | 0       | 26.35    | 21            | 10      | 51.92    |
| L-25    | 103            | 0       | 36.86    | 21            | 11      | 10.39    |
| L-26    | 103            | 0       | 25.02    | 21            | 11      | 34.58    |
| L-27    | 103            | 1       | 1.06     | 21            | 11      | 49.70    |
| L-28    | 103            | 1       | 56.60    | 21            | 11      | 49.42    |
| L-29    | 103            | 2       | 53.52    | 21            | 12      | 38.38    |
| L-30    | 103            | 3       | 27.25    | 21            | 12      | 34.06    |
| L-31    | 103            | 3       | 41.69    | 21            | 12      | 50.04    |
| L-32    | 103            | 4       | 4.84     | 21            | 12      | 49.21    |
| L-33    | 103            | 4       | 1.67     | 21            | 13      | 54.26    |
| L-34    | 103            | 3       | 9.72     | 21            | 13      | 52.86    |
| L-35    | 103            | 2       | 20.33    | 21            | 14      | 56.47    |
| L-36    | 103            | 2       | 42.79    | 21            | 15      | 26.39    |
| L-37    | 103            | 2       | 8.63     | 21            | 16      | 3.22     |
| L-38    | 103            | 2       | 2.11     | 21            | 18      | 32.11    |
| L-39    | 103            | 1       | 33.38    | 21            | 18      | 59.11    |
| L-40    | 103            | 1       | 35.90    | 21            | 19      | 21.43    |
| L-41    | 103            | 1       | 13.40    | 21            | 19      | 35.29    |
| L-42    | 103            | 1       | 9.59     | 21            | 20      | 4.31     |
| L-43    | 102            | 59      | 2.11     | 21            | 21      | 13.54    |
| L-44    | 102            | 58      | 48.83    | 21            | 21      | 36.54    |
| L-45    | 102            | 58      | 53.18    | 21            | 21      | 44.60    |
| L-46    | 102            | 58      | 14.66    | 21            | 22      | 32.84    |
| L-47    | 102            | 58      | 12.65    | 21            | 23      | 6.43     |
| L-48    | 102            | 57      | 35.53    | 21            | 24      | 18.07    |
| L-49    | 102            | 57      | 16.63    | 21            | 24      | 21.64    |
| L-50    | 102            | 57      | 10.73    | 21            | 24      | 7.92     |
| L-51    | 102            | 56      | 34.33    | 21            | 23      | 53.99    |
| L-52    | 102            | 56      | 22.88    | 21            | 24      | 11.99    |
| L-53    | 102            | 55      | 36.62    | 21            | 24      | 9.14     |
| L-54    | 102            | 54      | 55.91    | 21            | 25      | 14.20    |
| L-55    | 102            | 55      | 11.10    | 21            | 25      | 14.99    |
| L-56    | 102            | 55      | 13.22    | 21            | 25      | 24.35    |
| L-57    | 102            | 54      | 56.41    | 21            | 25      | 55.38    |
| L-58    | 102            | 54      | 54.22    | 21            | 27      | 24.41    |
| L-59    | 102            | 52      | 33.20    | 21            | 27      | 2.45     |
| L-60    | 102            | 52      | 10.20    | 21            | 27      | 15.26    |
| L-61    | 102            | 51      | 43.09    | 21            | 26      | 40.42    |
| L-62    | 102            | 50      | 20.83    | 21            | 27      | 6.91     |
| L-63    | 102            | 49      | 47.21    | 21            | 26      | 59.14    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| L-64    | 102            | 49      | 28.34    | 21            | 28      | 16.54    |
| L-65    | 102            | 48      | 33.23    | 21            | 28      | 58.80    |
| L-66    | 102            | 48      | 28.76    | 21            | 29      | 35.92    |
| L-67    | 102            | 47      | 43.33    | 21            | 30      | 33.77    |
| L-68    | 102            | 47      | 54.28    | 21            | 31      | 40.98    |
| L-69    | 102            | 48      | 38.23    | 21            | 31      | 49.51    |
| L-70    | 102            | 48      | 10.55    | 21            | 32      | 12.77    |
| L-71    | 102            | 48      | 15.73    | 21            | 32      | 35.84    |
| L-72    | 102            | 47      | 50.93    | 21            | 33      | 21.71    |
| L-73    | 102            | 47      | 58.24    | 21            | 33      | 51.73    |
| L-74    | 102            | 49      | 9.05     | 21            | 35      | 6.11     |
| L-75    | 102            | 49      | 43.64    | 21            | 35      | 12.59    |
| L-76    | 102            | 48      | 46.91    | 21            | 36      | 29.63    |
| L-77    | 102            | 49      | 20.60    | 21            | 36      | 48.13    |
| L-78    | 102            | 48      | 39.46    | 21            | 37      | 50.23    |
| L-79    | 102            | 48      | 42.52    | 21            | 38      | 10.68    |
| L-80    | 102            | 48      | 14.76    | 21            | 38      | 16.76    |
| L-81    | 102            | 47      | 31.34    | 21            | 38      | 55.68    |
| L-82    | 102            | 46      | 55.42    | 21            | 38      | 42.86    |
| L-83    | 102            | 46      | 48.54    | 21            | 38      | 26.63    |
| L-84    | 102            | 45      | 54.29    | 21            | 39      | 19.26    |
| L-85    | 102            | 46      | 25.57    | 21            | 40      | 11.93    |
| L-86    | 102            | 45      | 40.75    | 21            | 40      | 15.35    |
| L-87    | 102            | 45      | 23.65    | 21            | 40      | 29.78    |
| L-88    | 102            | 45      | 43.38    | 21            | 40      | 57.25    |
| L-89    | 102            | 45      | 24.73    | 21            | 40      | 59.84    |
| L-90    | 102            | 45      | 19.44    | 21            | 41      | 27.35    |
| L-91    | 102            | 45      | 39.78    | 21            | 41      | 46.28    |
| L-92    | 102            | 45      | 21.46    | 21            | 42      | 14.58    |
| L-93    | 102            | 45      | 25.09    | 21            | 42      | 40.32    |
| I-41    | 102            | 45      | 2.09     | 21            | 42      | 43.16    |
| I-40    | 102            | 44      | 32.50    | 21            | 42      | 9.97     |
| I-39    | 102            | 44      | 28.25    | 21            | 41      | 45.46    |
| I-38    | 102            | 43      | 45.12    | 21            | 41      | 17.05    |
| I-37    | 102            | 43      | 32.70    | 21            | 40      | 34.28    |
| I-36    | 102            | 42      | 46.19    | 21            | 40      | 4.51     |
| I-35    | 102            | 43      | 11.46    | 21            | 39      | 52.52    |
| I-34    | 102            | 43      | 22.48    | 21            | 39      | 19.91    |
| I-33    | 102            | 43      | 12.47    | 21            | 38      | 27.13    |
| I-32    | 102            | 43      | 19.38    | 21            | 38      | 16.76    |
| I-31    | 102            | 42      | 59.15    | 21            | 37      | 54.55    |
| I-30    | 102            | 43      | 31.19    | 21            | 37      | 28.96    |
| I-29    | 102            | 43      | 7.79     | 21            | 37      | 20.64    |
| I-28    | 102            | 43      | 28.16    | 21            | 36      | 32.11    |
| I-27    | 102            | 42      | 49.64    | 21            | 35      | 57.80    |
| I-26    | 102            | 42      | 27.61    | 21            | 35      | 9.89     |
| I-25    | 102            | 41      | 54.17    | 21            | 35      | 9.67     |
| I-24    | 102            | 41      | 36.42    | 21            | 34      | 9.44     |
| I-23    | 102            | 41      | 19.46    | 21            | 34      | 9.08     |
| I-22    | 102            | 41      | 26.38    | 21            | 33      | 39.24    |
| I-21    | 102            | 41      | 5.68     | 21            | 32      | 41.71    |
| I-20    | 102            | 40      | 6.92     | 21            | 32      | 21.05    |
| I-19    | 102            | 38      | 38.00    | 21            | 30      | 55.37    |
| I-18    | 102            | 37      | 13.12    | 21            | 30      | 5.15     |
| I-17    | 102            | 37      | 45.34    | 21            | 29      | 19.79    |
| I-16    | 102            | 37      | 51.56    | 21            | 27      | 56.38    |
| I-15    | 102            | 37      | 4.94     | 21            | 27      | 36.04    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| I-14    | 102            | 36      | 44.42    | 21            | 26      | 43.04    |
| I-13    | 102            | 36      | 9.47     | 21            | 26      | 40.92    |
| I-12    | 102            | 35      | 47.47    | 21            | 26      | 21.91    |
| I-11    | 102            | 35      | 17.77    | 21            | 25      | 19.38    |
| I-10    | 102            | 35      | 26.81    | 21            | 24      | 31.61    |
| I-9     | 102            | 33      | 57.17    | 21            | 23      | 14.71    |
| I-8     | 102            | 34      | 2.93     | 21            | 22      | 17.29    |
| I-7     | 102            | 33      | 37.98    | 21            | 21      | 46.01    |
| I-6     | 102            | 33      | 12.82    | 21            | 20      | 42.32    |
| I-5     | 102            | 33      | 35.93    | 21            | 20      | 19.18    |
| I-4     | 102            | 33      | 32.33    | 21            | 20      | 7.91     |
| I-3     | 102            | 33      | 15.66    | 21            | 19      | 59.99    |
| I-2     | 102            | 33      | 5.58     | 21            | 19      | 33.10    |
| I-1     | 102            | 32      | 44.70    | 21            | 19      | 12.72    |

**XIII.- CUENCA HIDROLOGICA RIO VERDE 2: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 12.95 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde la estación hidrométrica La Cuña hasta la confluencia del Río Verde con el Río Santiago.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Verde 2 tiene una superficie de aportación de 1,378.2 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por la cuenca hidrológica Río Verde 1, al Sur por la cuenca hidrológica Río Santiago 1, al Este por la cuenca hidrológica Río del Valle y al Oeste por la cuenca hidrológica Río Santiago 2. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| K-48    | 102            | 46      | 42.82    | 20            | 57      | 14.62    |
| K-47    | 102            | 46      | 6.38     | 20            | 56      | 31.60    |
| K-46    | 102            | 44      | 36.64    | 20            | 55      | 42.35    |
| K-45    | 102            | 44      | 37.14    | 20            | 55      | 30.14    |
| K-44    | 102            | 44      | 4.20     | 20            | 55      | 4.30     |
| K-43    | 102            | 44      | 10.54    | 20            | 54      | 50.44    |
| K-42    | 102            | 43      | 59.92    | 20            | 54      | 35.50    |
| K-41    | 102            | 42      | 29.16    | 20            | 53      | 42.65    |
| K-40    | 102            | 41      | 30.80    | 20            | 53      | 47.15    |
| K-39    | 102            | 40      | 21.68    | 20            | 52      | 53.18    |
| K-38    | 102            | 39      | 17.96    | 20            | 52      | 42.67    |
| K-37    | 102            | 38      | 30.23    | 20            | 52      | 49.84    |
| K-36    | 102            | 37      | 52.14    | 20            | 53      | 23.42    |
| K-35    | 102            | 37      | 33.71    | 20            | 54      | 9.47     |
| K-34    | 102            | 36      | 50.80    | 20            | 52      | 5.52     |
| K-33    | 102            | 36      | 53.75    | 20            | 50      | 43.19    |
| K-32    | 102            | 37      | 56.21    | 20            | 50      | 4.56     |
| M-1     | 102            | 40      | 8.26     | 20            | 49      | 21.97    |
| M-2     | 102            | 40      | 39.22    | 20            | 49      | 4.66     |
| M-3     | 102            | 40      | 55.02    | 20            | 48      | 35.14    |
| M-4     | 102            | 42      | 19.87    | 20            | 48      | 25.99    |
| M-5     | 102            | 42      | 37.30    | 20            | 47      | 56.04    |
| M-6     | 102            | 44      | 10.86    | 20            | 46      | 39.32    |
| M-7     | 102            | 44      | 50.39    | 20            | 46      | 18.77    |
| M-8     | 102            | 45      | 47.70    | 20            | 46      | 15.24    |
| M-9     | 102            | 46      | 48.50    | 20            | 45      | 37.48    |
| M-10    | 102            | 48      | 31.90    | 20            | 45      | 29.92    |
| M-11    | 102            | 50      | 21.77    | 20            | 46      | 9.34     |
| M-12    | 102            | 51      | 48.06    | 20            | 45      | 7.16     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| M-13    | 102            | 51      | 14.00    | 20            | 44      | 53.88    |
| M-14    | 102            | 50      | 42.47    | 20            | 44      | 14.64    |
| M-15    | 102            | 51      | 47.30    | 20            | 42      | 47.41    |
| M-16    | 102            | 52      | 14.95    | 20            | 42      | 50.33    |
| M-17    | 102            | 53      | 22.06    | 20            | 43      | 33.46    |
| M-18    | 102            | 55      | 35.94    | 20            | 44      | 15.68    |
| M-19    | 102            | 56      | 5.86     | 20            | 44      | 20.76    |
| M-20    | 102            | 58      | 6.24     | 20            | 43      | 45.88    |
| M-21    | 102            | 58      | 42.46    | 20            | 43      | 55.70    |
| M-22    | 102            | 59      | 41.53    | 20            | 43      | 53.40    |
| M-23    | 103            | 1       | 17.44    | 20            | 44      | 45.46    |
| M-24    | 103            | 2       | 47.65    | 20            | 45      | 10.80    |
| M-25    | 103            | 2       | 51.76    | 20            | 44      | 48.62    |
| M-26    | 103            | 3       | 37.87    | 20            | 44      | 33.79    |
| M-27    | 103            | 4       | 38.71    | 20            | 43      | 51.28    |
| M-28    | 103            | 4       | 53.47    | 20            | 43      | 22.55    |
| M-29    | 103            | 5       | 12.84    | 20            | 43      | 10.85    |
| M-30    | 103            | 6       | 4.64     | 20            | 43      | 15.02    |
| M-31    | 103            | 6       | 33.01    | 20            | 43      | 35.04    |
| M-32    | 103            | 6       | 56.81    | 20            | 43      | 35.29    |
| M-33    | 103            | 7       | 19.78    | 20            | 43      | 57.58    |
| M-34    | 103            | 7       | 59.20    | 20            | 43      | 56.75    |
| M-35    | 103            | 9       | 53.82    | 20            | 43      | 21.58    |
| M-36    | 103            | 9       | 49.72    | 20            | 42      | 50.76    |
| M-37    | 103            | 10      | 0.48     | 20            | 42      | 27.43    |
| M-38    | 103            | 10      | 38.78    | 20            | 42      | 37.15    |
| M-39    | 103            | 10      | 54.62    | 20            | 42      | 17.86    |
| M-40    | 103            | 12      | 9.76     | 20            | 42      | 31.90    |
| M-41    | 103            | 13      | 22.55    | 20            | 42      | 12.71    |
| M-42    | 103            | 14      | 29.87    | 20            | 42      | 36.72    |
| M-43    | 103            | 14      | 51.36    | 20            | 42      | 33.88    |
| M-44    | 103            | 17      | 1.46     | 20            | 43      | 51.64    |
| M-45    | 103            | 15      | 27.76    | 20            | 44      | 29.76    |
| M-46    | 103            | 14      | 32.42    | 20            | 45      | 19.73    |
| M-47    | 103            | 14      | 7.66     | 20            | 45      | 26.42    |
| M-48    | 103            | 12      | 10.98    | 20            | 48      | 16.63    |
| M-49    | 103            | 11      | 32.42    | 20            | 49      | 46.85    |
| M-50    | 103            | 12      | 11.59    | 20            | 50      | 42.18    |
| M-51    | 103            | 11      | 27.60    | 20            | 50      | 54.56    |
| M-52    | 103            | 10      | 46.49    | 20            | 51      | 42.19    |
| M-53    | 103            | 10      | 31.37    | 20            | 52      | 26.33    |
| M-54    | 103            | 9       | 56.95    | 20            | 52      | 27.30    |
| M-55    | 103            | 9       | 33.26    | 20            | 51      | 57.13    |
| M-56    | 103            | 9       | 11.30    | 20            | 51      | 4.39     |
| M-57    | 103            | 9       | 26.78    | 20            | 50      | 29.80    |
| M-58    | 103            | 8       | 37.72    | 20            | 50      | 11.15    |
| M-59    | 103            | 6       | 47.84    | 20            | 50      | 38.33    |
| M-60    | 103            | 6       | 29.34    | 20            | 50      | 22.13    |
| M-61    | 103            | 5       | 37.28    | 20            | 52      | 11.68    |
| M-62    | 103            | 5       | 7.44     | 20            | 52      | 43.54    |
| M-63    | 103            | 5       | 2.65     | 20            | 53      | 19.64    |
| M-64    | 103            | 4       | 12.50    | 20            | 53      | 13.67    |
| M-65    | 103            | 2       | 47.98    | 20            | 53      | 28.36    |
| M-66    | 103            | 1       | 58.80    | 20            | 54      | 10.40    |
| M-67    | 103            | 1       | 29.82    | 20            | 54      | 19.15    |
| M-68    | 103            | 1       | 22.62    | 20            | 54      | 35.86    |
| M-69    | 103            | 0       | 32.87    | 20            | 54      | 38.34    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| M-70    | 102            | 59      | 56.08    | 20            | 54      | 19.12    |
| M-71    | 102            | 59      | 19.64    | 20            | 54      | 25.81    |
| M-72    | 102            | 59      | 7.01     | 20            | 54      | 53.71    |
| M-73    | 102            | 58      | 43.82    | 20            | 55      | 0.62     |
| M-74    | 102            | 58      | 49.51    | 20            | 55      | 30.68    |
| M-75    | 102            | 57      | 55.30    | 20            | 56      | 25.37    |
| M-76    | 102            | 58      | 12.22    | 20            | 58      | 6.17     |
| M-77    | 102            | 59      | 23.60    | 20            | 59      | 36.28    |
| M-78    | 102            | 59      | 45.64    | 20            | 59      | 52.58    |
| M-79    | 103            | 0       | 14.36    | 20            | 59      | 53.41    |
| M-80    | 103            | 0       | 21.92    | 21            | 0       | 9.29     |
| M-81    | 103            | 1       | 12.54    | 21            | 0       | 35.64    |
| M-82    | 103            | 2       | 54.67    | 21            | 3       | 19.87    |
| M-83    | 103            | 3       | 22.07    | 21            | 4       | 31.58    |
| M-84    | 103            | 3       | 10.73    | 21            | 4       | 59.52    |
| M-85    | 103            | 2       | 30.41    | 21            | 5       | 39.59    |
| L-18    | 103            | 2       | 14.10    | 21            | 6       | 42.84    |
| L-17    | 102            | 59      | 8.63     | 21            | 6       | 15.80    |
| L-16    | 102            | 57      | 55.55    | 21            | 6       | 24.37    |
| L-15    | 102            | 56      | 47.80    | 21            | 6       | 13.93    |
| L-14    | 102            | 52      | 17.22    | 21            | 4       | 32.95    |
| L-13    | 102            | 52      | 22.66    | 21            | 3       | 16.42    |
| L-12    | 102            | 50      | 56.90    | 21            | 3       | 29.95    |
| L-11    | 102            | 51      | 0.94     | 21            | 2       | 16.48    |
| L-10    | 102            | 50      | 6.29     | 21            | 1       | 15.67    |
| L-9     | 102            | 49      | 36.19    | 21            | 1       | 2.46     |
| L-8     | 102            | 49      | 18.44    | 21            | 0       | 22.61    |
| L-7     | 102            | 49      | 22.51    | 20            | 59      | 44.88    |
| L-6     | 102            | 48      | 53.10    | 20            | 59      | 31.45    |
| L-5     | 102            | 48      | 56.84    | 20            | 58      | 45.48    |
| L-4     | 102            | 48      | 36.00    | 20            | 58      | 16.57    |
| L-3     | 102            | 48      | 26.96    | 20            | 57      | 20.12    |
| L-2     | 102            | 47      | 41.32    | 20            | 56      | 51.83    |
| L-1     | 102            | 47      | 23.42    | 20            | 57      | 14.11    |

**XIV.- CUENCA HIDROLOGICA RIO PALOMAS:** VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 0.66 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).

El volumen disponible que se señala en el párrafo anterior, comprende desde el nacimiento del Río Palomas hasta donde se localiza la Presa Palomas.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Palomas tiene una superficie de aportación de 343.7 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte, al Sur y al Oeste por la cuenca hidrológica Presa El Chique y al Este por la cuenca hidrológica Río San Pedro. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| N-1     | 102            | 37      | 9.16     | 22            | 21      | 55.30    |
| N-2     | 102            | 37      | 55.88    | 22            | 21      | 32.98    |
| N-3     | 102            | 38      | 10.82    | 22            | 20      | 47.36    |
| N-4     | 102            | 38      | 46.07    | 22            | 20      | 38.69    |
| N-5     | 102            | 38      | 35.12    | 22            | 20      | 22.27    |
| N-6     | 102            | 38      | 44.38    | 22            | 20      | 7.30     |
| N-7     | 102            | 38      | 41.10    | 22            | 19      | 53.04    |
| N-8     | 102            | 39      | 26.96    | 22            | 19      | 41.02    |
| N-9     | 102            | 39      | 28.91    | 22            | 19      | 33.71    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| N-10    | 102            | 39      | 51.77    | 22            | 19      | 36.16    |
| N-11    | 102            | 40      | 13.44    | 22            | 18      | 59.58    |
| N-12    | 102            | 40      | 33.49    | 22            | 18      | 51.16    |
| N-13    | 102            | 40      | 56.46    | 22            | 18      | 10.37    |
| N-14    | 102            | 41      | 31.20    | 22            | 17      | 59.82    |
| N-15    | 102            | 41      | 45.78    | 22            | 17      | 42.65    |
| N-16    | 102            | 41      | 39.91    | 22            | 17      | 35.23    |
| N-17    | 102            | 41      | 46.10    | 22            | 17      | 25.76    |
| N-18    | 102            | 42      | 2.77     | 22            | 17      | 40.74    |
| N-19    | 102            | 42      | 2.88     | 22            | 18      | 54.79    |
| N-20    | 102            | 42      | 55.91    | 22            | 19      | 34.43    |
| N-21    | 102            | 42      | 24.95    | 22            | 20      | 30.66    |
| N-22    | 102            | 43      | 13.01    | 22            | 21      | 11.38    |
| N-23    | 102            | 44      | 50.68    | 22            | 21      | 13.10    |
| N-24    | 102            | 47      | 3.95     | 22            | 20      | 4.85     |
| N-25    | 102            | 47      | 19.97    | 22            | 20      | 29.54    |
| N-26    | 102            | 47      | 41.96    | 22            | 20      | 32.64    |
| N-27    | 102            | 48      | 33.01    | 22            | 22      | 2.03     |
| N-28    | 102            | 49      | 16.97    | 22            | 22      | 3.11     |
| N-29    | 102            | 48      | 58.14    | 22            | 22      | 55.42    |
| N-30    | 102            | 48      | 16.60    | 22            | 23      | 26.52    |
| N-31    | 102            | 48      | 7.52     | 22            | 24      | 1.48     |
| N-32    | 102            | 46      | 44.51    | 22            | 25      | 0.44     |
| N-33    | 102            | 45      | 59.65    | 22            | 25      | 8.26     |
| N-34    | 102            | 44      | 49.60    | 22            | 25      | 51.64    |
| N-35    | 102            | 44      | 28.90    | 22            | 26      | 21.05    |
| N-36    | 102            | 44      | 21.80    | 22            | 27      | 18.43    |
| N-37    | 102            | 43      | 56.39    | 22            | 27      | 36.36    |
| N-38    | 102            | 44      | 0.49     | 22            | 27      | 53.89    |
| N-39    | 102            | 43      | 44.87    | 22            | 27      | 58.00    |
| N-40    | 102            | 43      | 49.08    | 22            | 28      | 12.79    |
| N-41    | 102            | 43      | 18.48    | 22            | 28      | 9.88     |
| N-42    | 102            | 43      | 5.48     | 22            | 28      | 22.01    |
| N-43    | 102            | 43      | 5.16     | 22            | 28      | 40.80    |
| N-44    | 102            | 42      | 47.38    | 22            | 28      | 53.83    |
| N-45    | 102            | 42      | 32.18    | 22            | 28      | 50.16    |
| N-46    | 102            | 42      | 23.90    | 22            | 29      | 9.31     |
| N-47    | 102            | 41      | 33.58    | 22            | 29      | 49.31    |
| N-48    | 102            | 41      | 32.24    | 22            | 30      | 3.96     |
| N-49    | 102            | 41      | 16.22    | 22            | 30      | 7.70     |
| N-50    | 102            | 41      | 5.06     | 22            | 31      | 22.04    |
| N-51    | 102            | 41      | 26.81    | 22            | 31      | 32.81    |
| N-52    | 102            | 41      | 57.41    | 22            | 32      | 36.28    |
| N-53    | 102            | 42      | 23.94    | 22            | 32      | 51.83    |
| N-54    | 102            | 41      | 20.80    | 22            | 33      | 3.42     |
| N-55    | 102            | 40      | 40.62    | 22            | 32      | 49.92    |
| N-56    | 102            | 39      | 45.43    | 22            | 33      | 2.12     |
| N-57    | 102            | 38      | 30.66    | 22            | 32      | 54.89    |
| N-58    | 102            | 37      | 47.21    | 22            | 33      | 18.14    |
| A-117   | 102            | 37      | 27.77    | 22            | 33      | 18.47    |
| A-116   | 102            | 37      | 40.91    | 22            | 32      | 58.52    |
| A-115   | 102            | 37      | 44.15    | 22            | 31      | 35.08    |
| A-114   | 102            | 37      | 18.80    | 22            | 31      | 26.15    |
| A-113   | 102            | 37      | 5.84     | 22            | 30      | 50.80    |
| A-112   | 102            | 37      | 11.93    | 22            | 30      | 43.56    |
| A-111   | 102            | 36      | 51.62    | 22            | 30      | 41.26    |
| A-110   | 102            | 36      | 33.08    | 22            | 30      | 24.84    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| A-109   | 102            | 36      | 43.67    | 22            | 29      | 43.94    |
| A-108   | 102            | 36      | 6.48     | 22            | 29      | 44.27    |
| A-107   | 102            | 35      | 40.60    | 22            | 29      | 21.05    |
| A-106   | 102            | 35      | 36.31    | 22            | 27      | 42.84    |
| A-105   | 102            | 35      | 51.50    | 22            | 27      | 27.18    |
| A-104   | 102            | 36      | 7.49     | 22            | 27      | 27.18    |
| A-103   | 102            | 36      | 35.24    | 22            | 26      | 58.56    |
| A-102   | 102            | 36      | 30.78    | 22            | 26      | 37.68    |
| A-101   | 102            | 36      | 9.22     | 22            | 26      | 34.40    |
| A-100   | 102            | 35      | 33.86    | 22            | 25      | 37.56    |
| A-99    | 102            | 35      | 32.03    | 22            | 24      | 19.66    |
| A-98    | 102            | 35      | 44.81    | 22            | 24      | 5.87     |
| A-97    | 102            | 35      | 25.87    | 22            | 23      | 49.38    |
| A-96    | 102            | 35      | 35.34    | 22            | 23      | 33.00    |
| A-95    | 102            | 35      | 26.45    | 22            | 23      | 7.12     |
| A-94    | 102            | 35      | 49.63    | 22            | 22      | 45.62    |
| A-93    | 102            | 36      | 11.81    | 22            | 22      | 49.19    |
| A-92    | 102            | 36      | 40.64    | 22            | 22      | 7.36     |
| A-91    | 102            | 36      | 38.66    | 22            | 21      | 46.98    |
| A-90    | 102            | 36      | 52.02    | 22            | 21      | 43.85    |

**XV.- CUENCA HIDROLOGICA PRESA EL CHIQUE: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 2.59 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde el nacimiento del Arroyo Malpaso y la Presa Palomas, hasta la Presa El Chique.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Presa El Chique tiene una superficie de aportación de 2,378.7 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por la región hidrológica número 37 Salado, al Sur por la cuenca hidrológica Río Juchipila 1, al Este por las cuencas hidrológicas Río Palomas y Presa Calles y al Oeste por la cuenca hidrológica Río Tepetongo. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| A-120   | 102            | 35      | 12.44    | 22            | 35      | 40.92    |
| A-119   | 102            | 36      | 11.02    | 22            | 34      | 47.42    |
| A-118   | 102            | 36      | 31.79    | 22            | 33      | 54.61    |
| A-117   | 102            | 37      | 27.77    | 22            | 33      | 18.47    |
| N-58    | 102            | 37      | 47.21    | 22            | 33      | 18.14    |
| N-57    | 102            | 38      | 30.66    | 22            | 32      | 54.89    |
| N-56    | 102            | 39      | 45.43    | 22            | 33      | 2.12     |
| N-55    | 102            | 40      | 40.62    | 22            | 32      | 49.92    |
| N-54    | 102            | 41      | 20.80    | 22            | 33      | 3.42     |
| N-53    | 102            | 42      | 23.94    | 22            | 32      | 51.83    |
| N-52    | 102            | 41      | 57.41    | 22            | 32      | 36.28    |
| N-51    | 102            | 41      | 26.81    | 22            | 31      | 32.81    |
| N-50    | 102            | 41      | 5.06     | 22            | 31      | 22.04    |
| N-49    | 102            | 41      | 16.22    | 22            | 30      | 7.70     |
| N-48    | 102            | 41      | 32.24    | 22            | 30      | 3.96     |
| N-47    | 102            | 41      | 33.58    | 22            | 29      | 49.31    |
| N-46    | 102            | 42      | 23.90    | 22            | 29      | 9.31     |
| N-45    | 102            | 42      | 32.18    | 22            | 28      | 50.16    |
| N-44    | 102            | 42      | 47.38    | 22            | 28      | 53.83    |
| N-43    | 102            | 43      | 5.16     | 22            | 28      | 40.80    |
| N-42    | 102            | 43      | 5.48     | 22            | 28      | 22.01    |
| N-41    | 102            | 43      | 18.48    | 22            | 28      | 9.88     |
| N-40    | 102            | 43      | 49.08    | 22            | 28      | 12.79    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| N-39    | 102            | 43      | 44.87    | 22            | 27      | 58.00    |
| N-38    | 102            | 44      | 0.49     | 22            | 27      | 53.89    |
| N-37    | 102            | 43      | 56.39    | 22            | 27      | 36.36    |
| N-36    | 102            | 44      | 21.80    | 22            | 27      | 18.43    |
| N-35    | 102            | 44      | 28.90    | 22            | 26      | 21.05    |
| N-34    | 102            | 44      | 49.60    | 22            | 25      | 51.64    |
| N-33    | 102            | 45      | 59.65    | 22            | 25      | 8.26     |
| N-32    | 102            | 46      | 44.51    | 22            | 25      | 0.44     |
| N-31    | 102            | 48      | 7.52     | 22            | 24      | 1.48     |
| N-30    | 102            | 48      | 16.60    | 22            | 23      | 26.52    |
| N-29    | 102            | 48      | 58.14    | 22            | 22      | 55.42    |
| N-28    | 102            | 49      | 16.97    | 22            | 22      | 3.11     |
| N-27    | 102            | 48      | 33.01    | 22            | 22      | 2.03     |
| N-26    | 102            | 47      | 41.96    | 22            | 20      | 32.64    |
| N-25    | 102            | 47      | 19.97    | 22            | 20      | 29.54    |
| N-24    | 102            | 47      | 3.95     | 22            | 20      | 4.85     |
| N-23    | 102            | 44      | 50.68    | 22            | 21      | 13.10    |
| N-22    | 102            | 43      | 13.01    | 22            | 21      | 11.38    |
| N-21    | 102            | 42      | 24.95    | 22            | 20      | 30.66    |
| N-20    | 102            | 42      | 55.91    | 22            | 19      | 34.43    |
| N-19    | 102            | 42      | 2.88     | 22            | 18      | 54.79    |
| N-18    | 102            | 42      | 2.77     | 22            | 17      | 40.74    |
| N-17    | 102            | 41      | 46.10    | 22            | 17      | 25.76    |
| N-16    | 102            | 41      | 39.91    | 22            | 17      | 35.23    |
| N-15    | 102            | 41      | 45.78    | 22            | 17      | 42.65    |
| N-14    | 102            | 41      | 31.20    | 22            | 17      | 59.82    |
| N-13    | 102            | 40      | 56.46    | 22            | 18      | 10.37    |
| N-12    | 102            | 40      | 33.49    | 22            | 18      | 51.16    |
| N-11    | 102            | 40      | 13.44    | 22            | 18      | 59.58    |
| N-10    | 102            | 39      | 51.77    | 22            | 19      | 36.16    |
| N-9     | 102            | 39      | 28.91    | 22            | 19      | 33.71    |
| N-8     | 102            | 39      | 26.96    | 22            | 19      | 41.02    |
| N-7     | 102            | 38      | 41.10    | 22            | 19      | 53.04    |
| N-6     | 102            | 38      | 44.38    | 22            | 20      | 7.30     |
| N-5     | 102            | 38      | 35.12    | 22            | 20      | 22.27    |
| N-4     | 102            | 38      | 46.07    | 22            | 20      | 38.69    |
| N-3     | 102            | 38      | 10.82    | 22            | 20      | 47.36    |
| N-2     | 102            | 37      | 55.88    | 22            | 21      | 32.98    |
| N-1     | 102            | 37      | 9.16     | 22            | 21      | 55.30    |
| A-90    | 102            | 36      | 52.02    | 22            | 21      | 43.85    |
| A-89    | 102            | 37      | 25.82    | 22            | 20      | 51.40    |
| A-88    | 102            | 37      | 1.06     | 22            | 20      | 12.44    |
| A-87    | 102            | 37      | 40.40    | 22            | 18      | 27.97    |
| A-86    | 102            | 37      | 32.02    | 22            | 18      | 14.62    |
| A-85    | 102            | 37      | 40.19    | 22            | 17      | 47.69    |
| A-84    | 102            | 37      | 21.22    | 22            | 17      | 34.01    |
| A-83    | 102            | 37      | 14.63    | 22            | 17      | 1.03     |
| A-82    | 102            | 36      | 26.35    | 22            | 16      | 53.08    |
| B-60    | 102            | 36      | 26.28    | 22            | 16      | 25.36    |
| B-59    | 102            | 36      | 40.10    | 22            | 16      | 18.37    |
| B-58    | 102            | 36      | 39.24    | 22            | 16      | 4.44     |
| B-57    | 102            | 38      | 33.36    | 22            | 14      | 28.64    |
| B-56    | 102            | 38      | 10.93    | 22            | 14      | 13.02    |
| B-55    | 102            | 38      | 24.72    | 22            | 13      | 55.27    |
| B-54    | 102            | 38      | 13.78    | 22            | 13      | 35.54    |
| B-53    | 102            | 38      | 23.46    | 22            | 13      | 18.59    |
| B-52    | 102            | 38      | 48.73    | 22            | 13      | 14.66    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| B-51    | 102            | 38      | 57.12    | 22            | 12      | 58.00    |
| B-50    | 102            | 38      | 54.78    | 22            | 12      | 42.23    |
| B-49    | 102            | 38      | 40.92    | 22            | 12      | 37.44    |
| B-48    | 102            | 38      | 35.95    | 22            | 11      | 53.70    |
| B-47    | 102            | 38      | 22.20    | 22            | 11      | 51.97    |
| O-1     | 102            | 38      | 19.14    | 22            | 11      | 15.47    |
| O-2     | 102            | 38      | 45.06    | 22            | 10      | 36.16    |
| O-3     | 102            | 39      | 17.71    | 22            | 10      | 54.16    |
| O-4     | 102            | 39      | 24.77    | 22            | 10      | 35.36    |
| O-5     | 102            | 39      | 15.73    | 22            | 10      | 12.79    |
| O-6     | 102            | 38      | 54.82    | 22            | 10      | 2.06     |
| O-7     | 102            | 38      | 55.86    | 22            | 9       | 14.47    |
| O-8     | 102            | 38      | 47.90    | 22            | 9       | 5.69     |
| O-9     | 102            | 39      | 43.42    | 22            | 9       | 24.23    |
| O-10    | 102            | 39      | 37.73    | 22            | 8       | 55.57    |
| O-11    | 102            | 39      | 55.80    | 22            | 8       | 49.24    |
| O-12    | 102            | 39      | 57.20    | 22            | 8       | 35.70    |
| O-13    | 102            | 40      | 34.18    | 22            | 8       | 31.96    |
| O-14    | 102            | 40      | 39.94    | 22            | 7       | 59.02    |
| O-15    | 102            | 41      | 13.06    | 22            | 7       | 46.74    |
| O-16    | 102            | 40      | 51.96    | 22            | 8       | 34.37    |
| O-17    | 102            | 40      | 58.51    | 22            | 9       | 9.22     |
| O-18    | 102            | 41      | 31.92    | 22            | 9       | 34.34    |
| O-19    | 102            | 41      | 16.73    | 22            | 10      | 44.08    |
| O-20    | 102            | 41      | 37.46    | 22            | 11      | 9.35     |
| O-21    | 102            | 43      | 5.23     | 22            | 11      | 14.46    |
| O-22    | 102            | 44      | 31.49    | 22            | 11      | 46.64    |
| O-23    | 102            | 44      | 32.64    | 22            | 10      | 32.92    |
| O-24    | 102            | 44      | 48.70    | 22            | 10      | 15.53    |
| O-25    | 102            | 45      | 8.46     | 22            | 10      | 16.21    |
| O-26    | 102            | 45      | 23.11    | 22            | 9       | 53.64    |
| O-27    | 102            | 46      | 32.92    | 22            | 9       | 56.63    |
| O-28    | 102            | 46      | 22.87    | 22            | 10      | 5.48     |
| O-29    | 102            | 46      | 34.36    | 22            | 10      | 20.10    |
| O-30    | 102            | 47      | 48.73    | 22            | 10      | 42.13    |
| O-31    | 102            | 48      | 7.20     | 22            | 9       | 48.96    |
| O-32    | 102            | 48      | 57.74    | 22            | 9       | 14.94    |
| O-33    | 102            | 48      | 58.25    | 22            | 8       | 26.70    |
| O-34    | 102            | 49      | 42.74    | 22            | 7       | 34.18    |
| O-35    | 102            | 49      | 34.93    | 22            | 7       | 15.85    |
| O-36    | 102            | 49      | 41.92    | 22            | 6       | 57.20    |
| O-37    | 102            | 50      | 25.76    | 22            | 6       | 46.33    |
| O-38    | 102            | 50      | 40.96    | 22            | 6       | 22.21    |
| O-39    | 102            | 51      | 25.31    | 22            | 3       | 46.04    |
| O-40    | 102            | 52      | 17.51    | 22            | 2       | 3.84     |
| O-41    | 102            | 52      | 13.48    | 22            | 1       | 47.64    |
| O-42    | 102            | 52      | 30.54    | 22            | 1       | 3.86     |
| O-43    | 102            | 53      | 31.92    | 21            | 59      | 59.68    |
| O-44    | 102            | 53      | 38.11    | 21            | 59      | 36.49    |
| O-45    | 102            | 53      | 46.32    | 21            | 59      | 50.93    |
| O-46    | 102            | 54      | 2.09     | 21            | 59      | 13.96    |
| O-47    | 102            | 55      | 3.18     | 21            | 59      | 33.94    |
| O-48    | 102            | 54      | 59.76    | 21            | 59      | 55.97    |
| O-49    | 102            | 55      | 52.93    | 21            | 59      | 59.50    |
| O-50    | 102            | 57      | 17.14    | 21            | 59      | 17.02    |
| O-51    | 102            | 58      | 59.70    | 22            | 0       | 30.17    |
| O-52    | 102            | 59      | 56.00    | 22            | 0       | 23.54    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| O-53    | 103            | 1       | 13.84    | 22            | 0       | 59.80    |
| O-54    | 103            | 1       | 1.42     | 22            | 1       | 52.18    |
| O-55    | 103            | 0       | 9.43     | 22            | 2       | 58.88    |
| O-56    | 103            | 0       | 11.74    | 22            | 3       | 29.81    |
| O-57    | 102            | 59      | 41.24    | 22            | 4       | 34.03    |
| O-58    | 103            | 0       | 26.46    | 22            | 5       | 6.97     |
| O-59    | 103            | 1       | 37.70    | 22            | 4       | 12.94    |
| O-60    | 103            | 1       | 32.05    | 22            | 3       | 54.25    |
| O-61    | 103            | 1       | 42.92    | 22            | 3       | 47.09    |
| O-62    | 103            | 3       | 3.82     | 22            | 4       | 16.21    |
| O-63    | 103            | 3       | 41.18    | 22            | 4       | 2.64     |
| O-64    | 103            | 4       | 26.87    | 22            | 3       | 24.44    |
| O-65    | 103            | 6       | 52.67    | 22            | 2       | 58.13    |
| O-66    | 103            | 8       | 13.74    | 22            | 3       | 40.14    |
| O-67    | 103            | 8       | 32.64    | 22            | 3       | 34.92    |
| O-68    | 103            | 9       | 36.32    | 22            | 3       | 48.06    |
| O-69    | 103            | 9       | 19.40    | 22            | 4       | 4.62     |
| O-70    | 103            | 9       | 10.73    | 22            | 5       | 49.42    |
| O-71    | 103            | 8       | 38.26    | 22            | 7       | 1.24     |
| O-72    | 103            | 8       | 47.87    | 22            | 7       | 41.02    |
| O-73    | 103            | 8       | 17.95    | 22            | 7       | 52.79    |
| O-74    | 103            | 7       | 53.22    | 22            | 8       | 29.87    |
| O-75    | 103            | 7       | 16.25    | 22            | 8       | 44.81    |
| O-76    | 103            | 6       | 40.86    | 22            | 10      | 5.09     |
| O-77    | 103            | 5       | 53.74    | 22            | 10      | 26.04    |
| O-78    | 103            | 5       | 25.66    | 22            | 10      | 26.69    |
| O-79    | 103            | 5       | 11.36    | 22            | 10      | 54.30    |
| O-80    | 103            | 5       | 14.89    | 22            | 11      | 13.99    |
| O-81    | 103            | 4       | 28.96    | 22            | 12      | 14.94    |
| O-82    | 103            | 4       | 23.81    | 22            | 12      | 50.44    |
| O-83    | 103            | 3       | 59.29    | 22            | 12      | 58.86    |
| O-84    | 103            | 3       | 41.47    | 22            | 14      | 12.08    |
| O-85    | 103            | 3       | 9.18     | 22            | 14      | 27.64    |
| O-86    | 103            | 3       | 7.63     | 22            | 14      | 59.57    |
| O-87    | 103            | 3       | 25.27    | 22            | 15      | 4.03     |
| O-88    | 103            | 3       | 27.47    | 22            | 15      | 43.34    |
| O-89    | 103            | 3       | 39.74    | 22            | 16      | 0.30     |
| O-90    | 103            | 3       | 8.10     | 22            | 16      | 10.92    |
| O-91    | 103            | 3       | 25.60    | 22            | 16      | 16.32    |
| O-92    | 103            | 3       | 32.26    | 22            | 16      | 36.30    |
| O-93    | 103            | 3       | 18.94    | 22            | 17      | 52.15    |
| O-94    | 103            | 3       | 25.42    | 22            | 18      | 24.16    |
| O-95    | 103            | 3       | 48.42    | 22            | 18      | 43.52    |
| O-96    | 103            | 4       | 10.60    | 22            | 18      | 27.94    |
| O-97    | 103            | 4       | 21.14    | 22            | 18      | 31.57    |
| O-98    | 103            | 4       | 59.52    | 22            | 18      | 58.97    |
| O-99    | 103            | 4       | 31.55    | 22            | 19      | 15.78    |
| O-100   | 103            | 4       | 32.02    | 22            | 19      | 47.21    |
| O-101   | 103            | 3       | 42.44    | 22            | 20      | 1.21     |
| O-102   | 103            | 3       | 19.62    | 22            | 20      | 30.91    |
| O-103   | 103            | 3       | 30.42    | 22            | 20      | 55.21    |
| O-104   | 103            | 4       | 3.29     | 22            | 21      | 14.58    |
| O-105   | 103            | 4       | 1.20     | 22            | 21      | 43.99    |
| O-106   | 103            | 3       | 12.35    | 22            | 21      | 40.90    |
| O-107   | 103            | 2       | 51.40    | 22            | 21      | 54.58    |
| O-108   | 103            | 1       | 57.25    | 22            | 21      | 38.88    |
| O-109   | 103            | 1       | 30.90    | 22            | 22      | 33.56    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| O-110   | 103            | 0       | 52.09    | 22            | 22      | 50.09    |
| O-111   | 103            | 0       | 49.32    | 22            | 23      | 25.08    |
| O-112   | 103            | 0       | 20.56    | 22            | 24      | 23.33    |
| O-113   | 102            | 59      | 14.96    | 22            | 25      | 17.11    |
| O-114   | 102            | 59      | 37.18    | 22            | 25      | 16.86    |
| O-115   | 102            | 59      | 50.42    | 22            | 25      | 45.95    |
| O-116   | 102            | 59      | 1.28     | 22            | 26      | 25.01    |
| O-117   | 102            | 58      | 46.67    | 22            | 27      | 1.94     |
| O-118   | 102            | 58      | 24.10    | 22            | 26      | 55.25    |
| O-119   | 102            | 57      | 53.14    | 22            | 27      | 13.25    |
| O-120   | 102            | 57      | 53.46    | 22            | 27      | 34.96    |
| O-121   | 102            | 57      | 40.93    | 22            | 27      | 46.84    |
| O-122   | 102            | 56      | 25.08    | 22            | 28      | 8.58     |
| O-123   | 102            | 56      | 3.98     | 22            | 28      | 54.80    |
| O-124   | 102            | 56      | 27.24    | 22            | 29      | 24.65    |
| O-125   | 102            | 56      | 19.97    | 22            | 30      | 4.36     |
| O-126   | 102            | 56      | 28.72    | 22            | 30      | 22.00    |
| O-127   | 102            | 55      | 52.39    | 22            | 30      | 34.99    |
| O-128   | 102            | 55      | 10.16    | 22            | 30      | 32.54    |
| O-129   | 102            | 56      | 1.28     | 22            | 31      | 46.92    |
| O-130   | 102            | 55      | 26.00    | 22            | 32      | 1.97     |
| O-131   | 102            | 55      | 25.18    | 22            | 32      | 17.41    |
| O-132   | 102            | 54      | 55.44    | 22            | 32      | 12.73    |
| O-133   | 102            | 54      | 53.28    | 22            | 32      | 30.37    |
| O-134   | 102            | 55      | 10.49    | 22            | 32      | 52.91    |
| O-135   | 102            | 55      | 10.96    | 22            | 34      | 12.36    |
| O-136   | 102            | 54      | 0.54     | 22            | 34      | 8.29     |
| O-137   | 102            | 53      | 34.94    | 22            | 34      | 18.52    |
| O-138   | 102            | 53      | 6.22     | 22            | 34      | 1.34     |
| O-139   | 102            | 52      | 34.54    | 22            | 34      | 16.46    |
| O-140   | 102            | 52      | 30.86    | 22            | 34      | 30.97    |
| O-141   | 102            | 49      | 43.21    | 22            | 35      | 39.98    |
| O-142   | 102            | 49      | 27.41    | 22            | 36      | 0.18     |
| O-143   | 102            | 49      | 47.64    | 22            | 36      | 37.76    |
| O-144   | 102            | 50      | 32.32    | 22            | 37      | 10.85    |
| O-145   | 102            | 50      | 23.17    | 22            | 37      | 47.46    |
| O-146   | 102            | 49      | 37.06    | 22            | 37      | 58.76    |
| O-147   | 102            | 49      | 4.44     | 22            | 38      | 20.04    |
| O-148   | 102            | 49      | 5.20     | 22            | 38      | 44.59    |
| O-149   | 102            | 48      | 43.09    | 22            | 38      | 44.52    |
| O-150   | 102            | 48      | 36.00    | 22            | 39      | 4.68     |
| O-151   | 102            | 47      | 56.98    | 22            | 39      | 15.41    |
| O-152   | 102            | 47      | 35.95    | 22            | 39      | 50.11    |
| O-153   | 102            | 47      | 4.13     | 22            | 39      | 49.86    |
| O-154   | 102            | 46      | 39.97    | 22            | 40      | 4.84     |
| O-155   | 102            | 46      | 40.87    | 22            | 40      | 38.64    |
| O-156   | 102            | 46      | 23.02    | 22            | 41      | 20.40    |
| O-157   | 102            | 46      | 56.21    | 22            | 41      | 55.90    |
| O-158   | 102            | 47      | 22.45    | 22            | 42      | 3.82     |
| O-159   | 102            | 47      | 44.05    | 22            | 42      | 38.09    |
| O-160   | 102            | 47      | 50.46    | 22            | 43      | 17.90    |
| O-161   | 102            | 48      | 53.64    | 22            | 43      | 52.03    |
| O-162   | 102            | 48      | 19.80    | 22            | 43      | 57.22    |
| O-163   | 102            | 48      | 16.85    | 22            | 44      | 27.96    |
| O-164   | 102            | 48      | 36.50    | 22            | 44      | 30.34    |
| O-165   | 102            | 48      | 50.47    | 22            | 45      | 0.25     |
| O-166   | 102            | 48      | 29.38    | 22            | 46      | 0.84     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| O-167   | 102            | 47      | 37.79    | 22            | 46      | 13.51    |
| O-168   | 102            | 47      | 11.69    | 22            | 46      | 7.36     |
| O-169   | 102            | 47      | 2.11     | 22            | 46      | 37.49    |
| O-170   | 102            | 46      | 30.61    | 22            | 46      | 22.55    |
| O-171   | 102            | 45      | 2.20     | 22            | 46      | 14.88    |
| O-172   | 102            | 42      | 36.07    | 22            | 45      | 34.42    |
| O-173   | 102            | 39      | 41.33    | 22            | 45      | 2.30     |
| O-174   | 102            | 38      | 17.63    | 22            | 44      | 29.58    |
| O-175   | 102            | 37      | 31.04    | 22            | 43      | 23.48    |
| O-176   | 102            | 37      | 17.98    | 22            | 43      | 29.50    |
| O-177   | 102            | 34      | 38.21    | 22            | 42      | 31.03    |
| O-178   | 102            | 34      | 44.26    | 22            | 41      | 47.98    |
| O-179   | 102            | 35      | 8.48     | 22            | 41      | 31.85    |
| O-180   | 102            | 35      | 14.46    | 22            | 40      | 23.74    |
| O-181   | 102            | 35      | 0.78     | 22            | 40      | 10.20    |
| O-182   | 102            | 35      | 11.58    | 22            | 39      | 50.51    |
| O-183   | 102            | 35      | 13.52    | 22            | 38      | 28.28    |
| O-184   | 102            | 35      | 26.66    | 22            | 38      | 18.31    |
| O-185   | 102            | 35      | 21.30    | 22            | 38      | 7.91     |
| O-186   | 102            | 35      | 33.97    | 22            | 37      | 42.74    |
| O-187   | 102            | 35      | 31.38    | 22            | 37      | 2.14     |
| O-188   | 102            | 35      | 12.80    | 22            | 36      | 43.38    |

**XVI.- CUENCA HIDROLOGICA RIO JUCHIPILA 1: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 7.29 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde la Presa El Chique hasta donde se localiza la Presa Achoquen.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Juchipila 1 tiene una superficie de aportación de 3,113.0 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por la cuenca hidrológica Presa El Chique, al Sur por las cuencas hidrológicas Presa Ajojucar, Río Aguascalientes, Río Verde 1 y Río Juchipila 2, al Este por las cuencas hidrológicas Presa Calles y Presa El Niágara y al Oeste por la cuenca hidrológica Río Tlaltenango. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| C-80    | 102            | 34      | 6.17     | 21            | 58      | 59.88    |
| C-79    | 102            | 34      | 41.41    | 21            | 58      | 53.40    |
| C-78    | 102            | 34      | 39.43    | 21            | 58      | 17.04    |
| C-77    | 102            | 35      | 33.18    | 21            | 57      | 23.47    |
| C-76    | 102            | 35      | 36.56    | 21            | 56      | 45.38    |
| C-75    | 102            | 34      | 55.27    | 21            | 56      | 15.72    |
| C-74    | 102            | 34      | 41.52    | 21            | 55      | 49.80    |
| C-73    | 102            | 34      | 26.72    | 21            | 55      | 50.30    |
| C-72    | 102            | 33      | 42.05    | 21            | 55      | 10.27    |
| C-71    | 102            | 33      | 6.70     | 21            | 55      | 21.04    |
| C-70    | 102            | 32      | 3.84     | 21            | 55      | 20.42    |
| C-69    | 102            | 31      | 43.57    | 21            | 54      | 0.83     |
| C-68    | 102            | 31      | 9.84     | 21            | 53      | 56.44    |
| C-67    | 102            | 30      | 44.71    | 21            | 53      | 34.66    |
| C-66    | 102            | 30      | 18.40    | 21            | 53      | 26.81    |
| C-65    | 102            | 29      | 46.14    | 21            | 52      | 39.72    |
| C-64    | 102            | 27      | 47.30    | 21            | 51      | 53.39    |
| C-63    | 102            | 27      | 15.44    | 21            | 51      | 24.19    |
| C-62    | 102            | 26      | 38.22    | 21            | 51      | 21.20    |
| C-61    | 102            | 26      | 9.53     | 21            | 51      | 5.72     |
| C-60    | 102            | 25      | 59.48    | 21            | 50      | 41.46    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| F-61    | 102            | 27      | 7.92     | 21            | 50      | 56.80    |
| F-60    | 102            | 28      | 20.28    | 21            | 50      | 38.51    |
| F-59    | 102            | 28      | 52.43    | 21            | 50      | 2.94     |
| F-58    | 102            | 29      | 1.18     | 21            | 49      | 35.40    |
| F-57    | 102            | 29      | 37.61    | 21            | 49      | 20.57    |
| F-56    | 102            | 29      | 55.07    | 21            | 48      | 49.39    |
| F-55    | 102            | 30      | 57.35    | 21            | 48      | 49.43    |
| F-54    | 102            | 31      | 8.83     | 21            | 48      | 26.32    |
| F-53    | 102            | 31      | 31.94    | 21            | 48      | 18.29    |
| F-52    | 102            | 31      | 48.04    | 21            | 48      | 28.66    |
| F-51    | 102            | 31      | 49.87    | 21            | 48      | 43.74    |
| F-50    | 102            | 33      | 14.76    | 21            | 47      | 59.39    |
| F-49    | 102            | 33      | 33.66    | 21            | 48      | 9.29     |
| F-48    | 102            | 33      | 46.44    | 21            | 48      | 0.72     |
| F-47    | 102            | 34      | 10.78    | 21            | 48      | 4.72     |
| F-46    | 102            | 34      | 36.98    | 21            | 47      | 43.55    |
| F-45    | 102            | 34      | 34.46    | 21            | 47      | 30.95    |
| F-44    | 102            | 35      | 10.64    | 21            | 47      | 38.47    |
| F-43    | 102            | 36      | 2.84     | 21            | 47      | 15.58    |
| F-42    | 102            | 36      | 44.39    | 21            | 47      | 22.13    |
| F-41    | 102            | 37      | 13.73    | 21            | 47      | 1.43     |
| F-40    | 102            | 37      | 14.74    | 21            | 46      | 42.06    |
| F-39    | 102            | 37      | 47.17    | 21            | 46      | 29.86    |
| F-38    | 102            | 38      | 3.08     | 21            | 46      | 0.41     |
| F-37    | 102            | 38      | 38.83    | 21            | 45      | 42.91    |
| F-36    | 102            | 39      | 13.86    | 21            | 45      | 51.55    |
| F-35    | 102            | 40      | 52.36    | 21            | 45      | 44.42    |
| F-34    | 102            | 41      | 17.70    | 21            | 45      | 11.20    |
| F-33    | 102            | 41      | 45.17    | 21            | 45      | 11.88    |
| F-32    | 102            | 41      | 47.58    | 21            | 44      | 54.24    |
| F-31    | 102            | 41      | 33.22    | 21            | 44      | 38.22    |
| F-30    | 102            | 41      | 53.30    | 21            | 44      | 17.74    |
| F-29    | 102            | 41      | 19.46    | 21            | 43      | 38.60    |
| F-28    | 102            | 41      | 35.84    | 21            | 42      | 52.16    |
| F-27    | 102            | 41      | 9.85     | 21            | 42      | 37.26    |
| I-52    | 102            | 41      | 38.11    | 21            | 42      | 17.32    |
| I-51    | 102            | 42      | 23.04    | 21            | 42      | 20.70    |
| I-50    | 102            | 42      | 37.33    | 21            | 42      | 7.92     |
| I-49    | 102            | 42      | 47.56    | 21            | 42      | 12.02    |
| I-48    | 102            | 42      | 58.75    | 21            | 42      | 3.60     |
| I-47    | 102            | 43      | 20.93    | 21            | 42      | 24.30    |
| I-46    | 102            | 44      | 11.08    | 21            | 42      | 44.57    |
| I-45    | 102            | 44      | 20.26    | 21            | 43      | 15.56    |
| I-44    | 102            | 44      | 47.47    | 21            | 43      | 6.46     |
| I-43    | 102            | 44      | 52.33    | 21            | 43      | 1.85     |
| I-42    | 102            | 44      | 40.13    | 21            | 42      | 57.38    |
| I-41    | 102            | 45      | 2.09     | 21            | 42      | 43.16    |
| L-93    | 102            | 45      | 25.09    | 21            | 42      | 40.32    |
| L-92    | 102            | 45      | 21.46    | 21            | 42      | 14.58    |
| L-91    | 102            | 45      | 39.78    | 21            | 41      | 46.28    |
| L-90    | 102            | 45      | 19.44    | 21            | 41      | 27.35    |
| L-89    | 102            | 45      | 24.73    | 21            | 40      | 59.84    |
| L-88    | 102            | 45      | 43.38    | 21            | 40      | 57.25    |
| L-87    | 102            | 45      | 23.65    | 21            | 40      | 29.78    |
| L-86    | 102            | 45      | 40.75    | 21            | 40      | 15.35    |
| L-85    | 102            | 46      | 25.57    | 21            | 40      | 11.93    |
| L-84    | 102            | 45      | 54.29    | 21            | 39      | 19.26    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| L-83    | 102            | 46      | 48.54    | 21            | 38      | 26.63    |
| L-82    | 102            | 46      | 55.42    | 21            | 38      | 42.86    |
| L-81    | 102            | 47      | 31.34    | 21            | 38      | 55.68    |
| L-80    | 102            | 48      | 14.76    | 21            | 38      | 16.76    |
| L-79    | 102            | 48      | 42.52    | 21            | 38      | 10.68    |
| L-78    | 102            | 48      | 39.46    | 21            | 37      | 50.23    |
| L-77    | 102            | 49      | 20.60    | 21            | 36      | 48.13    |
| P-1     | 102            | 50      | 7.98     | 21            | 36      | 13.68    |
| P-2     | 102            | 50      | 47.18    | 21            | 36      | 19.91    |
| P-3     | 102            | 51      | 48.42    | 21            | 36      | 4.28     |
| P-4     | 102            | 52      | 3.86     | 21            | 34      | 55.60    |
| P-5     | 102            | 52      | 16.82    | 21            | 34      | 47.82    |
| P-6     | 102            | 52      | 27.73    | 21            | 34      | 17.44    |
| P-7     | 102            | 52      | 58.04    | 21            | 33      | 54.07    |
| P-8     | 102            | 53      | 12.34    | 21            | 33      | 1.12     |
| P-9     | 102            | 54      | 25.88    | 21            | 32      | 28.68    |
| P-10    | 102            | 54      | 59.18    | 21            | 32      | 26.52    |
| P-11    | 102            | 55      | 27.52    | 21            | 32      | 7.58     |
| P-12    | 102            | 55      | 26.65    | 21            | 31      | 55.74    |
| P-13    | 102            | 56      | 0.67     | 21            | 31      | 39.68    |
| P-14    | 102            | 56      | 39.95    | 21            | 31      | 53.26    |
| P-15    | 102            | 56      | 53.23    | 21            | 31      | 35.40    |
| P-16    | 102            | 57      | 4.03     | 21            | 32      | 3.62     |
| P-17    | 102            | 57      | 25.92    | 21            | 32      | 10.28    |
| P-18    | 102            | 58      | 33.64    | 21            | 31      | 22.19    |
| P-19    | 102            | 58      | 33.17    | 21            | 30      | 59.26    |
| P-20    | 102            | 59      | 14.89    | 21            | 29      | 47.87    |
| P-21    | 102            | 59      | 48.73    | 21            | 30      | 20.02    |
| P-22    | 103            | 0       | 10.73    | 21            | 30      | 27.68    |
| P-23    | 103            | 0       | 29.20    | 21            | 29      | 54.38    |
| P-24    | 103            | 0       | 55.51    | 21            | 30      | 13.28    |
| P-25    | 103            | 1       | 21.18    | 21            | 30      | 5.47     |
| P-26    | 103            | 1       | 27.55    | 21            | 30      | 29.77    |
| P-27    | 103            | 2       | 37.68    | 21            | 30      | 28.98    |
| P-28    | 103            | 2       | 46.07    | 21            | 31      | 2.10     |
| P-29    | 103            | 3       | 13.79    | 21            | 31      | 35.40    |
| P-30    | 103            | 3       | 21.35    | 21            | 31      | 11.82    |
| P-31    | 103            | 3       | 48.35    | 21            | 31      | 22.44    |
| P-32    | 103            | 4       | 5.23     | 21            | 31      | 13.62    |
| P-33    | 103            | 4       | 30.29    | 21            | 31      | 32.02    |
| P-34    | 103            | 4       | 49.91    | 21            | 32      | 8.41     |
| P-35    | 103            | 5       | 16.66    | 21            | 32      | 18.60    |
| P-36    | 103            | 5       | 26.45    | 21            | 32      | 4.88     |
| P-37    | 103            | 5       | 57.48    | 21            | 32      | 25.94    |
| P-38    | 103            | 6       | 37.55    | 21            | 32      | 25.69    |
| P-39    | 103            | 7       | 10.06    | 21            | 32      | 46.75    |
| P-40    | 103            | 7       | 30.58    | 21            | 32      | 33.72    |
| P-41    | 103            | 7       | 42.82    | 21            | 33      | 25.81    |
| P-42    | 103            | 8       | 4.27     | 21            | 34      | 3.54     |
| P-43    | 103            | 8       | 40.45    | 21            | 34      | 20.75    |
| P-44    | 103            | 9       | 10.26    | 21            | 34      | 12.68    |
| P-45    | 103            | 9       | 51.26    | 21            | 34      | 34.43    |
| P-46    | 103            | 10      | 21.83    | 21            | 35      | 27.92    |
| P-47    | 103            | 10      | 53.90    | 21            | 35      | 40.13    |
| P-48    | 103            | 11      | 19.86    | 21            | 36      | 5.36     |
| P-49    | 103            | 11      | 53.63    | 21            | 36      | 0.04     |
| P-50    | 103            | 12      | 29.99    | 21            | 36      | 10.98    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| P-51    | 103            | 12      | 10.66    | 21            | 36      | 39.46    |
| P-52    | 103            | 12      | 40.00    | 21            | 37      | 6.13     |
| P-53    | 103            | 12      | 10.19    | 21            | 37      | 18.16    |
| P-54    | 103            | 12      | 0.76     | 21            | 37      | 33.31    |
| P-55    | 103            | 12      | 9.72     | 21            | 37      | 47.46    |
| P-56    | 103            | 11      | 58.27    | 21            | 38      | 0.17     |
| P-57    | 103            | 12      | 7.13     | 21            | 38      | 30.16    |
| P-58    | 103            | 12      | 35.64    | 21            | 38      | 44.63    |
| P-59    | 103            | 12      | 34.42    | 21            | 39      | 5.40     |
| P-60    | 103            | 12      | 50.72    | 21            | 39      | 13.00    |
| P-61    | 103            | 12      | 33.26    | 21            | 39      | 51.34    |
| P-62    | 103            | 12      | 37.69    | 21            | 40      | 5.74     |
| P-63    | 103            | 12      | 6.37     | 21            | 40      | 42.31    |
| P-64    | 103            | 11      | 58.85    | 21            | 40      | 46.09    |
| P-65    | 103            | 11      | 55.32    | 21            | 40      | 35.69    |
| P-66    | 103            | 11      | 14.60    | 21            | 41      | 0.60     |
| P-67    | 103            | 11      | 5.86     | 21            | 41      | 25.76    |
| P-68    | 103            | 10      | 48.76    | 21            | 41      | 21.80    |
| P-69    | 103            | 10      | 41.09    | 21            | 42      | 6.70     |
| P-70    | 103            | 10      | 8.83     | 21            | 42      | 14.40    |
| P-71    | 103            | 10      | 9.37     | 21            | 42      | 35.68    |
| P-72    | 103            | 10      | 31.04    | 21            | 42      | 56.41    |
| P-73    | 103            | 10      | 18.91    | 21            | 43      | 39.72    |
| P-74    | 103            | 10      | 48.79    | 21            | 44      | 14.75    |
| P-75    | 103            | 9       | 35.35    | 21            | 44      | 49.16    |
| P-76    | 103            | 9       | 32.47    | 21            | 45      | 41.80    |
| P-77    | 103            | 8       | 34.04    | 21            | 46      | 41.88    |
| P-78    | 103            | 8       | 47.54    | 21            | 47      | 37.79    |
| P-79    | 103            | 9       | 31.57    | 21            | 47      | 49.16    |
| P-80    | 103            | 9       | 28.04    | 21            | 48      | 22.10    |
| P-81    | 103            | 9       | 37.44    | 21            | 48      | 37.37    |
| P-82    | 103            | 9       | 59.36    | 21            | 48      | 44.03    |
| P-83    | 103            | 11      | 3.26     | 21            | 48      | 17.96    |
| P-84    | 103            | 11      | 56.90    | 21            | 48      | 43.34    |
| P-85    | 103            | 11      | 41.60    | 21            | 49      | 42.46    |
| P-86    | 103            | 11      | 42.68    | 21            | 50      | 27.89    |
| P-87    | 103            | 11      | 17.52    | 21            | 50      | 43.84    |
| P-88    | 103            | 11      | 16.01    | 21            | 51      | 1.26     |
| P-89    | 103            | 11      | 32.96    | 21            | 51      | 34.60    |
| P-90    | 103            | 11      | 10.79    | 21            | 52      | 1.96     |
| P-91    | 103            | 11      | 21.08    | 21            | 52      | 21.40    |
| P-92    | 103            | 10      | 27.01    | 21            | 53      | 23.78    |
| P-93    | 103            | 10      | 28.85    | 21            | 53      | 40.56    |
| P-94    | 103            | 11      | 0.13     | 21            | 53      | 50.42    |
| P-95    | 103            | 10      | 43.00    | 21            | 54      | 6.48     |
| P-96    | 103            | 10      | 55.31    | 21            | 54      | 38.88    |
| P-97    | 103            | 10      | 18.70    | 21            | 54      | 51.95    |
| P-98    | 103            | 9       | 17.14    | 21            | 54      | 48.31    |
| P-99    | 103            | 8       | 59.24    | 21            | 55      | 14.70    |
| P-100   | 103            | 7       | 43.97    | 21            | 55      | 11.42    |
| P-101   | 103            | 7       | 8.22     | 21            | 55      | 32.02    |
| P-102   | 103            | 7       | 2.32     | 21            | 55      | 57.22    |
| P-103   | 103            | 5       | 54.46    | 21            | 55      | 53.15    |
| P-104   | 103            | 4       | 19.49    | 21            | 55      | 29.24    |
| P-105   | 103            | 3       | 17.10    | 21            | 55      | 47.50    |
| P-106   | 103            | 3       | 5.65     | 21            | 56      | 12.41    |
| P-107   | 103            | 2       | 41.57    | 21            | 56      | 15.94    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| P-108   | 103            | 2       | 49.92    | 21            | 56      | 39.66    |
| P-109   | 103            | 2       | 35.84    | 21            | 57      | 42.59    |
| P-110   | 103            | 1       | 57.76    | 21            | 58      | 8.54     |
| P-111   | 103            | 1       | 45.70    | 21            | 59      | 7.69     |
| P-112   | 103            | 1       | 25.18    | 21            | 59      | 30.95    |
| O-53    | 103            | 1       | 13.84    | 22            | 0       | 59.80    |
| O-52    | 102            | 59      | 56.00    | 22            | 0       | 23.54    |
| O-51    | 102            | 58      | 59.70    | 22            | 0       | 30.17    |
| O-50    | 102            | 57      | 17.14    | 21            | 59      | 17.02    |
| O-49    | 102            | 55      | 52.93    | 21            | 59      | 59.50    |
| O-48    | 102            | 54      | 59.76    | 21            | 59      | 55.97    |
| O-47    | 102            | 55      | 3.18     | 21            | 59      | 33.94    |
| O-46    | 102            | 54      | 2.09     | 21            | 59      | 13.96    |
| O-45    | 102            | 53      | 46.32    | 21            | 59      | 50.93    |
| O-44    | 102            | 53      | 38.11    | 21            | 59      | 36.49    |
| O-43    | 102            | 53      | 31.92    | 21            | 59      | 59.68    |
| O-42    | 102            | 52      | 30.54    | 22            | 1       | 3.86     |
| O-41    | 102            | 52      | 13.48    | 22            | 1       | 47.64    |
| O-40    | 102            | 52      | 17.51    | 22            | 2       | 3.84     |
| O-39    | 102            | 51      | 25.31    | 22            | 3       | 46.04    |
| O-38    | 102            | 50      | 40.96    | 22            | 6       | 22.21    |
| O-37    | 102            | 50      | 25.76    | 22            | 6       | 46.33    |
| O-36    | 102            | 49      | 41.92    | 22            | 6       | 57.20    |
| O-35    | 102            | 49      | 34.93    | 22            | 7       | 15.85    |
| O-34    | 102            | 49      | 42.74    | 22            | 7       | 34.18    |
| O-33    | 102            | 48      | 58.25    | 22            | 8       | 26.70    |
| O-32    | 102            | 48      | 57.74    | 22            | 9       | 14.94    |
| O-31    | 102            | 48      | 7.20     | 22            | 9       | 48.96    |
| O-30    | 102            | 47      | 48.73    | 22            | 10      | 42.13    |
| O-29    | 102            | 46      | 34.36    | 22            | 10      | 20.10    |
| O-28    | 102            | 46      | 22.87    | 22            | 10      | 5.48     |
| O-27    | 102            | 46      | 32.92    | 22            | 9       | 56.63    |
| O-26    | 102            | 45      | 23.11    | 22            | 9       | 53.64    |
| O-25    | 102            | 45      | 8.46     | 22            | 10      | 16.21    |
| O-24    | 102            | 44      | 48.70    | 22            | 10      | 15.53    |
| O-23    | 102            | 44      | 32.64    | 22            | 10      | 32.92    |
| O-22    | 102            | 44      | 31.49    | 22            | 11      | 46.64    |
| O-21    | 102            | 43      | 5.23     | 22            | 11      | 14.46    |
| O-20    | 102            | 41      | 37.46    | 22            | 11      | 9.35     |
| O-19    | 102            | 41      | 16.73    | 22            | 10      | 44.08    |
| O-18    | 102            | 41      | 31.92    | 22            | 9       | 34.34    |
| O-17    | 102            | 40      | 58.51    | 22            | 9       | 9.22     |
| O-16    | 102            | 40      | 51.96    | 22            | 8       | 34.37    |
| O-15    | 102            | 41      | 13.06    | 22            | 7       | 46.74    |
| O-14    | 102            | 40      | 39.94    | 22            | 7       | 59.02    |
| O-13    | 102            | 40      | 34.18    | 22            | 8       | 31.96    |
| O-12    | 102            | 39      | 57.20    | 22            | 8       | 35.70    |
| O-11    | 102            | 39      | 55.80    | 22            | 8       | 49.24    |
| O-10    | 102            | 39      | 37.73    | 22            | 8       | 55.57    |
| O-9     | 102            | 39      | 43.42    | 22            | 9       | 24.23    |
| O-8     | 102            | 38      | 47.90    | 22            | 9       | 5.69     |
| O-7     | 102            | 38      | 55.86    | 22            | 9       | 14.47    |
| O-6     | 102            | 38      | 54.82    | 22            | 10      | 2.06     |
| O-5     | 102            | 39      | 15.73    | 22            | 10      | 12.79    |
| O-4     | 102            | 39      | 24.77    | 22            | 10      | 35.36    |
| O-3     | 102            | 39      | 17.71    | 22            | 10      | 54.16    |
| O-2     | 102            | 38      | 45.06    | 22            | 10      | 36.16    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| O-1     | 102            | 38      | 19.14    | 22            | 11      | 15.47    |
| B-47    | 102            | 38      | 22.20    | 22            | 11      | 51.97    |
| B-46    | 102            | 38      | 15.65    | 22            | 12      | 3.06     |
| B-45    | 102            | 37      | 37.49    | 22            | 11      | 43.19    |
| B-44    | 102            | 37      | 11.86    | 22            | 11      | 44.70    |
| B-43    | 102            | 36      | 20.41    | 22            | 11      | 19.25    |
| B-42    | 102            | 36      | 12.28    | 22            | 10      | 55.09    |
| B-41    | 102            | 35      | 26.88    | 22            | 10      | 54.34    |
| B-40    | 102            | 35      | 42.72    | 22            | 10      | 11.50    |
| B-39    | 102            | 35      | 30.95    | 22            | 8       | 57.77    |
| B-38    | 102            | 35      | 54.13    | 22            | 8       | 25.62    |
| B-37    | 102            | 35      | 53.95    | 22            | 7       | 35.58    |
| B-36    | 102            | 35      | 24.40    | 22            | 7       | 9.59     |
| B-35    | 102            | 35      | 51.40    | 22            | 6       | 30.28    |
| B-34    | 102            | 35      | 19.07    | 22            | 5       | 35.34    |
| B-33    | 102            | 35      | 30.12    | 22            | 4       | 56.03    |
| B-32    | 102            | 35      | 22.20    | 22            | 4       | 32.52    |
| B-31    | 102            | 35      | 39.88    | 22            | 3       | 59.08    |
| B-30    | 102            | 35      | 37.54    | 22            | 3       | 28.94    |
| B-29    | 102            | 36      | 18.79    | 22            | 2       | 31.42    |
| B-28    | 102            | 35      | 59.35    | 22            | 2       | 17.48    |
| B-27    | 102            | 35      | 50.89    | 22            | 1       | 29.03    |
| B-26    | 102            | 35      | 16.98    | 22            | 1       | 28.99    |
| B-25    | 102            | 35      | 28.07    | 22            | 1       | 12.07    |
| B-24    | 102            | 34      | 49.76    | 21            | 59      | 46.93    |
| B-23    | 102            | 33      | 57.60    | 21            | 59      | 22.13    |

**XVII.- CUENCA HIDROLOGICA RIO JUCHIPILA 2: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 15.06 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde la Presa Achoquen hasta la confluencia del Río Juchipila con el Río Santiago.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Juchipila 2 tiene una superficie de aportación de 2,563.9 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por las cuencas hidrológicas Río Juchipila 1 y Río Tlaltenango, al Sur por la cuenca hidrológica Río Santiago 2, al Este por la cuenca hidrológica Río Verde 1 y al Oeste por las cuencas hidrológicas Presa Santa Rosa y Río Tlaltenango. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Q-1     | 103            | 3       | 46.19    | 21            | 5       | 38.83    |
| Q-2     | 103            | 5       | 1.61     | 21            | 4       | 1.45     |
| Q-3     | 103            | 5       | 56.11    | 21            | 3       | 48.28    |
| Q-4     | 103            | 6       | 19.26    | 21            | 3       | 20.70    |
| Q-5     | 103            | 6       | 22.28    | 21            | 2       | 54.46    |
| Q-6     | 103            | 7       | 7.68     | 21            | 2       | 20.47    |
| Q-7     | 103            | 7       | 9.12     | 21            | 1       | 47.75    |
| Q-8     | 103            | 7       | 48.22    | 21            | 0       | 57.24    |
| Q-9     | 103            | 8       | 6.47     | 21            | 0       | 47.34    |
| Q-10    | 103            | 7       | 45.77    | 21            | 0       | 1.44     |
| Q-11    | 103            | 7       | 50.02    | 20            | 59      | 37.18    |
| Q-12    | 103            | 8       | 8.52     | 20            | 59      | 5.32     |
| Q-13    | 103            | 9       | 45.94    | 20            | 57      | 39.31    |
| Q-14    | 103            | 10      | 24.74    | 20            | 57      | 54.36    |
| Q-15    | 103            | 10      | 47.39    | 20            | 57      | 27.54    |
| Q-16    | 103            | 10      | 54.66    | 20            | 57      | 3.13     |
| Q-17    | 103            | 12      | 10.48    | 20            | 56      | 2.69     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Q-18    | 103            | 12      | 40.57    | 20            | 56      | 0.74     |
| Q-19    | 103            | 13      | 18.88    | 20            | 55      | 25.93    |
| Q-20    | 103            | 13      | 57.00    | 20            | 55      | 15.64    |
| Q-21    | 103            | 14      | 19.32    | 20            | 55      | 22.58    |
| Q-22    | 103            | 15      | 7.99     | 20            | 55      | 9.44     |
| Q-23    | 103            | 15      | 15.37    | 20            | 55      | 42.10    |
| Q-24    | 103            | 15      | 34.06    | 20            | 56      | 3.30     |
| Q-25    | 103            | 15      | 43.92    | 20            | 55      | 49.69    |
| Q-26    | 103            | 16      | 28.88    | 20            | 55      | 35.90    |
| Q-27    | 103            | 16      | 54.19    | 20            | 55      | 42.42    |
| Q-28    | 103            | 17      | 11.62    | 20            | 56      | 4.85     |
| Q-29    | 103            | 17      | 31.60    | 20            | 56      | 9.06     |
| Q-30    | 103            | 17      | 15.36    | 20            | 57      | 2.74     |
| Q-31    | 103            | 17      | 22.60    | 20            | 57      | 21.17    |
| Q-32    | 103            | 18      | 25.60    | 20            | 56      | 47.15    |
| Q-33    | 103            | 18      | 39.92    | 20            | 56      | 56.47    |
| Q-34    | 103            | 18      | 55.66    | 20            | 58      | 12.00    |
| Q-35    | 103            | 19      | 50.27    | 20            | 58      | 12.00    |
| Q-36    | 103            | 20      | 18.85    | 20            | 58      | 30.40    |
| Q-37    | 103            | 20      | 12.98    | 20            | 59      | 21.73    |
| Q-38    | 103            | 21      | 17.96    | 21            | 0       | 53.96    |
| Q-39    | 103            | 21      | 8.68     | 21            | 1       | 10.74    |
| Q-40    | 103            | 21      | 8.28     | 21            | 1       | 46.45    |
| Q-41    | 103            | 21      | 23.87    | 21            | 2       | 18.64    |
| Q-42    | 103            | 21      | 47.05    | 21            | 2       | 32.17    |
| Q-43    | 103            | 22      | 21.58    | 21            | 2       | 27.31    |
| Q-44    | 103            | 23      | 10.46    | 21            | 1       | 40.87    |
| Q-45    | 103            | 23      | 28.18    | 21            | 1       | 36.48    |
| Q-46    | 103            | 23      | 48.08    | 21            | 1       | 44.94    |
| Q-47    | 103            | 23      | 46.25    | 21            | 1       | 53.44    |
| Q-48    | 103            | 24      | 21.74    | 21            | 2       | 2.26     |
| Q-49    | 103            | 24      | 27.97    | 21            | 2       | 16.91    |
| Q-50    | 103            | 25      | 12.61    | 21            | 2       | 48.91    |
| Q-51    | 103            | 25      | 40.66    | 21            | 2       | 31.16    |
| Q-52    | 103            | 25      | 49.12    | 21            | 2       | 35.95    |
| Q-53    | 103            | 25      | 37.99    | 21            | 3       | 18.86    |
| Q-54    | 103            | 25      | 13.73    | 21            | 3       | 51.88    |
| Q-55    | 103            | 25      | 2.03     | 21            | 4       | 28.49    |
| Q-56    | 103            | 25      | 5.48     | 21            | 4       | 50.45    |
| Q-57    | 103            | 24      | 44.64    | 21            | 4       | 54.26    |
| Q-58    | 103            | 24      | 52.34    | 21            | 5       | 0.74     |
| Q-59    | 103            | 24      | 49.97    | 21            | 5       | 23.53    |
| Q-60    | 103            | 25      | 43.39    | 21            | 6       | 2.27     |
| Q-61    | 103            | 25      | 36.66    | 21            | 7       | 5.09     |
| Q-62    | 103            | 24      | 52.49    | 21            | 8       | 5.75     |
| Q-63    | 103            | 25      | 6.96     | 21            | 8       | 20.40    |
| Q-64    | 103            | 25      | 39.14    | 21            | 8       | 25.01    |
| Q-65    | 103            | 25      | 42.49    | 21            | 8       | 44.84    |
| Q-66    | 103            | 26      | 33.72    | 21            | 9       | 21.96    |
| Q-67    | 103            | 26      | 9.24     | 21            | 10      | 22.37    |
| Q-68    | 103            | 26      | 23.78    | 21            | 10      | 58.55    |
| Q-69    | 103            | 26      | 42.50    | 21            | 11      | 15.18    |
| Q-70    | 103            | 25      | 45.26    | 21            | 11      | 31.49    |
| Q-71    | 103            | 25      | 9.91     | 21            | 12      | 0.04     |
| Q-72    | 103            | 25      | 50.56    | 21            | 13      | 3.00     |
| Q-73    | 103            | 26      | 5.35     | 21            | 13      | 52.21    |
| Q-74    | 103            | 26      | 46.32    | 21            | 13      | 53.29    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Q-75    | 103            | 27      | 36.22    | 21            | 14      | 12.19    |
| Q-76    | 103            | 27      | 47.34    | 21            | 14      | 30.01    |
| Q-77    | 103            | 27      | 45.68    | 21            | 14      | 59.35    |
| Q-78    | 103            | 27      | 57.28    | 21            | 15      | 35.17    |
| Q-79    | 103            | 28      | 16.82    | 21            | 15      | 49.39    |
| Q-80    | 103            | 28      | 30.50    | 21            | 16      | 31.19    |
| Q-81    | 103            | 28      | 42.53    | 21            | 16      | 42.49    |
| Q-82    | 103            | 29      | 2.51     | 21            | 16      | 45.73    |
| Q-83    | 103            | 28      | 45.34    | 21            | 17      | 8.05     |
| Q-84    | 103            | 28      | 59.81    | 21            | 19      | 6.38     |
| Q-85    | 103            | 28      | 38.96    | 21            | 19      | 28.13    |
| Q-86    | 103            | 28      | 42.67    | 21            | 19      | 43.79    |
| Q-87    | 103            | 27      | 59.47    | 21            | 20      | 17.02    |
| Q-88    | 103            | 28      | 12.97    | 21            | 20      | 44.38    |
| Q-89    | 103            | 28      | 8.69     | 21            | 21      | 21.24    |
| Q-90    | 103            | 27      | 53.78    | 21            | 21      | 24.19    |
| Q-91    | 103            | 27      | 9.07     | 21            | 22      | 0.34     |
| Q-92    | 103            | 26      | 23.42    | 21            | 22      | 14.41    |
| Q-93    | 103            | 26      | 15.58    | 21            | 22      | 14.59    |
| Q-94    | 103            | 26      | 3.70     | 21            | 22      | 1.49     |
| Q-95    | 103            | 25      | 39.97    | 21            | 22      | 2.53     |
| Q-96    | 103            | 25      | 29.28    | 21            | 22      | 8.62     |
| Q-97    | 103            | 25      | 6.85     | 21            | 21      | 48.20    |
| Q-98    | 103            | 24      | 49.79    | 21            | 21      | 43.38    |
| Q-99    | 103            | 24      | 38.34    | 21            | 21      | 51.84    |
| Q-100   | 103            | 24      | 9.22     | 21            | 21      | 41.36    |
| Q-101   | 103            | 23      | 32.96    | 21            | 22      | 1.20     |
| Q-102   | 103            | 23      | 31.49    | 21            | 21      | 46.04    |
| Q-103   | 103            | 23      | 3.23     | 21            | 21      | 16.96    |
| Q-104   | 103            | 22      | 55.16    | 21            | 21      | 16.16    |
| Q-105   | 103            | 22      | 31.37    | 21            | 21      | 35.35    |
| Q-106   | 103            | 22      | 25.18    | 21            | 21      | 58.90    |
| Q-107   | 103            | 22      | 9.44     | 21            | 22      | 17.26    |
| Q-108   | 103            | 21      | 30.67    | 21            | 22      | 17.83    |
| Q-109   | 103            | 21      | 19.91    | 21            | 22      | 24.20    |
| Q-110   | 103            | 21      | 18.54    | 21            | 23      | 20.54    |
| Q-111   | 103            | 20      | 48.16    | 21            | 23      | 52.04    |
| Q-112   | 103            | 20      | 47.72    | 21            | 24      | 19.37    |
| Q-113   | 103            | 20      | 38.90    | 21            | 24      | 32.76    |
| Q-114   | 103            | 20      | 33.36    | 21            | 25      | 3.79     |
| Q-115   | 103            | 20      | 15.94    | 21            | 25      | 31.15    |
| Q-116   | 103            | 19      | 52.90    | 21            | 25      | 48.07    |
| Q-117   | 103            | 19      | 35.62    | 21            | 25      | 52.36    |
| Q-118   | 103            | 19      | 1.99     | 21            | 25      | 40.22    |
| Q-119   | 103            | 19      | 3.86     | 21            | 25      | 9.19     |
| Q-120   | 103            | 18      | 10.37    | 21            | 24      | 6.08     |
| Q-121   | 103            | 18      | 9.97     | 21            | 23      | 43.40    |
| Q-122   | 103            | 17      | 47.26    | 21            | 23      | 36.13    |
| Q-123   | 103            | 17      | 40.49    | 21            | 23      | 25.33    |
| Q-124   | 103            | 17      | 41.86    | 21            | 23      | 10.82    |
| Q-125   | 103            | 17      | 51.65    | 21            | 22      | 53.90    |
| Q-126   | 103            | 17      | 17.20    | 21            | 23      | 14.28    |
| Q-127   | 103            | 17      | 5.17     | 21            | 23      | 14.93    |
| Q-128   | 103            | 16      | 36.62    | 21            | 23      | 3.26     |
| Q-129   | 103            | 16      | 20.32    | 21            | 23      | 42.65    |
| Q-130   | 103            | 16      | 22.98    | 21            | 24      | 30.17    |
| Q-131   | 103            | 16      | 17.22    | 21            | 24      | 58.75    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Q-132   | 103            | 15      | 38.45    | 21            | 25      | 26.36    |
| Q-133   | 103            | 15      | 15.05    | 21            | 25      | 55.06    |
| Q-134   | 103            | 14      | 53.34    | 21            | 25      | 50.48    |
| Q-135   | 103            | 13      | 57.14    | 21            | 25      | 59.02    |
| Q-136   | 103            | 13      | 20.71    | 21            | 26      | 35.23    |
| Q-137   | 103            | 13      | 22.66    | 21            | 26      | 50.82    |
| Q-138   | 103            | 13      | 0.48     | 21            | 27      | 25.88    |
| Q-139   | 103            | 12      | 59.76    | 21            | 27      | 55.87    |
| Q-140   | 103            | 13      | 22.84    | 21            | 28      | 4.15     |
| Q-141   | 103            | 13      | 39.79    | 21            | 28      | 26.69    |
| Q-142   | 103            | 13      | 43.25    | 21            | 28      | 38.50    |
| Q-143   | 103            | 13      | 33.28    | 21            | 29      | 7.01     |
| Q-144   | 103            | 13      | 41.81    | 21            | 29      | 28.03    |
| Q-145   | 103            | 13      | 44.22    | 21            | 30      | 11.34    |
| Q-146   | 103            | 14      | 10.36    | 21            | 30      | 34.09    |
| Q-147   | 103            | 14      | 28.43    | 21            | 31      | 5.12     |
| Q-148   | 103            | 14      | 20.90    | 21            | 31      | 35.76    |
| Q-149   | 103            | 14      | 25.22    | 21            | 32      | 3.05     |
| Q-150   | 103            | 14      | 11.15    | 21            | 32      | 55.79    |
| Q-151   | 103            | 14      | 4.20     | 21            | 33      | 11.41    |
| Q-152   | 103            | 13      | 39.22    | 21            | 33      | 20.12    |
| Q-153   | 103            | 13      | 35.08    | 21            | 33      | 28.76    |
| Q-154   | 103            | 13      | 41.02    | 21            | 33      | 36.72    |
| Q-155   | 103            | 13      | 14.02    | 21            | 33      | 56.16    |
| Q-156   | 103            | 13      | 5.59     | 21            | 34      | 38.60    |
| Q-157   | 103            | 12      | 55.48    | 21            | 34      | 55.38    |
| Q-158   | 103            | 12      | 35.10    | 21            | 35      | 11.11    |
| Q-159   | 103            | 12      | 48.10    | 21            | 35      | 54.85    |
| Q-160   | 103            | 12      | 43.81    | 21            | 36      | 7.56     |
| P-50    | 103            | 12      | 29.99    | 21            | 36      | 10.98    |
| P-49    | 103            | 11      | 53.63    | 21            | 36      | 0.04     |
| P-48    | 103            | 11      | 19.86    | 21            | 36      | 5.36     |
| P-47    | 103            | 10      | 53.90    | 21            | 35      | 40.13    |
| P-46    | 103            | 10      | 21.83    | 21            | 35      | 27.92    |
| P-45    | 103            | 9       | 51.26    | 21            | 34      | 34.43    |
| P-44    | 103            | 9       | 10.26    | 21            | 34      | 12.68    |
| P-43    | 103            | 8       | 40.45    | 21            | 34      | 20.75    |
| P-42    | 103            | 8       | 4.27     | 21            | 34      | 3.54     |
| P-41    | 103            | 7       | 42.82    | 21            | 33      | 25.81    |
| P-40    | 103            | 7       | 30.58    | 21            | 32      | 33.72    |
| P-39    | 103            | 7       | 10.06    | 21            | 32      | 46.75    |
| P-38    | 103            | 6       | 37.55    | 21            | 32      | 25.69    |
| P-37    | 103            | 5       | 57.48    | 21            | 32      | 25.94    |
| P-36    | 103            | 5       | 26.45    | 21            | 32      | 4.88     |
| P-35    | 103            | 5       | 16.66    | 21            | 32      | 18.60    |
| P-34    | 103            | 4       | 49.91    | 21            | 32      | 8.41     |
| P-33    | 103            | 4       | 30.29    | 21            | 31      | 32.02    |
| P-32    | 103            | 4       | 5.23     | 21            | 31      | 13.62    |
| P-31    | 103            | 3       | 48.35    | 21            | 31      | 22.44    |
| P-30    | 103            | 3       | 21.35    | 21            | 31      | 11.82    |
| P-29    | 103            | 3       | 13.79    | 21            | 31      | 35.40    |
| P-28    | 103            | 2       | 46.07    | 21            | 31      | 2.10     |
| P-27    | 103            | 2       | 37.68    | 21            | 30      | 28.98    |
| P-26    | 103            | 1       | 27.55    | 21            | 30      | 29.77    |
| P-25    | 103            | 1       | 21.18    | 21            | 30      | 5.47     |
| P-24    | 103            | 0       | 55.51    | 21            | 30      | 13.28    |
| P-23    | 103            | 0       | 29.20    | 21            | 29      | 54.38    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| P-22    | 103            | 0       | 10.73    | 21            | 30      | 27.68    |
| P-21    | 102            | 59      | 48.73    | 21            | 30      | 20.02    |
| P-20    | 102            | 59      | 14.89    | 21            | 29      | 47.87    |
| P-19    | 102            | 58      | 33.17    | 21            | 30      | 59.26    |
| P-18    | 102            | 58      | 33.64    | 21            | 31      | 22.19    |
| P-17    | 102            | 57      | 25.92    | 21            | 32      | 10.28    |
| P-16    | 102            | 57      | 4.03     | 21            | 32      | 3.62     |
| P-15    | 102            | 56      | 53.23    | 21            | 31      | 35.40    |
| P-14    | 102            | 56      | 39.95    | 21            | 31      | 53.26    |
| P-13    | 102            | 56      | 0.67     | 21            | 31      | 39.68    |
| P-12    | 102            | 55      | 26.65    | 21            | 31      | 55.74    |
| P-11    | 102            | 55      | 27.52    | 21            | 32      | 7.58     |
| P-10    | 102            | 54      | 59.18    | 21            | 32      | 26.52    |
| P-9     | 102            | 54      | 25.88    | 21            | 32      | 28.68    |
| P-8     | 102            | 53      | 12.34    | 21            | 33      | 1.12     |
| P-7     | 102            | 52      | 58.04    | 21            | 33      | 54.07    |
| P-6     | 102            | 52      | 27.73    | 21            | 34      | 17.44    |
| P-5     | 102            | 52      | 16.82    | 21            | 34      | 47.82    |
| P-4     | 102            | 52      | 3.86     | 21            | 34      | 55.60    |
| P-3     | 102            | 51      | 48.42    | 21            | 36      | 4.28     |
| P-2     | 102            | 50      | 47.18    | 21            | 36      | 19.91    |
| P-1     | 102            | 50      | 7.98     | 21            | 36      | 13.68    |
| L-77    | 102            | 49      | 20.60    | 21            | 36      | 48.13    |
| L-76    | 102            | 48      | 46.91    | 21            | 36      | 29.63    |
| L-75    | 102            | 49      | 43.64    | 21            | 35      | 12.59    |
| L-74    | 102            | 49      | 9.05     | 21            | 35      | 6.11     |
| L-73    | 102            | 47      | 58.24    | 21            | 33      | 51.73    |
| L-72    | 102            | 47      | 50.93    | 21            | 33      | 21.71    |
| L-71    | 102            | 48      | 15.73    | 21            | 32      | 35.84    |
| L-70    | 102            | 48      | 10.55    | 21            | 32      | 12.77    |
| L-69    | 102            | 48      | 38.23    | 21            | 31      | 49.51    |
| L-68    | 102            | 47      | 54.28    | 21            | 31      | 40.98    |
| L-67    | 102            | 47      | 43.33    | 21            | 30      | 33.77    |
| L-66    | 102            | 48      | 28.76    | 21            | 29      | 35.92    |
| L-65    | 102            | 48      | 33.23    | 21            | 28      | 58.80    |
| L-64    | 102            | 49      | 28.34    | 21            | 28      | 16.54    |
| L-63    | 102            | 49      | 47.21    | 21            | 26      | 59.14    |
| L-62    | 102            | 50      | 20.83    | 21            | 27      | 6.91     |
| L-61    | 102            | 51      | 43.09    | 21            | 26      | 40.42    |
| L-60    | 102            | 52      | 10.20    | 21            | 27      | 15.26    |
| L-59    | 102            | 52      | 33.20    | 21            | 27      | 2.45     |
| L-58    | 102            | 54      | 54.22    | 21            | 27      | 24.41    |
| L-57    | 102            | 54      | 56.41    | 21            | 25      | 55.38    |
| L-56    | 102            | 55      | 13.22    | 21            | 25      | 24.35    |
| L-55    | 102            | 55      | 11.10    | 21            | 25      | 14.99    |
| L-54    | 102            | 54      | 55.91    | 21            | 25      | 14.20    |
| L-53    | 102            | 55      | 36.62    | 21            | 24      | 9.14     |
| L-52    | 102            | 56      | 22.88    | 21            | 24      | 11.99    |
| L-51    | 102            | 56      | 34.33    | 21            | 23      | 53.99    |
| L-50    | 102            | 57      | 10.73    | 21            | 24      | 7.92     |
| L-49    | 102            | 57      | 16.63    | 21            | 24      | 21.64    |
| L-48    | 102            | 57      | 35.53    | 21            | 24      | 18.07    |
| L-47    | 102            | 58      | 12.65    | 21            | 23      | 6.43     |
| L-46    | 102            | 58      | 14.66    | 21            | 22      | 32.84    |
| L-45    | 102            | 58      | 53.18    | 21            | 21      | 44.60    |
| L-44    | 102            | 58      | 48.83    | 21            | 21      | 36.54    |
| L-43    | 102            | 59      | 2.11     | 21            | 21      | 13.54    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| L-42    | 103            | 1       | 9.59     | 21            | 20      | 4.31     |
| L-41    | 103            | 1       | 13.40    | 21            | 19      | 35.29    |
| L-40    | 103            | 1       | 35.90    | 21            | 19      | 21.43    |
| L-39    | 103            | 1       | 33.38    | 21            | 18      | 59.11    |
| L-38    | 103            | 2       | 2.11     | 21            | 18      | 32.11    |
| L-37    | 103            | 2       | 8.63     | 21            | 16      | 3.22     |
| L-36    | 103            | 2       | 42.79    | 21            | 15      | 26.39    |
| L-35    | 103            | 2       | 20.33    | 21            | 14      | 56.47    |
| L-34    | 103            | 3       | 9.72     | 21            | 13      | 52.86    |
| L-33    | 103            | 4       | 1.67     | 21            | 13      | 54.26    |
| L-32    | 103            | 4       | 4.84     | 21            | 12      | 49.21    |
| L-31    | 103            | 3       | 41.69    | 21            | 12      | 50.04    |
| L-30    | 103            | 3       | 27.25    | 21            | 12      | 34.06    |
| L-29    | 103            | 2       | 53.52    | 21            | 12      | 38.38    |
| L-28    | 103            | 1       | 56.60    | 21            | 11      | 49.42    |
| L-27    | 103            | 1       | 1.06     | 21            | 11      | 49.70    |
| L-26    | 103            | 0       | 25.02    | 21            | 11      | 34.58    |
| L-25    | 103            | 0       | 36.86    | 21            | 11      | 10.39    |
| L-24    | 103            | 0       | 26.35    | 21            | 10      | 51.92    |
| L-23    | 103            | 1       | 37.81    | 21            | 10      | 21.43    |
| L-22    | 103            | 2       | 1.36     | 21            | 9       | 37.04    |
| L-21    | 103            | 2       | 4.85     | 21            | 8       | 44.23    |
| L-20    | 103            | 2       | 48.62    | 21            | 8       | 14.57    |
| L-19    | 103            | 2       | 7.40     | 21            | 7       | 7.57     |
| L-18    | 103            | 2       | 14.10    | 21            | 6       | 42.84    |

**XVIII.- CUENCA HIDROLOGICA RIO SANTIAGO 1: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 12.21 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde la salida del Lago de Chapala hasta la estación hidrométrica Las Juntas.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Santiago 1 tiene una superficie de aportación de 2,958.6 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por las cuencas hidrológicas Río Verde 2 y Río Santiago 2, al Sur y al Este por la subregión hidrológica Lerma-Chapala y al Oeste por la región hidrológica número 14 Río Ameca. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| R-1     | 102            | 35      | 59.17    | 20            | 45      | 38.02    |
| R-2     | 102            | 37      | 27.05    | 20            | 44      | 52.01    |
| R-3     | 102            | 37      | 51.24    | 20            | 44      | 55.10    |
| R-4     | 102            | 38      | 49.60    | 20            | 44      | 20.62    |
| R-5     | 102            | 39      | 1.84     | 20            | 44      | 3.26     |
| R-6     | 102            | 40      | 46.24    | 20            | 43      | 19.70    |
| R-7     | 102            | 41      | 8.52     | 20            | 43      | 1.52     |
| R-8     | 102            | 41      | 37.61    | 20            | 43      | 4.98     |
| R-9     | 102            | 42      | 40.28    | 20            | 42      | 44.10    |
| R-10    | 102            | 43      | 31.51    | 20            | 42      | 51.01    |
| R-11    | 102            | 43      | 52.93    | 20            | 42      | 38.70    |
| R-12    | 102            | 44      | 2.40     | 20            | 42      | 27.25    |
| R-13    | 102            | 43      | 43.07    | 20            | 41      | 39.77    |
| R-14    | 102            | 43      | 58.94    | 20            | 41      | 29.90    |
| R-15    | 102            | 44      | 19.21    | 20            | 41      | 33.97    |
| R-16    | 102            | 44      | 30.66    | 20            | 41      | 2.51     |
| R-17    | 102            | 44      | 43.69    | 20            | 40      | 52.61    |
| R-18    | 102            | 44      | 25.94    | 20            | 40      | 32.20    |
| R-19    | 102            | 44      | 24.36    | 20            | 39      | 50.22    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| R-20    | 102            | 44      | 52.98    | 20            | 38      | 58.34    |
| R-21    | 102            | 45      | 55.33    | 20            | 38      | 38.26    |
| R-22    | 102            | 46      | 52.03    | 20            | 38      | 30.88    |
| R-23    | 102            | 47      | 6.72     | 20            | 38      | 52.98    |
| R-24    | 102            | 47      | 32.10    | 20            | 38      | 49.81    |
| R-25    | 102            | 47      | 53.95    | 20            | 38      | 30.30    |
| R-26    | 102            | 48      | 58.64    | 20            | 38      | 12.48    |
| R-27    | 102            | 48      | 58.68    | 20            | 37      | 53.98    |
| R-28    | 102            | 49      | 10.85    | 20            | 37      | 36.80    |
| R-29    | 102            | 49      | 1.92     | 20            | 37      | 4.12     |
| R-30    | 102            | 49      | 6.53     | 20            | 36      | 53.64    |
| R-31    | 102            | 49      | 42.31    | 20            | 36      | 51.77    |
| R-32    | 102            | 49      | 36.62    | 20            | 36      | 23.62    |
| R-33    | 102            | 50      | 4.02     | 20            | 35      | 45.02    |
| R-34    | 102            | 49      | 59.99    | 20            | 35      | 20.04    |
| R-35    | 102            | 51      | 16.74    | 20            | 34      | 41.09    |
| R-36    | 102            | 52      | 32.56    | 20            | 34      | 24.49    |
| R-37    | 102            | 52      | 58.15    | 20            | 33      | 57.67    |
| R-38    | 102            | 53      | 31.92    | 20            | 33      | 44.10    |
| R-39    | 102            | 53      | 58.56    | 20            | 33      | 11.52    |
| R-40    | 102            | 54      | 26.50    | 20            | 32      | 52.66    |
| R-41    | 102            | 52      | 33.06    | 20            | 32      | 6.40     |
| R-42    | 102            | 52      | 36.80    | 20            | 31      | 17.33    |
| R-43    | 102            | 51      | 21.78    | 20            | 31      | 9.98     |
| R-44    | 102            | 51      | 0.36     | 20            | 30      | 31.61    |
| R-45    | 102            | 51      | 1.22     | 20            | 30      | 24.34    |
| R-46    | 102            | 51      | 33.59    | 20            | 30      | 8.03     |
| R-47    | 102            | 51      | 25.81    | 20            | 29      | 18.06    |
| R-48    | 102            | 51      | 15.62    | 20            | 28      | 44.58    |
| R-49    | 102            | 49      | 41.41    | 20            | 26      | 3.62     |
| R-50    | 102            | 49      | 50.66    | 20            | 25      | 37.16    |
| R-51    | 102            | 50      | 23.82    | 20            | 24      | 59.18    |
| R-52    | 102            | 47      | 49.63    | 20            | 24      | 25.49    |
| R-53    | 102            | 46      | 36.52    | 20            | 24      | 38.41    |
| R-54    | 102            | 45      | 47.84    | 20            | 24      | 26.89    |
| R-55    | 102            | 45      | 22.32    | 20            | 24      | 6.30     |
| R-56    | 102            | 45      | 22.18    | 20            | 23      | 9.13     |
| R-57    | 102            | 46      | 50.23    | 20            | 21      | 23.18    |
| R-58    | 102            | 46      | 39.11    | 20            | 20      | 58.96    |
| R-59    | 102            | 46      | 44.29    | 20            | 20      | 41.14    |
| R-60    | 102            | 47      | 3.84     | 20            | 20      | 32.53    |
| R-61    | 102            | 48      | 16.16    | 20            | 20      | 28.10    |
| R-62    | 102            | 49      | 40.01    | 20            | 20      | 35.23    |
| R-63    | 102            | 50      | 26.34    | 20            | 20      | 0.31     |
| R-64    | 102            | 50      | 32.75    | 20            | 20      | 17.23    |
| R-65    | 102            | 51      | 4.64     | 20            | 19      | 46.06    |
| R-66    | 102            | 51      | 33.88    | 20            | 19      | 41.92    |
| R-67    | 102            | 51      | 48.42    | 20            | 19      | 13.40    |
| R-68    | 102            | 52      | 25.18    | 20            | 18      | 58.97    |
| R-69    | 102            | 53      | 27.92    | 20            | 18      | 48.85    |
| R-70    | 102            | 54      | 13.28    | 20            | 19      | 6.92     |
| R-71    | 102            | 54      | 37.80    | 20            | 18      | 58.90    |
| R-72    | 102            | 56      | 3.70     | 20            | 19      | 5.77     |
| R-73    | 102            | 56      | 39.05    | 20            | 19      | 29.14    |
| R-74    | 102            | 58      | 52.93    | 20            | 20      | 3.66     |
| R-75    | 102            | 59      | 14.03    | 20            | 20      | 28.36    |
| R-76    | 103            | 0       | 15.77    | 20            | 21      | 10.48    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| R-77    | 103            | 0       | 29.84    | 20            | 21      | 40.03    |
| R-78    | 103            | 2       | 13.74    | 20            | 21      | 39.42    |
| R-79    | 103            | 2       | 48.08    | 20            | 22      | 8.36     |
| R-80    | 103            | 3       | 36.79    | 20            | 22      | 1.70     |
| R-81    | 103            | 4       | 0.91     | 20            | 22      | 37.06    |
| R-82    | 103            | 4       | 19.42    | 20            | 22      | 45.26    |
| R-83    | 103            | 4       | 14.63    | 20            | 22      | 28.56    |
| R-84    | 103            | 4       | 35.87    | 20            | 21      | 57.64    |
| R-85    | 103            | 5       | 20.94    | 20            | 21      | 47.02    |
| R-86    | 103            | 6       | 5.62     | 20            | 21      | 50.44    |
| R-87    | 103            | 6       | 55.58    | 20            | 21      | 38.27    |
| R-88    | 103            | 7       | 14.16    | 20            | 21      | 22.54    |
| R-89    | 103            | 7       | 40.94    | 20            | 21      | 15.70    |
| R-90    | 103            | 8       | 9.20     | 20            | 21      | 25.70    |
| R-91    | 103            | 8       | 4.20     | 20            | 21      | 42.48    |
| R-92    | 103            | 8       | 29.94    | 20            | 21      | 50.90    |
| R-93    | 103            | 9       | 47.99    | 20            | 21      | 58.50    |
| R-94    | 103            | 10      | 33.82    | 20            | 21      | 47.20    |
| R-95    | 103            | 11      | 22.45    | 20            | 22      | 8.29     |
| R-96    | 103            | 11      | 38.36    | 20            | 21      | 57.24    |
| R-97    | 103            | 11      | 38.15    | 20            | 22      | 15.10    |
| R-98    | 103            | 12      | 16.24    | 20            | 22      | 33.46    |
| R-99    | 103            | 13      | 6.46     | 20            | 22      | 21.04    |
| R-100   | 103            | 12      | 53.28    | 20            | 21      | 51.62    |
| R-101   | 103            | 13      | 22.08    | 20            | 20      | 53.70    |
| R-102   | 103            | 13      | 14.81    | 20            | 20      | 27.89    |
| R-103   | 103            | 13      | 38.46    | 20            | 20      | 13.20    |
| R-104   | 103            | 14      | 48.48    | 20            | 20      | 20.04    |
| R-105   | 103            | 14      | 52.04    | 20            | 20      | 4.60     |
| R-106   | 103            | 14      | 42.32    | 20            | 19      | 48.54    |
| R-107   | 103            | 15      | 30.17    | 20            | 19      | 29.03    |
| R-108   | 103            | 16      | 15.06    | 20            | 19      | 27.73    |
| R-109   | 103            | 16      | 22.58    | 20            | 19      | 35.54    |
| R-110   | 103            | 16      | 50.77    | 20            | 19      | 26.65    |
| R-111   | 103            | 17      | 26.77    | 20            | 19      | 36.30    |
| R-112   | 103            | 17      | 58.34    | 20            | 19      | 31.51    |
| R-113   | 103            | 19      | 30.40    | 20            | 18      | 34.20    |
| R-114   | 103            | 20      | 19.03    | 20            | 18      | 23.87    |
| R-115   | 103            | 21      | 49.39    | 20            | 18      | 20.09    |
| R-116   | 103            | 22      | 56.46    | 20            | 18      | 36.25    |
| R-117   | 103            | 23      | 24.90    | 20            | 18      | 35.39    |
| R-118   | 103            | 24      | 30.71    | 20            | 19      | 36.37    |
| R-119   | 103            | 24      | 19.30    | 20            | 20      | 8.38     |
| R-120   | 103            | 24      | 37.58    | 20            | 20      | 36.02    |
| R-121   | 103            | 24      | 40.18    | 20            | 21      | 36.14    |
| R-122   | 103            | 25      | 15.67    | 20            | 21      | 54.25    |
| R-123   | 103            | 25      | 44.40    | 20            | 21      | 38.34    |
| R-124   | 103            | 26      | 12.34    | 20            | 21      | 53.10    |
| R-125   | 103            | 26      | 27.96    | 20            | 22      | 15.71    |
| R-126   | 103            | 26      | 54.74    | 20            | 22      | 23.23    |
| R-127   | 103            | 27      | 1.44     | 20            | 22      | 39.72    |
| R-128   | 103            | 27      | 8.35     | 20            | 23      | 20.08    |
| R-129   | 103            | 26      | 49.42    | 20            | 23      | 40.88    |
| R-130   | 103            | 26      | 49.85    | 20            | 24      | 4.97     |
| R-131   | 103            | 27      | 23.26    | 20            | 24      | 42.59    |
| R-132   | 103            | 27      | 1.48     | 20            | 25      | 20.50    |
| R-133   | 103            | 27      | 10.84    | 20            | 25      | 58.98    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| R-134   | 103            | 26      | 52.98    | 20            | 26      | 28.25    |
| R-135   | 103            | 27      | 9.25     | 20            | 26      | 37.39    |
| R-136   | 103            | 27      | 20.09    | 20            | 27      | 28.37    |
| R-137   | 103            | 27      | 54.29    | 20            | 28      | 2.75     |
| R-138   | 103            | 27      | 57.17    | 20            | 28      | 13.76    |
| R-139   | 103            | 27      | 45.54    | 20            | 28      | 22.44    |
| R-140   | 103            | 28      | 2.32     | 20            | 28      | 34.39    |
| R-141   | 103            | 27      | 48.78    | 20            | 29      | 3.41     |
| R-142   | 103            | 27      | 47.66    | 20            | 29      | 28.39    |
| R-143   | 103            | 27      | 57.24    | 20            | 29      | 46.10    |
| R-144   | 103            | 27      | 50.33    | 20            | 30      | 1.08     |
| R-145   | 103            | 27      | 11.02    | 20            | 30      | 6.66     |
| R-146   | 103            | 27      | 5.76     | 20            | 30      | 16.13    |
| R-147   | 103            | 27      | 44.42    | 20            | 30      | 46.22    |
| R-148   | 103            | 28      | 8.40     | 20            | 30      | 51.12    |
| R-149   | 103            | 28      | 36.01    | 20            | 31      | 10.74    |
| R-150   | 103            | 28      | 44.11    | 20            | 31      | 2.53     |
| R-151   | 103            | 29      | 21.08    | 20            | 31      | 57.86    |
| R-152   | 103            | 30      | 37.62    | 20            | 31      | 33.49    |
| R-153   | 103            | 30      | 57.13    | 20            | 31      | 17.18    |
| R-154   | 103            | 30      | 58.43    | 20            | 31      | 1.42     |
| R-155   | 103            | 31      | 6.13     | 20            | 32      | 49.45    |
| R-156   | 103            | 30      | 47.23    | 20            | 33      | 46.69    |
| R-157   | 103            | 30      | 58.82    | 20            | 34      | 10.38    |
| R-158   | 103            | 31      | 22.04    | 20            | 34      | 19.13    |
| R-159   | 103            | 31      | 44.04    | 20            | 35      | 14.71    |
| R-160   | 103            | 32      | 12.80    | 20            | 35      | 33.65    |
| R-161   | 103            | 32      | 0.53     | 20            | 35      | 58.16    |
| R-162   | 103            | 32      | 8.52     | 20            | 36      | 15.98    |
| R-163   | 103            | 31      | 29.06    | 20            | 37      | 36.16    |
| R-164   | 103            | 31      | 40.76    | 20            | 37      | 58.98    |
| R-165   | 103            | 30      | 59.62    | 20            | 38      | 12.73    |
| R-166   | 103            | 30      | 43.24    | 20            | 38      | 50.06    |
| R-167   | 103            | 30      | 41.44    | 20            | 39      | 22.90    |
| R-168   | 103            | 30      | 33.59    | 20            | 39      | 30.35    |
| R-169   | 103            | 30      | 39.82    | 20            | 40      | 4.84     |
| R-170   | 103            | 31      | 5.81     | 20            | 40      | 14.63    |
| R-171   | 103            | 30      | 53.14    | 20            | 40      | 30.43    |
| R-172   | 103            | 30      | 21.38    | 20            | 40      | 16.43    |
| R-173   | 103            | 29      | 20.90    | 20            | 40      | 30.32    |
| R-174   | 103            | 29      | 14.21    | 20            | 40      | 27.16    |
| R-175   | 103            | 29      | 9.74     | 20            | 39      | 56.48    |
| R-176   | 103            | 28      | 53.98    | 20            | 39      | 29.95    |
| R-177   | 103            | 27      | 51.23    | 20            | 39      | 26.06    |
| R-178   | 103            | 26      | 22.09    | 20            | 38      | 9.06     |
| R-179   | 103            | 24      | 35.46    | 20            | 37      | 2.17     |
| R-180   | 103            | 23      | 23.64    | 20            | 36      | 35.50    |
| R-181   | 103            | 22      | 59.30    | 20            | 36      | 37.69    |
| R-182   | 103            | 21      | 47.34    | 20            | 35      | 56.08    |
| R-183   | 103            | 19      | 36.05    | 20            | 36      | 37.91    |
| R-184   | 103            | 18      | 48.64    | 20            | 36      | 41.33    |
| R-185   | 103            | 18      | 40.32    | 20            | 36      | 26.21    |
| R-186   | 103            | 18      | 2.41     | 20            | 36      | 40.25    |
| R-187   | 103            | 17      | 14.93    | 20            | 36      | 43.20    |
| R-188   | 103            | 17      | 36.17    | 20            | 37      | 14.56    |
| R-189   | 103            | 18      | 33.08    | 20            | 37      | 37.06    |
| R-190   | 103            | 18      | 48.17    | 20            | 38      | 38.90    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| R-191   | 103            | 18      | 1.08     | 20            | 41      | 12.80    |
| R-192   | 103            | 17      | 32.53    | 20            | 43      | 36.41    |
| M-44    | 103            | 17      | 1.46     | 20            | 43      | 51.64    |
| M-43    | 103            | 14      | 51.36    | 20            | 42      | 33.88    |
| M-42    | 103            | 14      | 29.87    | 20            | 42      | 36.72    |
| M-41    | 103            | 13      | 22.55    | 20            | 42      | 12.71    |
| M-40    | 103            | 12      | 9.76     | 20            | 42      | 31.90    |
| M-39    | 103            | 10      | 54.62    | 20            | 42      | 17.86    |
| M-38    | 103            | 10      | 38.78    | 20            | 42      | 37.15    |
| M-37    | 103            | 10      | 0.48     | 20            | 42      | 27.43    |
| M-36    | 103            | 9       | 49.72    | 20            | 42      | 50.76    |
| M-35    | 103            | 9       | 53.82    | 20            | 43      | 21.58    |
| M-34    | 103            | 7       | 59.20    | 20            | 43      | 56.75    |
| M-33    | 103            | 7       | 19.78    | 20            | 43      | 57.58    |
| M-32    | 103            | 6       | 56.81    | 20            | 43      | 35.29    |
| M-31    | 103            | 6       | 33.01    | 20            | 43      | 35.04    |
| M-30    | 103            | 6       | 4.64     | 20            | 43      | 15.02    |
| M-29    | 103            | 5       | 12.84    | 20            | 43      | 10.85    |
| M-28    | 103            | 4       | 53.47    | 20            | 43      | 22.55    |
| M-27    | 103            | 4       | 38.71    | 20            | 43      | 51.28    |
| M-26    | 103            | 3       | 37.87    | 20            | 44      | 33.79    |
| M-25    | 103            | 2       | 51.76    | 20            | 44      | 48.62    |
| M-24    | 103            | 2       | 47.65    | 20            | 45      | 10.80    |
| M-23    | 103            | 1       | 17.44    | 20            | 44      | 45.46    |
| M-22    | 102            | 59      | 41.53    | 20            | 43      | 53.40    |
| M-21    | 102            | 58      | 42.46    | 20            | 43      | 55.70    |
| M-20    | 102            | 58      | 6.24     | 20            | 43      | 45.88    |
| M-19    | 102            | 56      | 5.86     | 20            | 44      | 20.76    |
| M-18    | 102            | 55      | 35.94    | 20            | 44      | 15.68    |
| M-17    | 102            | 53      | 22.06    | 20            | 43      | 33.46    |
| M-16    | 102            | 52      | 14.95    | 20            | 42      | 50.33    |
| M-15    | 102            | 51      | 47.30    | 20            | 42      | 47.41    |
| M-14    | 102            | 50      | 42.47    | 20            | 44      | 14.64    |
| M-13    | 102            | 51      | 14.00    | 20            | 44      | 53.88    |
| M-12    | 102            | 51      | 48.06    | 20            | 45      | 7.16     |
| M-11    | 102            | 50      | 21.77    | 20            | 46      | 9.34     |
| M-10    | 102            | 48      | 31.90    | 20            | 45      | 29.92    |
| M-9     | 102            | 46      | 48.50    | 20            | 45      | 37.48    |
| M-8     | 102            | 45      | 47.70    | 20            | 46      | 15.24    |
| M-7     | 102            | 44      | 50.39    | 20            | 46      | 18.77    |
| M-6     | 102            | 44      | 10.86    | 20            | 46      | 39.32    |
| M-5     | 102            | 42      | 37.30    | 20            | 47      | 56.04    |
| M-4     | 102            | 42      | 19.87    | 20            | 48      | 25.99    |
| M-3     | 102            | 40      | 55.02    | 20            | 48      | 35.14    |
| M-2     | 102            | 40      | 39.22    | 20            | 49      | 4.66     |
| M-1     | 102            | 40      | 8.26     | 20            | 49      | 21.97    |
| K-32    | 102            | 37      | 56.21    | 20            | 50      | 4.56     |
| K-31    | 102            | 37      | 44.04    | 20            | 49      | 53.58    |
| K-30    | 102            | 36      | 17.75    | 20            | 50      | 34.08    |
| K-29    | 102            | 35      | 56.98    | 20            | 50      | 25.30    |
| K-28    | 102            | 35      | 40.45    | 20            | 49      | 37.02    |
| K-27    | 102            | 35      | 19.10    | 20            | 49      | 7.03     |
| K-26    | 102            | 34      | 30.43    | 20            | 48      | 29.12    |
| K-25    | 102            | 35      | 14.50    | 20            | 46      | 51.06    |
| K-24    | 102            | 35      | 13.78    | 20            | 46      | 2.14     |
| K-23    | 102            | 35      | 28.61    | 20            | 45      | 42.01    |

**XIX.- CUENCA HIDROLOGICA RIO SANTIAGO 2: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 69.63 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde la estación hidrométrica Las Juntas hasta la estación hidrométrica San Cristóbal II.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la polygonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Santiago 2 tiene una superficie de aportación de 1,451.0 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por las cuencas hidrológicas Río Juchipila 2 y Presa Santa Rosa, al Sur por la cuenca hidrológica Río Santiago 1, al Este por la cuenca hidrológica Río Verde 2 y al Oeste por la cuenca hidrológica Presa Santa Rosa. Geográficamente se ubica dentro de la polygonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| R-192   | 103            | 17      | 32.53    | 20            | 43      | 36.41    |
| R-191   | 103            | 18      | 1.08     | 20            | 41      | 12.80    |
| R-190   | 103            | 18      | 48.17    | 20            | 38      | 38.90    |
| R-189   | 103            | 18      | 33.08    | 20            | 37      | 37.06    |
| R-188   | 103            | 17      | 36.17    | 20            | 37      | 14.56    |
| R-187   | 103            | 17      | 14.93    | 20            | 36      | 43.20    |
| R-186   | 103            | 18      | 2.41     | 20            | 36      | 40.25    |
| R-185   | 103            | 18      | 40.32    | 20            | 36      | 26.21    |
| R-184   | 103            | 18      | 48.64    | 20            | 36      | 41.33    |
| R-183   | 103            | 19      | 36.05    | 20            | 36      | 37.91    |
| R-182   | 103            | 21      | 47.34    | 20            | 35      | 56.08    |
| R-181   | 103            | 22      | 59.30    | 20            | 36      | 37.69    |
| R-180   | 103            | 23      | 23.64    | 20            | 36      | 35.50    |
| R-179   | 103            | 24      | 35.46    | 20            | 37      | 2.17     |
| R-178   | 103            | 26      | 22.09    | 20            | 38      | 9.06     |
| R-177   | 103            | 27      | 51.23    | 20            | 39      | 26.06    |
| R-176   | 103            | 28      | 53.98    | 20            | 39      | 29.95    |
| R-175   | 103            | 29      | 9.74     | 20            | 39      | 56.48    |
| R-174   | 103            | 29      | 14.21    | 20            | 40      | 27.16    |
| R-173   | 103            | 29      | 20.90    | 20            | 40      | 30.32    |
| R-172   | 103            | 30      | 21.38    | 20            | 40      | 16.43    |
| R-171   | 103            | 30      | 53.14    | 20            | 40      | 30.43    |
| R-170   | 103            | 31      | 5.81     | 20            | 40      | 14.63    |
| S-1     | 103            | 31      | 9.16     | 20            | 40      | 51.35    |
| S-2     | 103            | 31      | 36.66    | 20            | 41      | 21.66    |
| S-3     | 103            | 31      | 2.06     | 20            | 41      | 32.39    |
| S-4     | 103            | 30      | 29.66    | 20            | 41      | 57.34    |
| S-5     | 103            | 30      | 32.94    | 20            | 42      | 19.80    |
| S-6     | 103            | 30      | 25.31    | 20            | 42      | 22.57    |
| S-7     | 103            | 29      | 26.81    | 20            | 42      | 18.79    |
| S-8     | 103            | 29      | 22.63    | 20            | 42      | 6.91     |
| S-9     | 103            | 28      | 56.17    | 20            | 41      | 49.20    |
| S-10    | 103            | 27      | 40.36    | 20            | 42      | 5.94     |
| S-11    | 103            | 28      | 53.00    | 20            | 43      | 51.28    |
| S-12    | 103            | 29      | 25.37    | 20            | 43      | 54.52    |
| S-13    | 103            | 29      | 59.78    | 20            | 44      | 17.16    |
| S-14    | 103            | 30      | 25.31    | 20            | 44      | 17.99    |
| S-15    | 103            | 31      | 6.31     | 20            | 44      | 36.38    |
| S-16    | 103            | 32      | 50.21    | 20            | 44      | 4.42     |
| S-17    | 103            | 33      | 11.30    | 20            | 44      | 21.26    |
| S-18    | 103            | 34      | 2.42     | 20            | 44      | 31.92    |
| S-19    | 103            | 34      | 9.05     | 20            | 44      | 45.74    |
| S-20    | 103            | 33      | 35.06    | 20            | 45      | 56.74    |
| S-21    | 103            | 33      | 30.89    | 20            | 46      | 25.36    |
| S-22    | 103            | 32      | 12.55    | 20            | 47      | 48.62    |
| S-23    | 103            | 31      | 51.02    | 20            | 48      | 35.64    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| S-24    | 103            | 31      | 6.82     | 20            | 49      | 19.99    |
| S-25    | 103            | 30      | 24.66    | 20            | 49      | 41.99    |
| S-26    | 103            | 30      | 4.75     | 20            | 50      | 9.56     |
| S-27    | 103            | 30      | 10.73    | 20            | 50      | 26.45    |
| S-28    | 103            | 29      | 59.32    | 20            | 50      | 40.24    |
| S-29    | 103            | 29      | 23.39    | 20            | 50      | 42.72    |
| S-30    | 103            | 29      | 3.55     | 20            | 50      | 57.01    |
| S-31    | 103            | 29      | 21.05    | 20            | 52      | 2.14     |
| S-32    | 103            | 29      | 6.18     | 20            | 52      | 22.76    |
| S-33    | 103            | 29      | 37.21    | 20            | 53      | 6.00     |
| S-34    | 103            | 29      | 33.61    | 20            | 53      | 34.73    |
| S-35    | 103            | 29      | 44.88    | 20            | 54      | 32.94    |
| S-36    | 103            | 29      | 12.62    | 20            | 54      | 59.58    |
| S-37    | 103            | 29      | 8.05     | 20            | 55      | 18.59    |
| S-38    | 103            | 28      | 33.35    | 20            | 55      | 52.14    |
| S-39    | 103            | 28      | 39.00    | 20            | 56      | 2.44     |
| S-40    | 103            | 28      | 17.15    | 20            | 56      | 48.77    |
| S-41    | 103            | 28      | 16.43    | 20            | 56      | 57.30    |
| S-42    | 103            | 28      | 58.62    | 20            | 56      | 59.39    |
| S-43    | 103            | 29      | 3.41     | 20            | 57      | 10.33    |
| S-44    | 103            | 28      | 37.88    | 20            | 57      | 41.76    |
| S-45    | 103            | 28      | 13.51    | 20            | 57      | 54.58    |
| S-46    | 103            | 28      | 4.44     | 20            | 58      | 16.21    |
| S-47    | 103            | 28      | 3.40     | 20            | 58      | 37.31    |
| S-48    | 103            | 28      | 15.31    | 20            | 58      | 53.51    |
| S-49    | 103            | 27      | 49.39    | 20            | 59      | 23.03    |
| S-50    | 103            | 27      | 50.47    | 20            | 59      | 52.94    |
| S-51    | 103            | 28      | 10.85    | 21            | 0       | 8.64     |
| S-52    | 103            | 28      | 8.80     | 21            | 0       | 19.76    |
| S-53    | 103            | 27      | 39.85    | 21            | 0       | 41.47    |
| S-54    | 103            | 26      | 52.30    | 21            | 0       | 39.74    |
| S-55    | 103            | 26      | 58.85    | 21            | 0       | 48.56    |
| S-56    | 103            | 26      | 51.18    | 21            | 1       | 15.42    |
| S-57    | 103            | 26      | 16.80    | 21            | 1       | 31.33    |
| S-58    | 103            | 26      | 8.20     | 21            | 2       | 20.94    |
| Q-52    | 103            | 25      | 49.12    | 21            | 2       | 35.95    |
| Q-51    | 103            | 25      | 40.66    | 21            | 2       | 31.16    |
| Q-50    | 103            | 25      | 12.61    | 21            | 2       | 48.91    |
| Q-49    | 103            | 24      | 27.97    | 21            | 2       | 16.91    |
| Q-48    | 103            | 24      | 21.74    | 21            | 2       | 2.26     |
| Q-47    | 103            | 23      | 46.25    | 21            | 1       | 53.44    |
| Q-46    | 103            | 23      | 48.08    | 21            | 1       | 44.94    |
| Q-45    | 103            | 23      | 28.18    | 21            | 1       | 36.48    |
| Q-44    | 103            | 23      | 10.46    | 21            | 1       | 40.87    |
| Q-43    | 103            | 22      | 21.58    | 21            | 2       | 27.31    |
| Q-42    | 103            | 21      | 47.05    | 21            | 2       | 32.17    |
| Q-41    | 103            | 21      | 23.87    | 21            | 2       | 18.64    |
| Q-40    | 103            | 21      | 8.28     | 21            | 1       | 46.45    |
| Q-39    | 103            | 21      | 8.68     | 21            | 1       | 10.74    |
| Q-38    | 103            | 21      | 17.96    | 21            | 0       | 53.96    |
| Q-37    | 103            | 20      | 12.98    | 20            | 59      | 21.73    |
| Q-36    | 103            | 20      | 18.85    | 20            | 58      | 30.40    |
| Q-35    | 103            | 19      | 50.27    | 20            | 58      | 12.00    |
| Q-34    | 103            | 18      | 55.66    | 20            | 58      | 12.00    |
| Q-33    | 103            | 18      | 39.92    | 20            | 56      | 56.47    |
| Q-32    | 103            | 18      | 25.60    | 20            | 56      | 47.15    |
| Q-31    | 103            | 17      | 22.60    | 20            | 57      | 21.17    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Q-30    | 103            | 17      | 15.36    | 20            | 57      | 2.74     |
| Q-29    | 103            | 17      | 31.60    | 20            | 56      | 9.06     |
| Q-28    | 103            | 17      | 11.62    | 20            | 56      | 4.85     |
| Q-27    | 103            | 16      | 54.19    | 20            | 55      | 42.42    |
| Q-26    | 103            | 16      | 28.88    | 20            | 55      | 35.90    |
| Q-25    | 103            | 15      | 43.92    | 20            | 55      | 49.69    |
| Q-24    | 103            | 15      | 34.06    | 20            | 56      | 3.30     |
| Q-23    | 103            | 15      | 15.37    | 20            | 55      | 42.10    |
| Q-22    | 103            | 15      | 7.99     | 20            | 55      | 9.44     |
| Q-21    | 103            | 14      | 19.32    | 20            | 55      | 22.58    |
| Q-20    | 103            | 13      | 57.00    | 20            | 55      | 15.64    |
| Q-19    | 103            | 13      | 18.88    | 20            | 55      | 25.93    |
| Q-18    | 103            | 12      | 40.57    | 20            | 56      | 0.74     |
| Q-17    | 103            | 12      | 10.48    | 20            | 56      | 2.69     |
| Q-16    | 103            | 10      | 54.66    | 20            | 57      | 3.13     |
| Q-15    | 103            | 10      | 47.39    | 20            | 57      | 27.54    |
| Q-14    | 103            | 10      | 24.74    | 20            | 57      | 54.36    |
| Q-13    | 103            | 9       | 45.94    | 20            | 57      | 39.31    |
| Q-12    | 103            | 8       | 8.52     | 20            | 59      | 5.32     |
| Q-11    | 103            | 7       | 50.02    | 20            | 59      | 37.18    |
| Q-10    | 103            | 7       | 45.77    | 21            | 0       | 1.44     |
| Q-9     | 103            | 8       | 6.47     | 21            | 0       | 47.34    |
| Q-8     | 103            | 7       | 48.22    | 21            | 0       | 57.24    |
| Q-7     | 103            | 7       | 9.12     | 21            | 1       | 47.75    |
| Q-6     | 103            | 7       | 7.68     | 21            | 2       | 20.47    |
| Q-5     | 103            | 6       | 22.28    | 21            | 2       | 54.46    |
| Q-4     | 103            | 6       | 19.26    | 21            | 3       | 20.70    |
| Q-3     | 103            | 5       | 56.11    | 21            | 3       | 48.28    |
| Q-2     | 103            | 5       | 1.61     | 21            | 4       | 1.45     |
| Q-1     | 103            | 3       | 46.19    | 21            | 5       | 38.83    |
| L-18    | 103            | 2       | 14.10    | 21            | 6       | 42.84    |
| M-85    | 103            | 2       | 30.41    | 21            | 5       | 39.59    |
| M-84    | 103            | 3       | 10.73    | 21            | 4       | 59.52    |
| M-83    | 103            | 3       | 22.07    | 21            | 4       | 31.58    |
| M-82    | 103            | 2       | 54.67    | 21            | 3       | 19.87    |
| M-81    | 103            | 1       | 12.54    | 21            | 0       | 35.64    |
| M-80    | 103            | 0       | 21.92    | 21            | 0       | 9.29     |
| M-79    | 103            | 0       | 14.36    | 20            | 59      | 53.41    |
| M-78    | 102            | 59      | 45.64    | 20            | 59      | 52.58    |
| M-77    | 102            | 59      | 23.60    | 20            | 59      | 36.28    |
| M-76    | 102            | 58      | 12.22    | 20            | 58      | 6.17     |
| M-75    | 102            | 57      | 55.30    | 20            | 56      | 25.37    |
| M-74    | 102            | 58      | 49.51    | 20            | 55      | 30.68    |
| M-73    | 102            | 58      | 43.82    | 20            | 55      | 0.62     |
| M-72    | 102            | 59      | 7.01     | 20            | 54      | 53.71    |
| M-71    | 102            | 59      | 19.64    | 20            | 54      | 25.81    |
| M-70    | 102            | 59      | 56.08    | 20            | 54      | 19.12    |
| M-69    | 103            | 0       | 32.87    | 20            | 54      | 38.34    |
| M-68    | 103            | 1       | 22.62    | 20            | 54      | 35.86    |
| M-67    | 103            | 1       | 29.82    | 20            | 54      | 19.15    |
| M-66    | 103            | 1       | 58.80    | 20            | 54      | 10.40    |
| M-65    | 103            | 2       | 47.98    | 20            | 53      | 28.36    |
| M-64    | 103            | 4       | 12.50    | 20            | 53      | 13.67    |
| M-63    | 103            | 5       | 2.65     | 20            | 53      | 19.64    |
| M-62    | 103            | 5       | 7.44     | 20            | 52      | 43.54    |
| M-61    | 103            | 5       | 37.28    | 20            | 52      | 11.68    |
| M-60    | 103            | 6       | 29.34    | 20            | 50      | 22.13    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| M-59    | 103            | 6       | 47.84    | 20            | 50      | 38.33    |
| M-58    | 103            | 8       | 37.72    | 20            | 50      | 11.15    |
| M-57    | 103            | 9       | 26.78    | 20            | 50      | 29.80    |
| M-56    | 103            | 9       | 11.30    | 20            | 51      | 4.39     |
| M-55    | 103            | 9       | 33.26    | 20            | 51      | 57.13    |
| M-54    | 103            | 9       | 56.95    | 20            | 52      | 27.30    |
| M-53    | 103            | 10      | 31.37    | 20            | 52      | 26.33    |
| M-52    | 103            | 10      | 46.49    | 20            | 51      | 42.19    |
| M-51    | 103            | 11      | 27.60    | 20            | 50      | 54.56    |
| M-50    | 103            | 12      | 11.59    | 20            | 50      | 42.18    |
| M-49    | 103            | 11      | 32.42    | 20            | 49      | 46.85    |
| M-48    | 103            | 12      | 10.98    | 20            | 48      | 16.63    |
| M-47    | 103            | 14      | 7.66     | 20            | 45      | 26.42    |
| M-46    | 103            | 14      | 32.42    | 20            | 45      | 19.73    |
| M-45    | 103            | 15      | 27.76    | 20            | 44      | 29.76    |
| M-44    | 103            | 17      | 1.46     | 20            | 43      | 51.64    |

**XX.- CUENCA HIDROLOGICA PRESA SANTA ROSA: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 194.17 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde la estación hidrométrica San Cristóbal II hasta la Presa Santa Rosa.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la polygonal que a continuación se indica y atendieron a que la cuenca hidrológica Presa Santa Rosa tiene una superficie de aportación de 1,936.7 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por las cuencas hidrológicas Río Tlaltenango y Río Bolaños 2, al Sur por la región hidrológica número 14 Río Ameca, al Este por las cuencas hidrológicas Río Juchipila 2 y Río Santiago 2 y al Oeste por la cuenca hidrológica Río Santiago 3. Geográficamente se ubica dentro de la polygonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Q-89    | 103            | 28      | 8.69     | 21            | 21      | 21.24    |
| Q-88    | 103            | 28      | 12.97    | 21            | 20      | 44.38    |
| Q-87    | 103            | 27      | 59.47    | 21            | 20      | 17.02    |
| Q-86    | 103            | 28      | 42.67    | 21            | 19      | 43.79    |
| Q-85    | 103            | 28      | 38.96    | 21            | 19      | 28.13    |
| Q-84    | 103            | 28      | 59.81    | 21            | 19      | 6.38     |
| Q-83    | 103            | 28      | 45.34    | 21            | 17      | 8.05     |
| Q-82    | 103            | 29      | 2.51     | 21            | 16      | 45.73    |
| Q-81    | 103            | 28      | 42.53    | 21            | 16      | 42.49    |
| Q-80    | 103            | 28      | 30.50    | 21            | 16      | 31.19    |
| Q-79    | 103            | 28      | 16.82    | 21            | 15      | 49.39    |
| Q-78    | 103            | 27      | 57.28    | 21            | 15      | 35.17    |
| Q-77    | 103            | 27      | 45.68    | 21            | 14      | 59.35    |
| Q-76    | 103            | 27      | 47.34    | 21            | 14      | 30.01    |
| Q-75    | 103            | 27      | 36.22    | 21            | 14      | 12.19    |
| Q-74    | 103            | 26      | 46.32    | 21            | 13      | 53.29    |
| Q-73    | 103            | 26      | 5.35     | 21            | 13      | 52.21    |
| Q-72    | 103            | 25      | 50.56    | 21            | 13      | 3.00     |
| Q-71    | 103            | 25      | 9.91     | 21            | 12      | 0.04     |
| Q-70    | 103            | 25      | 45.26    | 21            | 11      | 31.49    |
| Q-69    | 103            | 26      | 42.50    | 21            | 11      | 15.18    |
| Q-68    | 103            | 26      | 23.78    | 21            | 10      | 58.55    |
| Q-67    | 103            | 26      | 9.24     | 21            | 10      | 22.37    |
| Q-66    | 103            | 26      | 33.72    | 21            | 9       | 21.96    |
| Q-65    | 103            | 25      | 42.49    | 21            | 8       | 44.84    |
| Q-64    | 103            | 25      | 39.14    | 21            | 8       | 25.01    |
| Q-63    | 103            | 25      | 6.96     | 21            | 8       | 20.40    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Q-62    | 103            | 24      | 52.49    | 21            | 8       | 5.75     |
| Q-61    | 103            | 25      | 36.66    | 21            | 7       | 5.09     |
| Q-60    | 103            | 25      | 43.39    | 21            | 6       | 2.27     |
| Q-59    | 103            | 24      | 49.97    | 21            | 5       | 23.53    |
| Q-58    | 103            | 24      | 52.34    | 21            | 5       | 0.74     |
| Q-57    | 103            | 24      | 44.64    | 21            | 4       | 54.26    |
| Q-56    | 103            | 25      | 5.48     | 21            | 4       | 50.45    |
| Q-55    | 103            | 25      | 2.03     | 21            | 4       | 28.49    |
| Q-54    | 103            | 25      | 13.73    | 21            | 3       | 51.88    |
| Q-53    | 103            | 25      | 37.99    | 21            | 3       | 18.86    |
| Q-52    | 103            | 25      | 49.12    | 21            | 2       | 35.95    |
| S-58    | 103            | 26      | 8.20     | 21            | 2       | 20.94    |
| S-57    | 103            | 26      | 16.80    | 21            | 1       | 31.33    |
| S-56    | 103            | 26      | 51.18    | 21            | 1       | 15.42    |
| S-55    | 103            | 26      | 58.85    | 21            | 0       | 48.56    |
| S-54    | 103            | 26      | 52.30    | 21            | 0       | 39.74    |
| S-53    | 103            | 27      | 39.85    | 21            | 0       | 41.47    |
| S-52    | 103            | 28      | 8.80     | 21            | 0       | 19.76    |
| S-51    | 103            | 28      | 10.85    | 21            | 0       | 8.64     |
| S-50    | 103            | 27      | 50.47    | 20            | 59      | 52.94    |
| S-49    | 103            | 27      | 49.39    | 20            | 59      | 23.03    |
| S-48    | 103            | 28      | 15.31    | 20            | 58      | 53.51    |
| S-47    | 103            | 28      | 3.40     | 20            | 58      | 37.31    |
| S-46    | 103            | 28      | 4.44     | 20            | 58      | 16.21    |
| S-45    | 103            | 28      | 13.51    | 20            | 57      | 54.58    |
| S-44    | 103            | 28      | 37.88    | 20            | 57      | 41.76    |
| S-43    | 103            | 29      | 3.41     | 20            | 57      | 10.33    |
| S-42    | 103            | 28      | 58.62    | 20            | 56      | 59.39    |
| S-41    | 103            | 28      | 16.43    | 20            | 56      | 57.30    |
| S-40    | 103            | 28      | 17.15    | 20            | 56      | 48.77    |
| S-39    | 103            | 28      | 39.00    | 20            | 56      | 2.44     |
| S-38    | 103            | 28      | 33.35    | 20            | 55      | 52.14    |
| S-37    | 103            | 29      | 8.05     | 20            | 55      | 18.59    |
| S-36    | 103            | 29      | 12.62    | 20            | 54      | 59.58    |
| S-35    | 103            | 29      | 44.88    | 20            | 54      | 32.94    |
| S-34    | 103            | 29      | 33.61    | 20            | 53      | 34.73    |
| S-33    | 103            | 29      | 37.21    | 20            | 53      | 6.00     |
| S-32    | 103            | 29      | 6.18     | 20            | 52      | 22.76    |
| S-31    | 103            | 29      | 21.05    | 20            | 52      | 2.14     |
| S-30    | 103            | 29      | 3.55     | 20            | 50      | 57.01    |
| S-29    | 103            | 29      | 23.39    | 20            | 50      | 42.72    |
| S-28    | 103            | 29      | 59.32    | 20            | 50      | 40.24    |
| S-27    | 103            | 30      | 10.73    | 20            | 50      | 26.45    |
| S-26    | 103            | 30      | 4.75     | 20            | 50      | 9.56     |
| S-25    | 103            | 30      | 24.66    | 20            | 49      | 41.99    |
| S-24    | 103            | 31      | 6.82     | 20            | 49      | 19.99    |
| S-23    | 103            | 31      | 51.02    | 20            | 48      | 35.64    |
| S-22    | 103            | 32      | 12.55    | 20            | 47      | 48.62    |
| S-21    | 103            | 33      | 30.89    | 20            | 46      | 25.36    |
| S-20    | 103            | 33      | 35.06    | 20            | 45      | 56.74    |
| S-19    | 103            | 34      | 9.05     | 20            | 44      | 45.74    |
| S-18    | 103            | 34      | 2.42     | 20            | 44      | 31.92    |
| S-17    | 103            | 33      | 11.30    | 20            | 44      | 21.26    |
| S-16    | 103            | 32      | 50.21    | 20            | 44      | 4.42     |
| S-15    | 103            | 31      | 6.31     | 20            | 44      | 36.38    |
| S-14    | 103            | 30      | 25.31    | 20            | 44      | 17.99    |
| S-13    | 103            | 29      | 59.78    | 20            | 44      | 17.16    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| S-12    | 103            | 29      | 25.37    | 20            | 43      | 54.52    |
| S-11    | 103            | 28      | 53.00    | 20            | 43      | 51.28    |
| S-10    | 103            | 27      | 40.36    | 20            | 42      | 5.94     |
| S-9     | 103            | 28      | 56.17    | 20            | 41      | 49.20    |
| S-8     | 103            | 29      | 22.63    | 20            | 42      | 6.91     |
| S-7     | 103            | 29      | 26.81    | 20            | 42      | 18.79    |
| S-6     | 103            | 30      | 25.31    | 20            | 42      | 22.57    |
| S-5     | 103            | 30      | 32.94    | 20            | 42      | 19.80    |
| S-4     | 103            | 30      | 29.66    | 20            | 41      | 57.34    |
| S-3     | 103            | 31      | 2.06     | 20            | 41      | 32.39    |
| S-2     | 103            | 31      | 36.66    | 20            | 41      | 21.66    |
| T-1     | 103            | 32      | 13.81    | 20            | 41      | 35.66    |
| T-2     | 103            | 32      | 44.77    | 20            | 42      | 1.15     |
| T-3     | 103            | 33      | 13.50    | 20            | 42      | 4.57     |
| T-4     | 103            | 33      | 47.45    | 20            | 42      | 22.18    |
| T-5     | 103            | 34      | 19.20    | 20            | 42      | 24.44    |
| T-6     | 103            | 34      | 57.04    | 20            | 42      | 47.05    |
| T-7     | 103            | 35      | 13.38    | 20            | 42      | 42.70    |
| T-8     | 103            | 35      | 40.49    | 20            | 42      | 50.98    |
| T-9     | 103            | 38      | 18.02    | 20            | 42      | 21.92    |
| T-10    | 103            | 38      | 33.79    | 20            | 42      | 24.59    |
| T-11    | 103            | 39      | 0.14     | 20            | 42      | 49.82    |
| T-12    | 103            | 40      | 37.92    | 20            | 42      | 57.56    |
| T-13    | 103            | 42      | 12.82    | 20            | 43      | 33.10    |
| T-14    | 103            | 42      | 49.46    | 20            | 43      | 22.58    |
| T-15    | 103            | 43      | 10.78    | 20            | 43      | 31.62    |
| T-16    | 103            | 43      | 28.85    | 20            | 43      | 13.19    |
| T-17    | 103            | 43      | 44.69    | 20            | 43      | 18.19    |
| T-18    | 103            | 44      | 32.35    | 20            | 43      | 2.14     |
| T-19    | 103            | 44      | 47.54    | 20            | 43      | 4.73     |
| T-20    | 103            | 45      | 0.36     | 20            | 43      | 26.18    |
| T-21    | 103            | 44      | 49.31    | 20            | 43      | 53.04    |
| T-22    | 103            | 45      | 11.88    | 20            | 44      | 17.09    |
| T-23    | 103            | 46      | 37.49    | 20            | 45      | 2.09     |
| T-24    | 103            | 47      | 9.60     | 20            | 44      | 56.65    |
| T-25    | 103            | 47      | 47.47    | 20            | 45      | 5.58     |
| T-26    | 103            | 47      | 56.29    | 20            | 45      | 26.42    |
| T-27    | 103            | 48      | 25.85    | 20            | 45      | 52.13    |
| T-28    | 103            | 49      | 0.84     | 20            | 46      | 11.89    |
| T-29    | 103            | 49      | 45.98    | 20            | 46      | 23.84    |
| T-30    | 103            | 50      | 14.53    | 20            | 46      | 53.76    |
| T-31    | 103            | 49      | 44.69    | 20            | 47      | 13.74    |
| T-32    | 103            | 49      | 5.70     | 20            | 47      | 25.51    |
| T-33    | 103            | 48      | 41.08    | 20            | 47      | 58.42    |
| T-34    | 103            | 48      | 18.07    | 20            | 47      | 57.41    |
| T-35    | 103            | 47      | 32.93    | 20            | 47      | 33.04    |
| T-36    | 103            | 47      | 16.91    | 20            | 47      | 36.74    |
| T-37    | 103            | 46      | 51.71    | 20            | 48      | 24.80    |
| T-38    | 103            | 46      | 18.05    | 20            | 48      | 57.42    |
| T-39    | 103            | 46      | 20.89    | 20            | 49      | 39.43    |
| T-40    | 103            | 45      | 59.69    | 20            | 50      | 31.88    |
| T-41    | 103            | 46      | 5.45     | 20            | 50      | 46.57    |
| T-42    | 103            | 45      | 57.56    | 20            | 51      | 10.66    |
| T-43    | 103            | 45      | 44.78    | 20            | 51      | 29.23    |
| T-44    | 103            | 44      | 47.83    | 20            | 52      | 36.05    |
| T-45    | 103            | 43      | 22.94    | 20            | 53      | 36.49    |
| T-46    | 103            | 42      | 20.81    | 20            | 54      | 9.54     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| T-47    | 103            | 42      | 30.06    | 20            | 54      | 40.97    |
| T-48    | 103            | 42      | 26.89    | 20            | 55      | 5.02     |
| T-49    | 103            | 42      | 3.24     | 20            | 55      | 58.37    |
| T-50    | 103            | 42      | 5.69     | 20            | 56      | 14.28    |
| T-51    | 103            | 42      | 25.52    | 20            | 56      | 33.54    |
| T-52    | 103            | 42      | 38.41    | 20            | 57      | 53.14    |
| T-53    | 103            | 42      | 49.39    | 20            | 58      | 3.61     |
| T-54    | 103            | 43      | 25.72    | 20            | 58      | 4.87     |
| T-55    | 103            | 44      | 52.51    | 20            | 58      | 32.38    |
| T-56    | 103            | 44      | 48.37    | 20            | 59      | 16.48    |
| T-57    | 103            | 44      | 23.86    | 20            | 59      | 41.64    |
| T-58    | 103            | 44      | 5.53     | 21            | 0       | 30.74    |
| T-59    | 103            | 44      | 10.93    | 21            | 0       | 39.35    |
| T-60    | 103            | 43      | 41.92    | 21            | 0       | 57.56    |
| T-61    | 103            | 43      | 50.66    | 21            | 1       | 29.82    |
| T-62    | 103            | 44      | 15.97    | 21            | 1       | 50.27    |
| T-63    | 103            | 43      | 49.66    | 21            | 1       | 54.30    |
| T-64    | 103            | 43      | 39.07    | 21            | 2       | 4.85     |
| T-65    | 103            | 43      | 26.22    | 21            | 2       | 19.21    |
| T-66    | 103            | 43      | 26.11    | 21            | 2       | 45.78    |
| T-67    | 103            | 42      | 36.90    | 21            | 2       | 54.02    |
| T-68    | 103            | 42      | 37.80    | 21            | 3       | 15.34    |
| T-69    | 103            | 42      | 14.36    | 21            | 3       | 37.48    |
| T-70    | 103            | 42      | 12.71    | 21            | 4       | 16.82    |
| T-71    | 103            | 41      | 56.08    | 21            | 4       | 39.07    |
| T-72    | 103            | 42      | 1.76     | 21            | 4       | 59.02    |
| T-73    | 103            | 40      | 54.05    | 21            | 5       | 22.85    |
| T-74    | 103            | 40      | 32.12    | 21            | 6       | 1.91     |
| T-75    | 103            | 40      | 4.12     | 21            | 5       | 48.98    |
| T-76    | 103            | 39      | 41.72    | 21            | 5       | 12.62    |
| T-77    | 103            | 39      | 31.50    | 21            | 5       | 9.02     |
| T-78    | 103            | 39      | 24.48    | 21            | 5       | 21.48    |
| T-79    | 103            | 39      | 10.12    | 21            | 5       | 20.80    |
| T-80    | 103            | 38      | 54.78    | 21            | 5       | 12.95    |
| T-81    | 103            | 38      | 53.23    | 21            | 5       | 3.30     |
| T-82    | 103            | 38      | 17.38    | 21            | 4       | 51.46    |
| T-83    | 103            | 37      | 52.50    | 21            | 5       | 22.92    |
| T-84    | 103            | 37      | 29.24    | 21            | 5       | 24.76    |
| T-85    | 103            | 37      | 45.16    | 21            | 5       | 55.21    |
| T-86    | 103            | 37      | 36.80    | 21            | 6       | 31.57    |
| T-87    | 103            | 37      | 45.62    | 21            | 7       | 1.99     |
| T-88    | 103            | 37      | 28.92    | 21            | 7       | 46.31    |
| T-89    | 103            | 36      | 20.05    | 21            | 8       | 55.00    |
| T-90    | 103            | 36      | 22.79    | 21            | 9       | 16.45    |
| T-91    | 103            | 36      | 53.21    | 21            | 9       | 32.83    |
| T-92    | 103            | 36      | 46.84    | 21            | 10      | 42.85    |
| T-93    | 103            | 36      | 59.15    | 21            | 10      | 56.39    |
| T-94    | 103            | 36      | 48.85    | 21            | 11      | 58.67    |
| T-95    | 103            | 36      | 56.56    | 21            | 12      | 24.08    |
| T-96    | 103            | 38      | 14.24    | 21            | 12      | 50.76    |
| T-97    | 103            | 38      | 1.61     | 21            | 13      | 22.66    |
| T-98    | 103            | 38      | 35.99    | 21            | 14      | 0.53     |
| T-99    | 103            | 37      | 43.79    | 21            | 14      | 20.08    |
| T-100   | 103            | 37      | 50.95    | 21            | 15      | 56.88    |
| T-101   | 103            | 37      | 36.37    | 21            | 16      | 7.86     |
| T-102   | 103            | 37      | 11.35    | 21            | 16      | 11.35    |
| T-103   | 103            | 36      | 40.79    | 21            | 16      | 38.24    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| T-104   | 103            | 36      | 46.37    | 21            | 17      | 16.84    |
| T-105   | 103            | 35      | 32.21    | 21            | 17      | 26.74    |
| T-106   | 103            | 35      | 16.08    | 21            | 17      | 43.55    |
| T-107   | 103            | 34      | 59.27    | 21            | 17      | 44.48    |
| T-108   | 103            | 35      | 11.11    | 21            | 18      | 22.68    |
| T-109   | 103            | 35      | 36.13    | 21            | 18      | 19.98    |
| T-110   | 103            | 36      | 12.56    | 21            | 18      | 32.00    |
| T-111   | 103            | 36      | 44.32    | 21            | 19      | 3.79     |
| T-112   | 103            | 37      | 12.40    | 21            | 19      | 11.60    |
| T-113   | 103            | 37      | 17.11    | 21            | 19      | 40.40    |
| T-114   | 103            | 37      | 38.39    | 21            | 19      | 52.46    |
| T-115   | 103            | 39      | 44.03    | 21            | 19      | 57.72    |
| T-116   | 103            | 39      | 55.04    | 21            | 19      | 18.23    |
| T-117   | 103            | 40      | 12.36    | 21            | 19      | 14.20    |
| T-118   | 103            | 40      | 19.20    | 21            | 18      | 46.19    |
| T-119   | 103            | 41      | 6.86     | 21            | 18      | 51.95    |
| T-120   | 103            | 42      | 0.47     | 21            | 19      | 19.85    |
| T-121   | 103            | 44      | 3.84     | 21            | 19      | 48.22    |
| T-122   | 103            | 44      | 33.83    | 21            | 20      | 7.12     |
| T-123   | 103            | 44      | 44.09    | 21            | 20      | 31.74    |
| T-124   | 103            | 44      | 44.52    | 21            | 20      | 44.30    |
| T-125   | 103            | 44      | 37.46    | 21            | 21      | 13.25    |
| T-126   | 103            | 44      | 48.70    | 21            | 21      | 23.11    |
| T-127   | 103            | 44      | 43.01    | 21            | 21      | 48.56    |
| T-128   | 103            | 44      | 29.26    | 21            | 22      | 3.68     |
| T-129   | 103            | 44      | 32.75    | 21            | 22      | 19.45    |
| T-130   | 103            | 44      | 23.50    | 21            | 22      | 46.74    |
| T-131   | 103            | 44      | 14.17    | 21            | 23      | 7.84     |
| T-132   | 103            | 42      | 54.50    | 21            | 24      | 5.08     |
| T-133   | 103            | 42      | 43.85    | 21            | 24      | 23.65    |
| T-134   | 103            | 42      | 14.47    | 21            | 24      | 37.62    |
| T-135   | 103            | 41      | 45.71    | 21            | 24      | 13.86    |
| T-136   | 103            | 41      | 41.35    | 21            | 24      | 51.44    |
| T-137   | 103            | 41      | 53.23    | 21            | 25      | 14.59    |
| T-138   | 103            | 41      | 47.36    | 21            | 26      | 25.66    |
| T-139   | 103            | 42      | 39.71    | 21            | 27      | 1.48     |
| T-140   | 103            | 42      | 37.44    | 21            | 27      | 13.18    |
| T-141   | 103            | 42      | 5.44     | 21            | 27      | 27.72    |
| T-142   | 103            | 41      | 57.34    | 21            | 27      | 44.46    |
| T-143   | 103            | 39      | 3.49     | 21            | 27      | 59.15    |
| T-144   | 103            | 37      | 48.90    | 21            | 28      | 32.30    |
| T-145   | 103            | 36      | 27.47    | 21            | 28      | 37.09    |
| T-146   | 103            | 35      | 29.36    | 21            | 29      | 11.54    |
| T-147   | 103            | 33      | 56.30    | 21            | 28      | 47.46    |
| T-148   | 103            | 33      | 45.14    | 21            | 29      | 2.72     |
| T-149   | 103            | 33      | 17.89    | 21            | 28      | 41.59    |
| T-150   | 103            | 33      | 24.88    | 21            | 28      | 14.63    |
| T-151   | 103            | 33      | 9.00     | 21            | 27      | 50.08    |
| T-152   | 103            | 32      | 46.00    | 21            | 27      | 39.60    |
| T-153   | 103            | 32      | 18.17    | 21            | 27      | 3.02     |
| T-154   | 103            | 31      | 29.64    | 21            | 26      | 56.29    |
| T-155   | 103            | 32      | 13.49    | 21            | 26      | 21.52    |
| T-156   | 103            | 32      | 16.80    | 21            | 26      | 10.72    |
| T-157   | 103            | 31      | 58.55    | 21            | 25      | 18.16    |
| T-158   | 103            | 31      | 28.24    | 21            | 24      | 29.81    |
| T-159   | 103            | 30      | 28.40    | 21            | 23      | 23.96    |
| T-160   | 103            | 30      | 32.15    | 21            | 23      | 12.62    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| T-161   | 103            | 30      | 28.51    | 21            | 22      | 47.53    |
| T-162   | 103            | 29      | 10.21    | 21            | 21      | 47.38    |
| T-163   | 103            | 28      | 36.48    | 21            | 21      | 40.79    |

**XXI.- CUENCA HIDROLOGICA RIO SANTIAGO 3: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 241.50 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde la Presa Santa Rosa hasta la estación hidrométrica La Yesca.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Santiago 3 tiene una superficie de aportación de 1,851.8 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por la cuenca hidrológica Río Bolaños 2, al Sur por la región hidrológica número 14 Río Ameca y por la cuenca hidrológica Presa Santa Rosa, al Este por la cuenca hidrológica Presa Santa Rosa y al Oeste por la cuenca hidrológica Río Santiago 4. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| T-124   | 103            | 44      | 44.52    | 21            | 20      | 44.30    |
| T-123   | 103            | 44      | 44.09    | 21            | 20      | 31.74    |
| T-122   | 103            | 44      | 33.83    | 21            | 20      | 7.12     |
| T-121   | 103            | 44      | 3.84     | 21            | 19      | 48.22    |
| T-120   | 103            | 42      | 0.47     | 21            | 19      | 19.85    |
| T-119   | 103            | 41      | 6.86     | 21            | 18      | 51.95    |
| T-118   | 103            | 40      | 19.20    | 21            | 18      | 46.19    |
| T-117   | 103            | 40      | 12.36    | 21            | 19      | 14.20    |
| T-116   | 103            | 39      | 55.04    | 21            | 19      | 18.23    |
| T-115   | 103            | 39      | 44.03    | 21            | 19      | 57.72    |
| T-114   | 103            | 37      | 38.39    | 21            | 19      | 52.46    |
| T-113   | 103            | 37      | 17.11    | 21            | 19      | 40.40    |
| T-112   | 103            | 37      | 12.40    | 21            | 19      | 11.60    |
| T-111   | 103            | 36      | 44.32    | 21            | 19      | 3.79     |
| T-110   | 103            | 36      | 12.56    | 21            | 18      | 32.00    |
| T-109   | 103            | 35      | 36.13    | 21            | 18      | 19.98    |
| T-108   | 103            | 35      | 11.11    | 21            | 18      | 22.68    |
| T-107   | 103            | 34      | 59.27    | 21            | 17      | 44.48    |
| T-106   | 103            | 35      | 16.08    | 21            | 17      | 43.55    |
| T-105   | 103            | 35      | 32.21    | 21            | 17      | 26.74    |
| T-104   | 103            | 36      | 46.37    | 21            | 17      | 16.84    |
| T-103   | 103            | 36      | 40.79    | 21            | 16      | 38.24    |
| T-102   | 103            | 37      | 11.35    | 21            | 16      | 11.35    |
| T-101   | 103            | 37      | 36.37    | 21            | 16      | 7.86     |
| T-100   | 103            | 37      | 50.95    | 21            | 15      | 56.88    |
| T-99    | 103            | 37      | 43.79    | 21            | 14      | 20.08    |
| T-98    | 103            | 38      | 35.99    | 21            | 14      | 0.53     |
| T-97    | 103            | 38      | 1.61     | 21            | 13      | 22.66    |
| T-96    | 103            | 38      | 14.24    | 21            | 12      | 50.76    |
| T-95    | 103            | 36      | 56.56    | 21            | 12      | 24.08    |
| T-94    | 103            | 36      | 48.85    | 21            | 11      | 58.67    |
| T-93    | 103            | 36      | 59.15    | 21            | 10      | 56.39    |
| T-92    | 103            | 36      | 46.84    | 21            | 10      | 42.85    |
| T-91    | 103            | 36      | 53.21    | 21            | 9       | 32.83    |
| T-90    | 103            | 36      | 22.79    | 21            | 9       | 16.45    |
| T-89    | 103            | 36      | 20.05    | 21            | 8       | 55.00    |
| T-88    | 103            | 37      | 28.92    | 21            | 7       | 46.31    |
| T-87    | 103            | 37      | 45.62    | 21            | 7       | 1.99     |
| T-86    | 103            | 37      | 36.80    | 21            | 6       | 31.57    |
| T-85    | 103            | 37      | 45.16    | 21            | 5       | 55.21    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| T-84    | 103            | 37      | 29.24    | 21            | 5       | 24.76    |
| T-83    | 103            | 37      | 52.50    | 21            | 5       | 22.92    |
| T-82    | 103            | 38      | 17.38    | 21            | 4       | 51.46    |
| T-81    | 103            | 38      | 53.23    | 21            | 5       | 3.30     |
| T-80    | 103            | 38      | 54.78    | 21            | 5       | 12.95    |
| T-79    | 103            | 39      | 10.12    | 21            | 5       | 20.80    |
| T-78    | 103            | 39      | 24.48    | 21            | 5       | 21.48    |
| T-77    | 103            | 39      | 31.50    | 21            | 5       | 9.02     |
| T-76    | 103            | 39      | 41.72    | 21            | 5       | 12.62    |
| T-75    | 103            | 40      | 4.12     | 21            | 5       | 48.98    |
| T-74    | 103            | 40      | 32.12    | 21            | 6       | 1.91     |
| T-73    | 103            | 40      | 54.05    | 21            | 5       | 22.85    |
| T-72    | 103            | 42      | 1.76     | 21            | 4       | 59.02    |
| T-71    | 103            | 41      | 56.08    | 21            | 4       | 39.07    |
| T-70    | 103            | 42      | 12.71    | 21            | 4       | 16.82    |
| T-69    | 103            | 42      | 14.36    | 21            | 3       | 37.48    |
| T-68    | 103            | 42      | 37.80    | 21            | 3       | 15.34    |
| T-67    | 103            | 42      | 36.90    | 21            | 2       | 54.02    |
| T-66    | 103            | 43      | 26.11    | 21            | 2       | 45.78    |
| T-65    | 103            | 43      | 26.22    | 21            | 2       | 19.21    |
| T-64    | 103            | 43      | 39.07    | 21            | 2       | 4.85     |
| T-63    | 103            | 43      | 49.66    | 21            | 1       | 54.30    |
| T-62    | 103            | 44      | 15.97    | 21            | 1       | 50.27    |
| T-61    | 103            | 43      | 50.66    | 21            | 1       | 29.82    |
| T-60    | 103            | 43      | 41.92    | 21            | 0       | 57.56    |
| T-59    | 103            | 44      | 10.93    | 21            | 0       | 39.35    |
| T-58    | 103            | 44      | 5.53     | 21            | 0       | 30.74    |
| T-57    | 103            | 44      | 23.86    | 20            | 59      | 41.64    |
| T-56    | 103            | 44      | 48.37    | 20            | 59      | 16.48    |
| T-55    | 103            | 44      | 52.51    | 20            | 58      | 32.38    |
| T-54    | 103            | 43      | 25.72    | 20            | 58      | 4.87     |
| T-53    | 103            | 42      | 49.39    | 20            | 58      | 3.61     |
| T-52    | 103            | 42      | 38.41    | 20            | 57      | 53.14    |
| T-51    | 103            | 42      | 25.52    | 20            | 56      | 33.54    |
| T-50    | 103            | 42      | 5.69     | 20            | 56      | 14.28    |
| T-49    | 103            | 42      | 3.24     | 20            | 55      | 58.37    |
| T-48    | 103            | 42      | 26.89    | 20            | 55      | 5.02     |
| T-47    | 103            | 42      | 30.06    | 20            | 54      | 40.97    |
| T-46    | 103            | 42      | 20.81    | 20            | 54      | 9.54     |
| T-45    | 103            | 43      | 22.94    | 20            | 53      | 36.49    |
| T-44    | 103            | 44      | 47.83    | 20            | 52      | 36.05    |
| T-43    | 103            | 45      | 44.78    | 20            | 51      | 29.23    |
| T-42    | 103            | 45      | 57.56    | 20            | 51      | 10.66    |
| T-41    | 103            | 46      | 5.45     | 20            | 50      | 46.57    |
| T-40    | 103            | 45      | 59.69    | 20            | 50      | 31.88    |
| T-39    | 103            | 46      | 20.89    | 20            | 49      | 39.43    |
| T-38    | 103            | 46      | 18.05    | 20            | 48      | 57.42    |
| T-37    | 103            | 46      | 51.71    | 20            | 48      | 24.80    |
| T-36    | 103            | 47      | 16.91    | 20            | 47      | 36.74    |
| T-35    | 103            | 47      | 32.93    | 20            | 47      | 33.04    |
| T-34    | 103            | 48      | 18.07    | 20            | 47      | 57.41    |
| T-33    | 103            | 48      | 41.08    | 20            | 47      | 58.42    |
| T-32    | 103            | 49      | 5.70     | 20            | 47      | 25.51    |
| T-31    | 103            | 49      | 44.69    | 20            | 47      | 13.74    |
| T-30    | 103            | 50      | 14.53    | 20            | 46      | 53.76    |
| U-1     | 103            | 50      | 21.23    | 20            | 46      | 52.36    |
| U-2     | 103            | 50      | 42.36    | 20            | 46      | 59.77    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| U-3     | 103            | 50      | 51.65    | 20            | 47      | 30.95    |
| U-4     | 103            | 52      | 15.35    | 20            | 47      | 34.15    |
| U-5     | 103            | 52      | 16.64    | 20            | 47      | 44.48    |
| U-6     | 103            | 53      | 3.91     | 20            | 48      | 34.27    |
| U-7     | 103            | 53      | 33.25    | 20            | 48      | 32.15    |
| U-8     | 103            | 54      | 23.87    | 20            | 49      | 7.03     |
| U-9     | 103            | 54      | 41.72    | 20            | 48      | 52.99    |
| U-10    | 103            | 54      | 59.94    | 20            | 48      | 52.81    |
| U-11    | 103            | 55      | 8.94     | 20            | 49      | 7.36     |
| U-12    | 103            | 56      | 2.40     | 20            | 49      | 41.66    |
| U-13    | 103            | 56      | 0.71     | 20            | 50      | 3.73     |
| U-14    | 103            | 56      | 10.57    | 20            | 50      | 18.24    |
| U-15    | 103            | 56      | 35.05    | 20            | 50      | 28.43    |
| U-16    | 103            | 56      | 49.31    | 20            | 50      | 59.21    |
| U-17    | 103            | 57      | 36.14    | 20            | 51      | 7.81     |
| U-18    | 103            | 57      | 41.76    | 20            | 51      | 15.19    |
| U-19    | 103            | 57      | 5.47     | 20            | 51      | 44.42    |
| U-20    | 103            | 57      | 9.72     | 20            | 52      | 34.43    |
| U-21    | 103            | 57      | 28.94    | 20            | 52      | 51.20    |
| U-22    | 103            | 57      | 34.31    | 20            | 53      | 48.08    |
| U-23    | 103            | 56      | 49.52    | 20            | 55      | 36.05    |
| U-24    | 103            | 56      | 34.66    | 20            | 55      | 48.97    |
| U-25    | 103            | 57      | 15.84    | 20            | 55      | 56.71    |
| U-26    | 103            | 57      | 40.54    | 20            | 55      | 51.56    |
| U-27    | 103            | 58      | 14.16    | 20            | 56      | 9.96     |
| U-28    | 103            | 58      | 38.39    | 20            | 56      | 10.25    |
| U-29    | 103            | 59      | 28.72    | 20            | 56      | 29.36    |
| U-30    | 103            | 59      | 56.29    | 20            | 56      | 58.81    |
| U-31    | 104            | 0       | 24.26    | 20            | 57      | 11.66    |
| U-32    | 104            | 1       | 10.81    | 20            | 58      | 16.82    |
| U-33    | 104            | 1       | 31.69    | 20            | 58      | 21.94    |
| U-34    | 104            | 1       | 36.66    | 20            | 58      | 34.28    |
| U-35    | 104            | 1       | 31.01    | 20            | 59      | 7.80     |
| U-36    | 104            | 2       | 41.78    | 21            | 0       | 4.93     |
| U-37    | 104            | 2       | 59.28    | 21            | 0       | 32.58    |
| U-38    | 104            | 3       | 38.41    | 21            | 0       | 37.40    |
| U-39    | 104            | 3       | 54.50    | 21            | 0       | 53.32    |
| U-40    | 104            | 4       | 4.30     | 21            | 1       | 26.69    |
| U-41    | 104            | 4       | 46.06    | 21            | 1       | 51.82    |
| U-42    | 104            | 5       | 5.14     | 21            | 2       | 13.85    |
| U-43    | 104            | 5       | 3.19     | 21            | 2       | 28.14    |
| U-44    | 104            | 5       | 14.96    | 21            | 2       | 48.88    |
| U-45    | 104            | 5       | 52.62    | 21            | 3       | 10.12    |
| U-46    | 104            | 6       | 25.92    | 21            | 3       | 44.21    |
| U-47    | 104            | 6       | 59.72    | 21            | 3       | 59.36    |
| U-48    | 104            | 7       | 56.96    | 21            | 5       | 0.49     |
| U-49    | 104            | 8       | 2.87     | 21            | 5       | 22.20    |
| U-50    | 104            | 8       | 40.60    | 21            | 5       | 31.81    |
| U-51    | 104            | 9       | 2.16     | 21            | 6       | 11.05    |
| U-52    | 104            | 9       | 44.71    | 21            | 6       | 13.72    |
| U-53    | 104            | 9       | 49.03    | 21            | 6       | 39.06    |
| U-54    | 104            | 9       | 44.06    | 21            | 6       | 50.08    |
| U-55    | 104            | 9       | 30.13    | 21            | 6       | 53.50    |
| U-56    | 104            | 9       | 10.62    | 21            | 7       | 26.87    |
| U-57    | 104            | 8       | 57.26    | 21            | 7       | 26.22    |
| U-58    | 104            | 8       | 50.64    | 21            | 7       | 38.60    |
| U-59    | 104            | 7       | 53.62    | 21            | 7       | 44.94    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| U-60    | 104            | 7       | 44.08    | 21            | 7       | 28.85    |
| U-61    | 104            | 7       | 23.81    | 21            | 7       | 21.65    |
| U-62    | 104            | 7       | 6.28     | 21            | 7       | 33.89    |
| U-63    | 104            | 6       | 57.60    | 21            | 7       | 56.24    |
| U-64    | 104            | 6       | 40.68    | 21            | 8       | 9.78     |
| U-65    | 104            | 6       | 46.08    | 21            | 8       | 37.90    |
| U-66    | 104            | 6       | 33.26    | 21            | 8       | 44.23    |
| U-67    | 104            | 6       | 40.21    | 21            | 9       | 24.12    |
| U-68    | 104            | 6       | 22.21    | 21            | 9       | 56.77    |
| U-69    | 104            | 6       | 2.02     | 21            | 9       | 54.14    |
| U-70    | 104            | 5       | 21.30    | 21            | 10      | 8.44     |
| U-71    | 104            | 5       | 50.50    | 21            | 10      | 37.99    |
| U-72    | 104            | 5       | 44.66    | 21            | 10      | 59.34    |
| U-73    | 104            | 5       | 22.16    | 21            | 11      | 11.65    |
| U-74    | 104            | 5       | 8.77     | 21            | 11      | 14.35    |
| U-75    | 104            | 4       | 37.38    | 21            | 11      | 6.83     |
| U-76    | 104            | 4       | 25.82    | 21            | 11      | 9.35     |
| U-77    | 104            | 4       | 21.11    | 21            | 11      | 24.58    |
| U-78    | 104            | 4       | 13.73    | 21            | 11      | 9.60     |
| U-79    | 104            | 3       | 52.70    | 21            | 10      | 54.08    |
| U-80    | 104            | 3       | 32.18    | 21            | 11      | 14.86    |
| U-81    | 104            | 2       | 59.60    | 21            | 11      | 8.81     |
| U-82    | 104            | 2       | 49.31    | 21            | 10      | 50.48    |
| U-83    | 104            | 2       | 2.33     | 21            | 10      | 16.82    |
| U-84    | 104            | 1       | 31.22    | 21            | 10      | 34.07    |
| U-85    | 104            | 0       | 17.06    | 21            | 10      | 23.05    |
| U-86    | 104            | 0       | 3.31     | 21            | 10      | 28.78    |
| U-87    | 103            | 59      | 52.33    | 21            | 10      | 50.48    |
| U-88    | 103            | 57      | 47.84    | 21            | 11      | 19.86    |
| U-89    | 103            | 57      | 7.34     | 21            | 10      | 59.23    |
| U-90    | 103            | 56      | 23.39    | 21            | 11      | 10.28    |
| U-91    | 103            | 55      | 32.41    | 21            | 10      | 57.29    |
| U-92    | 103            | 55      | 2.82     | 21            | 11      | 30.12    |
| U-93    | 103            | 55      | 3.86     | 21            | 11      | 51.11    |
| U-94    | 103            | 55      | 16.25    | 21            | 12      | 8.10     |
| U-95    | 103            | 55      | 8.18     | 21            | 12      | 37.01    |
| U-96    | 103            | 55      | 19.78    | 21            | 12      | 59.36    |
| U-97    | 103            | 54      | 28.12    | 21            | 13      | 19.13    |
| U-98    | 103            | 54      | 4.54     | 21            | 13      | 59.05    |
| U-99    | 103            | 54      | 11.16    | 21            | 14      | 0.53     |
| U-100   | 103            | 53      | 46.28    | 21            | 14      | 27.89    |
| U-101   | 103            | 53      | 53.12    | 21            | 14      | 43.12    |
| U-102   | 103            | 53      | 29.62    | 21            | 15      | 22.28    |
| U-103   | 103            | 53      | 7.51     | 21            | 15      | 31.64    |
| U-104   | 103            | 52      | 57.00    | 21            | 16      | 4.04     |
| U-105   | 103            | 52      | 20.03    | 21            | 15      | 57.56    |
| U-106   | 103            | 52      | 3.11     | 21            | 16      | 3.61     |
| U-107   | 103            | 51      | 41.90    | 21            | 16      | 33.60    |
| U-108   | 103            | 51      | 14.87    | 21            | 16      | 40.84    |
| U-109   | 103            | 51      | 7.09     | 21            | 16      | 53.33    |
| U-110   | 103            | 50      | 48.59    | 21            | 16      | 41.77    |
| U-111   | 103            | 49      | 49.76    | 21            | 16      | 51.28    |
| U-112   | 103            | 49      | 40.30    | 21            | 16      | 34.46    |
| U-113   | 103            | 49      | 22.91    | 21            | 16      | 31.98    |
| U-114   | 103            | 48      | 52.96    | 21            | 17      | 13.45    |
| U-115   | 103            | 48      | 24.48    | 21            | 17      | 22.31    |
| U-116   | 103            | 48      | 22.32    | 21            | 17      | 43.37    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| U-117   | 103            | 47      | 26.66    | 21            | 18      | 29.05    |
| U-118   | 103            | 46      | 44.83    | 21            | 18      | 31.72    |
| U-119   | 103            | 46      | 20.28    | 21            | 18      | 54.40    |
| U-120   | 103            | 46      | 30.40    | 21            | 19      | 9.88     |
| U-121   | 103            | 46      | 3.04     | 21            | 19      | 24.38    |
| U-122   | 103            | 45      | 43.38    | 21            | 19      | 52.50    |
| U-123   | 103            | 45      | 55.33    | 21            | 20      | 16.55    |
| U-124   | 103            | 45      | 48.78    | 21            | 20      | 38.76    |
| U-125   | 103            | 45      | 10.19    | 21            | 20      | 48.62    |

**XXII.- CUENCA HIDROLOGICA RIO TEPETONGO: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 3.59 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde el nacimiento del Río Tepetongo hasta la estación hidrométrica La Gloria.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Tepetongo tiene una superficie de aportación de 3,071.8 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por las regiones hidrológicas números 36 Nazas-Aguanaval y 37 El Salado, al Sur por la cuenca hidrológica Río Tlaltenango, al Este por la cuenca hidrológica Presa El Chique y al Oeste por la cuenca hidrológica Río Bolaños 1. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| O-166   | 102            | 48      | 29.38    | 22            | 46      | 0.84     |
| O-165   | 102            | 48      | 50.47    | 22            | 45      | 0.25     |
| O-164   | 102            | 48      | 36.50    | 22            | 44      | 30.34    |
| O-163   | 102            | 48      | 16.85    | 22            | 44      | 27.96    |
| O-162   | 102            | 48      | 19.80    | 22            | 43      | 57.22    |
| O-161   | 102            | 48      | 53.64    | 22            | 43      | 52.03    |
| O-160   | 102            | 47      | 50.46    | 22            | 43      | 17.90    |
| O-159   | 102            | 47      | 44.05    | 22            | 42      | 38.09    |
| O-158   | 102            | 47      | 22.45    | 22            | 42      | 3.82     |
| O-157   | 102            | 46      | 56.21    | 22            | 41      | 55.90    |
| O-156   | 102            | 46      | 23.02    | 22            | 41      | 20.40    |
| O-155   | 102            | 46      | 40.87    | 22            | 40      | 38.64    |
| O-154   | 102            | 46      | 39.97    | 22            | 40      | 4.84     |
| O-153   | 102            | 47      | 4.13     | 22            | 39      | 49.86    |
| O-152   | 102            | 47      | 35.95    | 22            | 39      | 50.11    |
| O-151   | 102            | 47      | 56.98    | 22            | 39      | 15.41    |
| O-150   | 102            | 48      | 36.00    | 22            | 39      | 4.68     |
| O-149   | 102            | 48      | 43.09    | 22            | 38      | 44.52    |
| O-148   | 102            | 49      | 5.20     | 22            | 38      | 44.59    |
| O-147   | 102            | 49      | 4.44     | 22            | 38      | 20.04    |
| O-146   | 102            | 49      | 37.06    | 22            | 37      | 58.76    |
| O-145   | 102            | 50      | 23.17    | 22            | 37      | 47.46    |
| O-144   | 102            | 50      | 32.32    | 22            | 37      | 10.85    |
| O-143   | 102            | 49      | 47.64    | 22            | 36      | 37.76    |
| O-142   | 102            | 49      | 27.41    | 22            | 36      | 0.18     |
| O-141   | 102            | 49      | 43.21    | 22            | 35      | 39.98    |
| O-140   | 102            | 52      | 30.86    | 22            | 34      | 30.97    |
| O-139   | 102            | 52      | 34.54    | 22            | 34      | 16.46    |
| O-138   | 102            | 53      | 6.22     | 22            | 34      | 1.34     |
| O-137   | 102            | 53      | 34.94    | 22            | 34      | 18.52    |
| O-136   | 102            | 54      | 0.54     | 22            | 34      | 8.29     |
| O-135   | 102            | 55      | 10.96    | 22            | 34      | 12.36    |
| O-134   | 102            | 55      | 10.49    | 22            | 32      | 52.91    |
| O-133   | 102            | 54      | 53.28    | 22            | 32      | 30.37    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| O-132   | 102            | 54      | 55.44    | 22            | 32      | 12.73    |
| O-131   | 102            | 55      | 25.18    | 22            | 32      | 17.41    |
| O-130   | 102            | 55      | 26.00    | 22            | 32      | 1.97     |
| O-129   | 102            | 56      | 1.28     | 22            | 31      | 46.92    |
| O-128   | 102            | 55      | 10.16    | 22            | 30      | 32.54    |
| O-127   | 102            | 55      | 52.39    | 22            | 30      | 34.99    |
| O-126   | 102            | 56      | 28.72    | 22            | 30      | 22.00    |
| O-125   | 102            | 56      | 19.97    | 22            | 30      | 4.36     |
| O-124   | 102            | 56      | 27.24    | 22            | 29      | 24.65    |
| O-123   | 102            | 56      | 3.98     | 22            | 28      | 54.80    |
| O-122   | 102            | 56      | 25.08    | 22            | 28      | 8.58     |
| O-121   | 102            | 57      | 40.93    | 22            | 27      | 46.84    |
| O-120   | 102            | 57      | 53.46    | 22            | 27      | 34.96    |
| O-119   | 102            | 57      | 53.14    | 22            | 27      | 13.25    |
| O-118   | 102            | 58      | 24.10    | 22            | 26      | 55.25    |
| O-117   | 102            | 58      | 46.67    | 22            | 27      | 1.94     |
| O-116   | 102            | 59      | 1.28     | 22            | 26      | 25.01    |
| O-115   | 102            | 59      | 50.42    | 22            | 25      | 45.95    |
| O-114   | 102            | 59      | 37.18    | 22            | 25      | 16.86    |
| O-113   | 102            | 59      | 14.96    | 22            | 25      | 17.11    |
| O-112   | 103            | 0       | 20.56    | 22            | 24      | 23.33    |
| O-111   | 103            | 0       | 49.32    | 22            | 23      | 25.08    |
| O-110   | 103            | 0       | 52.09    | 22            | 22      | 50.09    |
| O-109   | 103            | 1       | 30.90    | 22            | 22      | 33.56    |
| O-108   | 103            | 1       | 57.25    | 22            | 21      | 38.88    |
| O-107   | 103            | 2       | 51.40    | 22            | 21      | 54.58    |
| O-106   | 103            | 3       | 12.35    | 22            | 21      | 40.90    |
| O-105   | 103            | 4       | 1.20     | 22            | 21      | 43.99    |
| O-104   | 103            | 4       | 3.29     | 22            | 21      | 14.58    |
| O-103   | 103            | 3       | 30.42    | 22            | 20      | 55.21    |
| O-102   | 103            | 3       | 19.62    | 22            | 20      | 30.91    |
| O-101   | 103            | 3       | 42.44    | 22            | 20      | 1.21     |
| O-100   | 103            | 4       | 32.02    | 22            | 19      | 47.21    |
| O-99    | 103            | 4       | 31.55    | 22            | 19      | 15.78    |
| O-98    | 103            | 4       | 59.52    | 22            | 18      | 58.97    |
| O-97    | 103            | 4       | 21.14    | 22            | 18      | 31.57    |
| O-96    | 103            | 4       | 10.60    | 22            | 18      | 27.94    |
| O-95    | 103            | 3       | 48.42    | 22            | 18      | 43.52    |
| O-94    | 103            | 3       | 25.42    | 22            | 18      | 24.16    |
| O-93    | 103            | 3       | 18.94    | 22            | 17      | 52.15    |
| O-92    | 103            | 3       | 32.26    | 22            | 16      | 36.30    |
| O-91    | 103            | 3       | 25.60    | 22            | 16      | 16.32    |
| O-90    | 103            | 3       | 8.10     | 22            | 16      | 10.92    |
| O-89    | 103            | 3       | 39.74    | 22            | 16      | 0.30     |
| O-88    | 103            | 3       | 27.47    | 22            | 15      | 43.34    |
| O-87    | 103            | 3       | 25.27    | 22            | 15      | 4.03     |
| O-86    | 103            | 3       | 7.63     | 22            | 14      | 59.57    |
| O-85    | 103            | 3       | 9.18     | 22            | 14      | 27.64    |
| O-84    | 103            | 3       | 41.47    | 22            | 14      | 12.08    |
| O-83    | 103            | 3       | 59.29    | 22            | 12      | 58.86    |
| O-82    | 103            | 4       | 23.81    | 22            | 12      | 50.44    |
| O-81    | 103            | 4       | 28.96    | 22            | 12      | 14.94    |
| O-80    | 103            | 5       | 14.89    | 22            | 11      | 13.99    |
| O-79    | 103            | 5       | 11.36    | 22            | 10      | 54.30    |
| O-78    | 103            | 5       | 25.66    | 22            | 10      | 26.69    |
| O-77    | 103            | 5       | 53.74    | 22            | 10      | 26.04    |
| O-76    | 103            | 6       | 40.86    | 22            | 10      | 5.09     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| O-75    | 103            | 7       | 16.25    | 22            | 8       | 44.81    |
| O-74    | 103            | 7       | 53.22    | 22            | 8       | 29.87    |
| O-73    | 103            | 8       | 17.95    | 22            | 7       | 52.79    |
| O-72    | 103            | 8       | 47.87    | 22            | 7       | 41.02    |
| O-71    | 103            | 8       | 38.26    | 22            | 7       | 1.24     |
| O-70    | 103            | 9       | 10.73    | 22            | 5       | 49.42    |
| O-69    | 103            | 9       | 19.40    | 22            | 4       | 4.62     |
| O-68    | 103            | 9       | 36.32    | 22            | 3       | 48.06    |
| V-1     | 103            | 9       | 47.92    | 22            | 3       | 24.41    |
| V-2     | 103            | 10      | 32.05    | 22            | 3       | 38.95    |
| V-3     | 103            | 10      | 58.84    | 22            | 3       | 33.95    |
| V-4     | 103            | 12      | 52.60    | 22            | 4       | 29.39    |
| V-5     | 103            | 13      | 28.49    | 22            | 3       | 21.49    |
| V-6     | 103            | 13      | 46.63    | 22            | 3       | 38.45    |
| V-7     | 103            | 14      | 4.81     | 22            | 4       | 22.91    |
| V-8     | 103            | 14      | 59.71    | 22            | 3       | 21.06    |
| V-9     | 103            | 15      | 32.33    | 22            | 3       | 22.82    |
| V-10    | 103            | 15      | 59.51    | 22            | 3       | 38.23    |
| V-11    | 103            | 16      | 45.52    | 22            | 3       | 23.58    |
| V-12    | 103            | 17      | 27.46    | 22            | 3       | 32.47    |
| V-13    | 103            | 18      | 44.03    | 22            | 2       | 50.03    |
| V-14    | 103            | 18      | 52.85    | 22            | 2       | 50.10    |
| V-15    | 103            | 19      | 10.63    | 22            | 3       | 55.15    |
| V-16    | 103            | 20      | 10.75    | 22            | 3       | 49.50    |
| V-17    | 103            | 20      | 37.43    | 22            | 2       | 50.53    |
| V-18    | 103            | 22      | 13.19    | 22            | 3       | 54.18    |
| V-19    | 103            | 23      | 2.76     | 22            | 3       | 39.35    |
| V-20    | 103            | 23      | 37.61    | 22            | 3       | 46.76    |
| V-21    | 103            | 23      | 56.51    | 22            | 4       | 4.22     |
| V-22    | 103            | 23      | 52.40    | 22            | 4       | 5.45     |
| V-23    | 103            | 23      | 51.54    | 22            | 4       | 30.04    |
| V-24    | 103            | 24      | 0.32     | 22            | 4       | 47.57    |
| V-25    | 103            | 23      | 9.28     | 22            | 5       | 10.32    |
| V-26    | 103            | 22      | 38.17    | 22            | 6       | 5.80     |
| V-27    | 103            | 22      | 25.61    | 22            | 7       | 4.73     |
| V-28    | 103            | 21      | 32.83    | 22            | 7       | 29.10    |
| V-29    | 103            | 21      | 17.46    | 22            | 8       | 17.59    |
| V-30    | 103            | 20      | 54.02    | 22            | 8       | 39.19    |
| V-31    | 103            | 20      | 51.36    | 22            | 8       | 59.53    |
| V-32    | 103            | 21      | 22.57    | 22            | 9       | 51.91    |
| V-33    | 103            | 20      | 31.49    | 22            | 10      | 47.64    |
| V-34    | 103            | 19      | 43.21    | 22            | 12      | 24.66    |
| V-35    | 103            | 18      | 25.67    | 22            | 13      | 27.23    |
| V-36    | 103            | 17      | 49.49    | 22            | 14      | 43.12    |
| V-37    | 103            | 17      | 20.00    | 22            | 15      | 11.09    |
| V-38    | 103            | 18      | 8.14     | 22            | 15      | 45.79    |
| V-39    | 103            | 17      | 43.26    | 22            | 17      | 5.82     |
| V-40    | 103            | 17      | 13.99    | 22            | 17      | 54.35    |
| V-41    | 103            | 17      | 13.81    | 22            | 18      | 33.73    |
| V-42    | 103            | 17      | 22.34    | 22            | 18      | 49.68    |
| V-43    | 103            | 18      | 0.47     | 22            | 18      | 43.85    |
| V-44    | 103            | 18      | 22.75    | 22            | 19      | 14.38    |
| V-45    | 103            | 17      | 58.20    | 22            | 19      | 35.29    |
| V-46    | 103            | 17      | 53.34    | 22            | 20      | 11.08    |
| V-47    | 103            | 18      | 6.59     | 22            | 21      | 22.79    |
| V-48    | 103            | 17      | 55.82    | 22            | 21      | 54.50    |
| V-49    | 103            | 17      | 19.21    | 22            | 22      | 48.79    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| V-50    | 103            | 17      | 20.33    | 22            | 23      | 9.53     |
| V-51    | 103            | 16      | 35.40    | 22            | 23      | 46.28    |
| V-52    | 103            | 16      | 21.86    | 22            | 24      | 22.79    |
| V-53    | 103            | 16      | 26.29    | 22            | 25      | 3.14     |
| V-54    | 103            | 16      | 0.01     | 22            | 25      | 49.94    |
| V-55    | 103            | 16      | 37.45    | 22            | 26      | 45.60    |
| V-56    | 103            | 16      | 20.86    | 22            | 27      | 28.69    |
| V-57    | 103            | 16      | 22.12    | 22            | 28      | 12.14    |
| V-58    | 103            | 16      | 56.71    | 22            | 28      | 27.12    |
| V-59    | 103            | 16      | 46.70    | 22            | 28      | 47.10    |
| V-60    | 103            | 16      | 57.00    | 22            | 29      | 1.97     |
| V-61    | 103            | 16      | 25.25    | 22            | 29      | 57.44    |
| V-62    | 103            | 16      | 44.44    | 22            | 30      | 42.23    |
| V-63    | 103            | 16      | 29.24    | 22            | 31      | 6.89     |
| V-64    | 103            | 17      | 1.43     | 22            | 31      | 45.62    |
| V-65    | 103            | 16      | 9.59     | 22            | 32      | 26.81    |
| V-66    | 103            | 16      | 14.48    | 22            | 32      | 52.12    |
| V-67    | 103            | 16      | 1.49     | 22            | 33      | 28.62    |
| V-68    | 103            | 16      | 24.42    | 22            | 33      | 41.33    |
| V-69    | 103            | 16      | 48.36    | 22            | 34      | 16.64    |
| V-70    | 103            | 16      | 38.53    | 22            | 35      | 4.52     |
| V-71    | 103            | 17      | 1.03     | 22            | 35      | 25.26    |
| V-72    | 103            | 16      | 37.52    | 22            | 36      | 40.79    |
| V-73    | 103            | 17      | 6.90     | 22            | 37      | 23.99    |
| V-74    | 103            | 17      | 21.95    | 22            | 37      | 14.52    |
| V-75    | 103            | 17      | 43.98    | 22            | 37      | 40.84    |
| V-76    | 103            | 17      | 9.96     | 22            | 37      | 58.98    |
| V-77    | 103            | 16      | 27.98    | 22            | 37      | 54.84    |
| V-78    | 103            | 16      | 17.29    | 22            | 38      | 8.20     |
| V-79    | 103            | 15      | 54.61    | 22            | 38      | 7.98     |
| V-80    | 103            | 15      | 49.46    | 22            | 38      | 17.12    |
| V-81    | 103            | 16      | 11.32    | 22            | 39      | 1.94     |
| V-82    | 103            | 15      | 14.94    | 22            | 39      | 25.34    |
| V-83    | 103            | 15      | 14.62    | 22            | 39      | 37.44    |
| V-84    | 103            | 14      | 55.82    | 22            | 39      | 48.13    |
| V-85    | 103            | 14      | 25.58    | 22            | 39      | 59.26    |
| V-86    | 103            | 13      | 35.76    | 22            | 39      | 55.87    |
| V-87    | 103            | 13      | 23.59    | 22            | 40      | 7.97     |
| V-88    | 103            | 13      | 2.32     | 22            | 39      | 59.26    |
| V-89    | 103            | 12      | 38.95    | 22            | 40      | 20.46    |
| V-90    | 103            | 12      | 25.63    | 22            | 40      | 48.07    |
| V-91    | 103            | 12      | 6.59     | 22            | 41      | 18.20    |
| V-92    | 103            | 11      | 24.68    | 22            | 41      | 37.39    |
| V-93    | 103            | 11      | 35.52    | 22            | 42      | 41.40    |
| V-94    | 103            | 11      | 24.14    | 22            | 42      | 56.16    |
| V-95    | 103            | 10      | 44.47    | 22            | 43      | 6.02     |
| V-96    | 103            | 10      | 37.16    | 22            | 42      | 55.69    |
| V-97    | 103            | 10      | 3.83     | 22            | 42      | 52.85    |
| V-98    | 103            | 9       | 53.53    | 22            | 43      | 7.14     |
| V-99    | 103            | 9       | 3.64     | 22            | 43      | 18.91    |
| V-100   | 103            | 8       | 29.22    | 22            | 43      | 5.30     |
| V-101   | 103            | 7       | 57.22    | 22            | 43      | 9.52     |
| V-102   | 103            | 8       | 6.32     | 22            | 43      | 32.84    |
| V-103   | 103            | 8       | 2.36     | 22            | 43      | 46.34    |
| V-104   | 103            | 7       | 39.68    | 22            | 43      | 49.48    |
| V-105   | 103            | 7       | 40.98    | 22            | 44      | 20.08    |
| V-106   | 103            | 7       | 52.28    | 22            | 44      | 34.12    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| V-107   | 103            | 7       | 34.82    | 22            | 44      | 58.42    |
| V-108   | 103            | 8       | 0.56     | 22            | 44      | 58.92    |
| V-109   | 103            | 8       | 9.20     | 22            | 45      | 18.40    |
| V-110   | 103            | 9       | 16.16    | 22            | 45      | 32.47    |
| V-111   | 103            | 9       | 16.49    | 22            | 46      | 38.35    |
| V-112   | 103            | 9       | 34.09    | 22            | 46      | 43.90    |
| V-113   | 103            | 9       | 44.53    | 22            | 47      | 4.09     |
| V-114   | 103            | 10      | 12.25    | 22            | 47      | 4.92     |
| V-115   | 103            | 10      | 18.37    | 22            | 47      | 50.78    |
| V-116   | 103            | 9       | 59.04    | 22            | 48      | 8.28     |
| V-117   | 103            | 9       | 47.23    | 22            | 49      | 5.52     |
| V-118   | 103            | 9       | 16.81    | 22            | 50      | 10.36    |
| V-119   | 103            | 8       | 35.02    | 22            | 51      | 6.01     |
| V-120   | 103            | 7       | 8.76     | 22            | 51      | 58.54    |
| V-121   | 103            | 4       | 47.68    | 22            | 52      | 38.89    |
| V-122   | 103            | 4       | 18.91    | 22            | 53      | 57.80    |
| V-123   | 103            | 2       | 49.09    | 22            | 53      | 44.02    |
| V-124   | 103            | 1       | 48.86    | 22            | 54      | 46.91    |
| V-125   | 103            | 2       | 24.76    | 22            | 55      | 41.88    |
| V-126   | 103            | 2       | 31.49    | 22            | 56      | 39.84    |
| V-127   | 103            | 1       | 30.36    | 22            | 57      | 15.08    |
| V-128   | 103            | 1       | 27.66    | 22            | 57      | 50.33    |
| V-129   | 103            | 1       | 42.85    | 22            | 58      | 9.66     |
| V-130   | 103            | 1       | 26.44    | 22            | 58      | 27.98    |
| V-131   | 103            | 1       | 28.67    | 22            | 59      | 1.36     |
| V-132   | 103            | 1       | 13.37    | 22            | 58      | 58.19    |
| V-133   | 103            | 1       | 4.19     | 22            | 59      | 24.25    |
| V-134   | 103            | 1       | 52.79    | 22            | 59      | 54.82    |
| V-135   | 103            | 1       | 30.22    | 23            | 0       | 1.30     |
| V-136   | 103            | 1       | 18.12    | 23            | 1       | 5.63     |
| V-137   | 103            | 0       | 53.78    | 23            | 1       | 47.82    |
| V-138   | 103            | 0       | 40.90    | 23            | 1       | 55.49    |
| V-139   | 102            | 59      | 22.52    | 23            | 1       | 36.48    |
| V-140   | 102            | 58      | 59.27    | 23            | 1       | 2.46     |
| V-141   | 102            | 58      | 30.68    | 23            | 0       | 57.71    |
| V-142   | 102            | 57      | 53.57    | 23            | 1       | 6.46     |
| V-143   | 102            | 54      | 14.11    | 22            | 59      | 21.59    |
| V-144   | 102            | 53      | 39.12    | 22            | 58      | 52.36    |
| V-145   | 102            | 53      | 57.05    | 22            | 58      | 18.77    |
| V-146   | 102            | 53      | 39.26    | 22            | 57      | 48.74    |
| V-147   | 102            | 54      | 9.54     | 22            | 57      | 15.95    |
| V-148   | 102            | 53      | 6.32     | 22            | 56      | 36.49    |
| V-149   | 102            | 52      | 57.07    | 22            | 56      | 13.42    |
| V-150   | 102            | 53      | 24.07    | 22            | 55      | 17.98    |
| V-151   | 102            | 52      | 30.54    | 22            | 54      | 48.74    |
| V-152   | 102            | 52      | 56.68    | 22            | 54      | 34.02    |
| V-153   | 102            | 52      | 39.65    | 22            | 53      | 51.94    |
| V-154   | 102            | 52      | 24.38    | 22            | 53      | 45.20    |
| V-155   | 102            | 52      | 44.80    | 22            | 53      | 6.32     |
| V-156   | 102            | 51      | 26.86    | 22            | 52      | 48.18    |
| V-157   | 102            | 51      | 4.64     | 22            | 52      | 11.06    |
| V-158   | 102            | 50      | 2.51     | 22            | 51      | 19.12    |
| V-159   | 102            | 50      | 12.66    | 22            | 51      | 8.78     |
| V-160   | 102            | 50      | 4.85     | 22            | 50      | 42.83    |
| V-161   | 102            | 50      | 13.81    | 22            | 49      | 42.10    |
| V-162   | 102            | 49      | 49.69    | 22            | 49      | 1.52     |
| V-163   | 102            | 50      | 0.78     | 22            | 48      | 34.92    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| V-164   | 102            | 49      | 40.15    | 22            | 48      | 21.74    |
| V-165   | 102            | 48      | 44.75    | 22            | 48      | 11.34    |
| V-166   | 102            | 48      | 31.68    | 22            | 47      | 46.18    |
| V-167   | 102            | 48      | 49.93    | 22            | 47      | 17.88    |
| V-168   | 102            | 48      | 31.00    | 22            | 46      | 57.94    |
| V-169   | 102            | 48      | 46.80    | 22            | 46      | 27.44    |

**XXIII.- CUENCA HIDROLOGICA RIO TLALTENANGO: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 16.76 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde el nacimiento del Río Tlaltenango hasta la estación hidrométrica El Zapote.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la polygonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Tlaltenango tiene una superficie de aportación de 2,550.2 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada al Norte por las cuencas hidrológicas Presa El Chique, Río Tepetongo y Río Bolaños 1, al Sur por las cuencas hidrológicas Río Juchipila 2 y Presa Santa Rosa, al Este por las cuencas hidrológicas Río Juchipila 1 y Río Juchipila 2 y al Oeste por la cuenca hidrológica Río Bolaños 2. Geográficamente se ubica dentro de la polygonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| P-112   | 103            | 1       | 25.18    | 21            | 59      | 30.95    |
| P-111   | 103            | 1       | 45.70    | 21            | 59      | 7.69     |
| P-110   | 103            | 1       | 57.76    | 21            | 58      | 8.54     |
| P-109   | 103            | 2       | 35.84    | 21            | 57      | 42.59    |
| P-108   | 103            | 2       | 49.92    | 21            | 56      | 39.66    |
| P-107   | 103            | 2       | 41.57    | 21            | 56      | 15.94    |
| P-106   | 103            | 3       | 5.65     | 21            | 56      | 12.41    |
| P-105   | 103            | 3       | 17.10    | 21            | 55      | 47.50    |
| P-104   | 103            | 4       | 19.49    | 21            | 55      | 29.24    |
| P-103   | 103            | 5       | 54.46    | 21            | 55      | 53.15    |
| P-102   | 103            | 7       | 2.32     | 21            | 55      | 57.22    |
| P-101   | 103            | 7       | 8.22     | 21            | 55      | 32.02    |
| P-100   | 103            | 7       | 43.97    | 21            | 55      | 11.42    |
| P-99    | 103            | 8       | 59.24    | 21            | 55      | 14.70    |
| P-98    | 103            | 9       | 17.14    | 21            | 54      | 48.31    |
| P-97    | 103            | 10      | 18.70    | 21            | 54      | 51.95    |
| P-96    | 103            | 10      | 55.31    | 21            | 54      | 38.88    |
| P-95    | 103            | 10      | 43.00    | 21            | 54      | 6.48     |
| P-94    | 103            | 11      | 0.13     | 21            | 53      | 50.42    |
| P-93    | 103            | 10      | 28.85    | 21            | 53      | 40.56    |
| P-92    | 103            | 10      | 27.01    | 21            | 53      | 23.78    |
| P-91    | 103            | 11      | 21.08    | 21            | 52      | 21.40    |
| P-90    | 103            | 11      | 10.79    | 21            | 52      | 1.96     |
| P-89    | 103            | 11      | 32.96    | 21            | 51      | 34.60    |
| P-88    | 103            | 11      | 16.01    | 21            | 51      | 1.26     |
| P-87    | 103            | 11      | 17.52    | 21            | 50      | 43.84    |
| P-86    | 103            | 11      | 42.68    | 21            | 50      | 27.89    |
| P-85    | 103            | 11      | 41.60    | 21            | 49      | 42.46    |
| P-84    | 103            | 11      | 56.90    | 21            | 48      | 43.34    |
| P-83    | 103            | 11      | 3.26     | 21            | 48      | 17.96    |
| P-82    | 103            | 9       | 59.36    | 21            | 48      | 44.03    |
| P-81    | 103            | 9       | 37.44    | 21            | 48      | 37.37    |
| P-80    | 103            | 9       | 28.04    | 21            | 48      | 22.10    |
| P-79    | 103            | 9       | 31.57    | 21            | 47      | 49.16    |
| P-78    | 103            | 8       | 47.54    | 21            | 47      | 37.79    |
| P-77    | 103            | 8       | 34.04    | 21            | 46      | 41.88    |
| P-76    | 103            | 9       | 32.47    | 21            | 45      | 41.80    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| P-75    | 103            | 9       | 35.35    | 21            | 44      | 49.16    |
| P-74    | 103            | 10      | 48.79    | 21            | 44      | 14.75    |
| P-73    | 103            | 10      | 18.91    | 21            | 43      | 39.72    |
| P-72    | 103            | 10      | 31.04    | 21            | 42      | 56.41    |
| P-71    | 103            | 10      | 9.37     | 21            | 42      | 35.68    |
| P-70    | 103            | 10      | 8.83     | 21            | 42      | 14.40    |
| P-69    | 103            | 10      | 41.09    | 21            | 42      | 6.70     |
| P-68    | 103            | 10      | 48.76    | 21            | 41      | 21.80    |
| P-67    | 103            | 11      | 5.86     | 21            | 41      | 25.76    |
| P-66    | 103            | 11      | 14.60    | 21            | 41      | 0.60     |
| P-65    | 103            | 11      | 55.32    | 21            | 40      | 35.69    |
| P-64    | 103            | 11      | 58.85    | 21            | 40      | 46.09    |
| P-63    | 103            | 12      | 6.37     | 21            | 40      | 42.31    |
| P-62    | 103            | 12      | 37.69    | 21            | 40      | 5.74     |
| P-61    | 103            | 12      | 33.26    | 21            | 39      | 51.34    |
| P-60    | 103            | 12      | 50.72    | 21            | 39      | 13.00    |
| P-59    | 103            | 12      | 34.42    | 21            | 39      | 5.40     |
| P-58    | 103            | 12      | 35.64    | 21            | 38      | 44.63    |
| P-57    | 103            | 12      | 7.13     | 21            | 38      | 30.16    |
| P-56    | 103            | 11      | 58.27    | 21            | 38      | 0.17     |
| P-55    | 103            | 12      | 9.72     | 21            | 37      | 47.46    |
| P-54    | 103            | 12      | 0.76     | 21            | 37      | 33.31    |
| P-53    | 103            | 12      | 10.19    | 21            | 37      | 18.16    |
| P-52    | 103            | 12      | 40.00    | 21            | 37      | 6.13     |
| P-51    | 103            | 12      | 10.66    | 21            | 36      | 39.46    |
| P-50    | 103            | 12      | 29.99    | 21            | 36      | 10.98    |
| Q-160   | 103            | 12      | 43.81    | 21            | 36      | 7.56     |
| Q-159   | 103            | 12      | 48.10    | 21            | 35      | 54.85    |
| Q-158   | 103            | 12      | 35.10    | 21            | 35      | 11.11    |
| Q-157   | 103            | 12      | 55.48    | 21            | 34      | 55.38    |
| Q-156   | 103            | 13      | 5.59     | 21            | 34      | 38.60    |
| Q-155   | 103            | 13      | 14.02    | 21            | 33      | 56.16    |
| Q-154   | 103            | 13      | 41.02    | 21            | 33      | 36.72    |
| Q-153   | 103            | 13      | 35.08    | 21            | 33      | 28.76    |
| Q-152   | 103            | 13      | 39.22    | 21            | 33      | 20.12    |
| Q-151   | 103            | 14      | 4.20     | 21            | 33      | 11.41    |
| Q-150   | 103            | 14      | 11.15    | 21            | 32      | 55.79    |
| Q-149   | 103            | 14      | 25.22    | 21            | 32      | 3.05     |
| Q-148   | 103            | 14      | 20.90    | 21            | 31      | 35.76    |
| Q-147   | 103            | 14      | 28.43    | 21            | 31      | 5.12     |
| Q-146   | 103            | 14      | 10.36    | 21            | 30      | 34.09    |
| Q-145   | 103            | 13      | 44.22    | 21            | 30      | 11.34    |
| Q-144   | 103            | 13      | 41.81    | 21            | 29      | 28.03    |
| Q-143   | 103            | 13      | 33.28    | 21            | 29      | 7.01     |
| Q-142   | 103            | 13      | 43.25    | 21            | 28      | 38.50    |
| Q-141   | 103            | 13      | 39.79    | 21            | 28      | 26.69    |
| Q-140   | 103            | 13      | 22.84    | 21            | 28      | 4.15     |
| Q-139   | 103            | 12      | 59.76    | 21            | 27      | 55.87    |
| Q-138   | 103            | 13      | 0.48     | 21            | 27      | 25.88    |
| Q-137   | 103            | 13      | 22.66    | 21            | 26      | 50.82    |
| Q-136   | 103            | 13      | 20.71    | 21            | 26      | 35.23    |
| Q-135   | 103            | 13      | 57.14    | 21            | 25      | 59.02    |
| Q-134   | 103            | 14      | 53.34    | 21            | 25      | 50.48    |
| Q-133   | 103            | 15      | 15.05    | 21            | 25      | 55.06    |
| Q-132   | 103            | 15      | 38.45    | 21            | 25      | 26.36    |
| Q-131   | 103            | 16      | 17.22    | 21            | 24      | 58.75    |
| Q-130   | 103            | 16      | 22.98    | 21            | 24      | 30.17    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Q-129   | 103            | 16      | 20.32    | 21            | 23      | 42.65    |
| Q-128   | 103            | 16      | 36.62    | 21            | 23      | 3.26     |
| Q-127   | 103            | 17      | 5.17     | 21            | 23      | 14.93    |
| Q-126   | 103            | 17      | 17.20    | 21            | 23      | 14.28    |
| Q-125   | 103            | 17      | 51.65    | 21            | 22      | 53.90    |
| Q-124   | 103            | 17      | 41.86    | 21            | 23      | 10.82    |
| Q-123   | 103            | 17      | 40.49    | 21            | 23      | 25.33    |
| Q-122   | 103            | 17      | 47.26    | 21            | 23      | 36.13    |
| Q-121   | 103            | 18      | 9.97     | 21            | 23      | 43.40    |
| Q-120   | 103            | 18      | 10.37    | 21            | 24      | 6.08     |
| Q-119   | 103            | 19      | 3.86     | 21            | 25      | 9.19     |
| Q-118   | 103            | 19      | 1.99     | 21            | 25      | 40.22    |
| Q-117   | 103            | 19      | 35.62    | 21            | 25      | 52.36    |
| Q-116   | 103            | 19      | 52.90    | 21            | 25      | 48.07    |
| Q-115   | 103            | 20      | 15.94    | 21            | 25      | 31.15    |
| Q-114   | 103            | 20      | 33.36    | 21            | 25      | 3.79     |
| Q-113   | 103            | 20      | 38.90    | 21            | 24      | 32.76    |
| Q-112   | 103            | 20      | 47.72    | 21            | 24      | 19.37    |
| Q-111   | 103            | 20      | 48.16    | 21            | 23      | 52.04    |
| Q-110   | 103            | 21      | 18.54    | 21            | 23      | 20.54    |
| Q-109   | 103            | 21      | 19.91    | 21            | 22      | 24.20    |
| Q-108   | 103            | 21      | 30.67    | 21            | 22      | 17.83    |
| Q-107   | 103            | 22      | 9.44     | 21            | 22      | 17.26    |
| Q-106   | 103            | 22      | 25.18    | 21            | 21      | 58.90    |
| Q-105   | 103            | 22      | 31.37    | 21            | 21      | 35.35    |
| Q-104   | 103            | 22      | 55.16    | 21            | 21      | 16.16    |
| Q-103   | 103            | 23      | 3.23     | 21            | 21      | 16.96    |
| Q-102   | 103            | 23      | 31.49    | 21            | 21      | 46.04    |
| Q-101   | 103            | 23      | 32.96    | 21            | 22      | 1.20     |
| Q-100   | 103            | 24      | 9.22     | 21            | 21      | 41.36    |
| Q-99    | 103            | 24      | 38.34    | 21            | 21      | 51.84    |
| Q-98    | 103            | 24      | 49.79    | 21            | 21      | 43.38    |
| Q-97    | 103            | 25      | 6.85     | 21            | 21      | 48.20    |
| Q-96    | 103            | 25      | 29.28    | 21            | 22      | 8.62     |
| Q-95    | 103            | 25      | 39.97    | 21            | 22      | 2.53     |
| Q-94    | 103            | 26      | 3.70     | 21            | 22      | 1.49     |
| Q-93    | 103            | 26      | 15.58    | 21            | 22      | 14.59    |
| Q-92    | 103            | 26      | 23.42    | 21            | 22      | 14.41    |
| Q-91    | 103            | 27      | 9.07     | 21            | 22      | 0.34     |
| Q-90    | 103            | 27      | 53.78    | 21            | 21      | 24.19    |
| Q-89    | 103            | 28      | 8.69     | 21            | 21      | 21.24    |
| T-163   | 103            | 28      | 36.48    | 21            | 21      | 40.79    |
| T-162   | 103            | 29      | 10.21    | 21            | 21      | 47.38    |
| T-161   | 103            | 30      | 28.51    | 21            | 22      | 47.53    |
| T-160   | 103            | 30      | 32.15    | 21            | 23      | 12.62    |
| T-159   | 103            | 30      | 28.40    | 21            | 23      | 23.96    |
| T-158   | 103            | 31      | 28.24    | 21            | 24      | 29.81    |
| T-157   | 103            | 31      | 58.55    | 21            | 25      | 18.16    |
| T-156   | 103            | 32      | 16.80    | 21            | 26      | 10.72    |
| T-155   | 103            | 32      | 13.49    | 21            | 26      | 21.52    |
| T-154   | 103            | 31      | 29.64    | 21            | 26      | 56.29    |
| T-153   | 103            | 32      | 18.17    | 21            | 27      | 3.02     |
| T-152   | 103            | 32      | 46.00    | 21            | 27      | 39.60    |
| T-151   | 103            | 33      | 9.00     | 21            | 27      | 50.08    |
| T-150   | 103            | 33      | 24.88    | 21            | 28      | 14.63    |
| T-149   | 103            | 33      | 17.89    | 21            | 28      | 41.59    |
| T-148   | 103            | 33      | 45.14    | 21            | 29      | 2.72     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| W-1     | 103            | 33      | 19.37    | 21            | 29      | 49.85    |
| W-2     | 103            | 32      | 14.50    | 21            | 30      | 28.51    |
| W-3     | 103            | 32      | 30.66    | 21            | 31      | 20.06    |
| W-4     | 103            | 32      | 46.79    | 21            | 31      | 43.68    |
| W-5     | 103            | 32      | 22.99    | 21            | 31      | 58.62    |
| W-6     | 103            | 32      | 8.16     | 21            | 32      | 31.31    |
| W-7     | 103            | 32      | 1.82     | 21            | 33      | 13.43    |
| W-8     | 103            | 31      | 45.77    | 21            | 33      | 23.22    |
| W-9     | 103            | 31      | 48.97    | 21            | 34      | 1.96     |
| W-10    | 103            | 31      | 6.74     | 21            | 34      | 18.48    |
| W-11    | 103            | 31      | 32.45    | 21            | 34      | 50.23    |
| W-12    | 103            | 31      | 42.74    | 21            | 34      | 49.40    |
| W-13    | 103            | 31      | 38.03    | 21            | 35      | 15.40    |
| W-14    | 103            | 31      | 53.22    | 21            | 35      | 27.85    |
| W-15    | 103            | 31      | 55.02    | 21            | 35      | 37.64    |
| W-16    | 103            | 31      | 48.76    | 21            | 35      | 48.77    |
| W-17    | 103            | 31      | 54.55    | 21            | 35      | 56.98    |
| W-18    | 103            | 32      | 9.42     | 21            | 35      | 55.28    |
| W-19    | 103            | 33      | 10.12    | 21            | 36      | 18.65    |
| W-20    | 103            | 32      | 53.38    | 21            | 36      | 31.72    |
| W-21    | 103            | 32      | 35.99    | 21            | 37      | 39.94    |
| W-22    | 103            | 32      | 40.31    | 21            | 37      | 52.32    |
| W-23    | 103            | 33      | 10.22    | 21            | 38      | 11.80    |
| W-24    | 103            | 33      | 3.96     | 21            | 38      | 57.95    |
| W-25    | 103            | 32      | 21.34    | 21            | 39      | 14.22    |
| W-26    | 103            | 32      | 33.22    | 21            | 39      | 36.54    |
| W-27    | 103            | 32      | 31.67    | 21            | 40      | 50.34    |
| W-28    | 103            | 32      | 14.10    | 21            | 40      | 58.22    |
| W-29    | 103            | 31      | 58.80    | 21            | 41      | 20.44    |
| W-30    | 103            | 31      | 30.47    | 21            | 41      | 28.32    |
| W-31    | 103            | 31      | 8.51     | 21            | 41      | 21.34    |
| W-32    | 103            | 31      | 20.28    | 21            | 41      | 0.24     |
| W-33    | 103            | 31      | 17.80    | 21            | 40      | 39.61    |
| W-34    | 103            | 30      | 46.91    | 21            | 41      | 2.11     |
| W-35    | 103            | 30      | 26.57    | 21            | 40      | 40.58    |
| W-36    | 103            | 30      | 11.45    | 21            | 40      | 4.94     |
| W-37    | 103            | 29      | 44.81    | 21            | 40      | 6.49     |
| W-38    | 103            | 28      | 45.77    | 21            | 41      | 10.68    |
| W-39    | 103            | 28      | 1.45     | 21            | 41      | 31.74    |
| W-40    | 103            | 27      | 8.68     | 21            | 42      | 29.34    |
| W-41    | 103            | 25      | 37.67    | 21            | 43      | 24.64    |
| W-42    | 103            | 25      | 12.25    | 21            | 45      | 13.75    |
| W-43    | 103            | 24      | 39.82    | 21            | 45      | 53.17    |
| W-44    | 103            | 24      | 22.18    | 21            | 46      | 35.76    |
| W-45    | 103            | 26      | 2.54     | 21            | 46      | 58.69    |
| W-46    | 103            | 26      | 23.68    | 21            | 47      | 34.44    |
| W-47    | 103            | 26      | 31.70    | 21            | 48      | 4.43     |
| W-48    | 103            | 26      | 33.07    | 21            | 48      | 50.58    |
| W-49    | 103            | 27      | 32.00    | 21            | 49      | 42.28    |
| W-50    | 103            | 27      | 23.62    | 21            | 51      | 28.15    |
| W-51    | 103            | 27      | 27.18    | 21            | 52      | 10.06    |
| W-52    | 103            | 27      | 40.68    | 21            | 52      | 32.81    |
| W-53    | 103            | 28      | 14.38    | 21            | 52      | 56.50    |
| W-54    | 103            | 28      | 30.22    | 21            | 53      | 52.44    |
| W-55    | 103            | 28      | 51.10    | 21            | 54      | 1.94     |
| W-56    | 103            | 30      | 5.72     | 21            | 54      | 0.86     |
| W-57    | 103            | 30      | 30.17    | 21            | 54      | 7.74     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| W-58    | 103            | 30      | 37.87    | 21            | 54      | 19.62    |
| W-59    | 103            | 30      | 47.81    | 21            | 54      | 23.47    |
| W-60    | 103            | 31      | 49.94    | 21            | 54      | 28.84    |
| W-61    | 103            | 32      | 1.07     | 21            | 54      | 49.14    |
| W-62    | 103            | 32      | 26.84    | 21            | 54      | 55.91    |
| W-63    | 103            | 32      | 31.06    | 21            | 55      | 5.77     |
| W-64    | 103            | 32      | 14.06    | 21            | 55      | 34.54    |
| W-65    | 103            | 32      | 24.94    | 21            | 55      | 52.57    |
| W-66    | 103            | 33      | 55.40    | 21            | 56      | 25.30    |
| W-67    | 103            | 32      | 31.31    | 21            | 56      | 55.61    |
| W-68    | 103            | 32      | 13.49    | 21            | 56      | 54.96    |
| W-69    | 103            | 32      | 3.19     | 21            | 57      | 24.48    |
| W-70    | 103            | 31      | 43.32    | 21            | 57      | 35.42    |
| W-71    | 103            | 31      | 14.92    | 21            | 57      | 43.31    |
| W-72    | 103            | 30      | 37.84    | 21            | 57      | 43.38    |
| W-73    | 103            | 30      | 17.03    | 21            | 58      | 16.54    |
| W-74    | 103            | 30      | 10.87    | 21            | 59      | 0.20     |
| W-75    | 103            | 29      | 48.95    | 21            | 59      | 14.24    |
| W-76    | 103            | 29      | 14.03    | 22            | 0       | 2.95     |
| W-77    | 103            | 28      | 45.48    | 22            | 0       | 16.88    |
| W-78    | 103            | 28      | 41.81    | 22            | 0       | 33.12    |
| W-79    | 103            | 27      | 43.56    | 22            | 0       | 39.64    |
| W-80    | 103            | 27      | 52.31    | 22            | 0       | 54.22    |
| W-81    | 103            | 27      | 48.02    | 22            | 1       | 27.12    |
| W-82    | 103            | 26      | 16.48    | 22            | 2       | 36.46    |
| W-83    | 103            | 26      | 23.71    | 22            | 2       | 58.81    |
| W-84    | 103            | 26      | 13.81    | 22            | 3       | 28.40    |
| W-85    | 103            | 25      | 46.09    | 22            | 3       | 17.57    |
| W-86    | 103            | 25      | 14.99    | 22            | 3       | 57.78    |
| W-87    | 103            | 24      | 35.46    | 22            | 3       | 46.98    |
| V-21    | 103            | 23      | 56.51    | 22            | 4       | 4.22     |
| V-20    | 103            | 23      | 37.61    | 22            | 3       | 46.76    |
| V-19    | 103            | 23      | 2.76     | 22            | 3       | 39.35    |
| V-18    | 103            | 22      | 13.19    | 22            | 3       | 54.18    |
| V-17    | 103            | 20      | 37.43    | 22            | 2       | 50.53    |
| V-16    | 103            | 20      | 10.75    | 22            | 3       | 49.50    |
| V-15    | 103            | 19      | 10.63    | 22            | 3       | 55.15    |
| V-14    | 103            | 18      | 52.85    | 22            | 2       | 50.10    |
| V-13    | 103            | 18      | 44.03    | 22            | 2       | 50.03    |
| V-12    | 103            | 17      | 27.46    | 22            | 3       | 32.47    |
| V-11    | 103            | 16      | 45.52    | 22            | 3       | 23.58    |
| V-10    | 103            | 15      | 59.51    | 22            | 3       | 38.23    |
| V-9     | 103            | 15      | 32.33    | 22            | 3       | 22.82    |
| V-8     | 103            | 14      | 59.71    | 22            | 3       | 21.06    |
| V-7     | 103            | 14      | 4.81     | 22            | 4       | 22.91    |
| V-6     | 103            | 13      | 46.63    | 22            | 3       | 38.45    |
| V-5     | 103            | 13      | 28.49    | 22            | 3       | 21.49    |
| V-4     | 103            | 12      | 52.60    | 22            | 4       | 29.39    |
| V-3     | 103            | 10      | 58.84    | 22            | 3       | 33.95    |
| V-2     | 103            | 10      | 32.05    | 22            | 3       | 38.95    |
| V-1     | 103            | 9       | 47.92    | 22            | 3       | 24.41    |
| O-68    | 103            | 9       | 36.32    | 22            | 3       | 48.06    |
| O-67    | 103            | 8       | 32.64    | 22            | 3       | 34.92    |
| O-66    | 103            | 8       | 13.74    | 22            | 3       | 40.14    |
| O-65    | 103            | 6       | 52.67    | 22            | 2       | 58.13    |
| O-64    | 103            | 4       | 26.87    | 22            | 3       | 24.44    |
| O-63    | 103            | 3       | 41.18    | 22            | 4       | 2.64     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| O-62    | 103            | 3       | 3.82     | 22            | 4       | 16.21    |
| O-61    | 103            | 1       | 42.92    | 22            | 3       | 47.09    |
| O-60    | 103            | 1       | 32.05    | 22            | 3       | 54.25    |
| O-59    | 103            | 1       | 37.70    | 22            | 4       | 12.94    |
| O-58    | 103            | 0       | 26.46    | 22            | 5       | 6.97     |
| O-57    | 102            | 59      | 41.24    | 22            | 4       | 34.03    |
| O-56    | 103            | 0       | 11.74    | 22            | 3       | 29.81    |
| O-55    | 103            | 0       | 9.43     | 22            | 2       | 58.88    |
| O-54    | 103            | 1       | 1.42     | 22            | 1       | 52.18    |
| O-53    | 103            | 1       | 13.84    | 22            | 0       | 59.80    |

**XXIV.- CUENCA HIDROLOGICA ARROYO LOBATOS: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 5.71 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde el nacimiento del Arroyo Lobatos hasta la estación hidrométrica La Florida.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Arroyo Lobatos tiene una superficie de aportación de 1,773.7 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada por las siguientes regiones y cuencas hidrológicas: al Norte y al Este por la región hidrológica número 36 Nazas-Aguanaval, al Sur por la cuenca hidrológica Río Bolaños 1 y al Oeste por la cuenca hidrológica Río San Juan. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| X-1     | 103            | 13      | 56.60    | 22            | 42      | 40.75    |
| X-2     | 103            | 14      | 47.44    | 22            | 42      | 34.70    |
| X-3     | 103            | 15      | 25.74    | 22            | 43      | 12.61    |
| X-4     | 103            | 15      | 47.52    | 22            | 42      | 57.20    |
| X-5     | 103            | 16      | 58.51    | 22            | 43      | 22.91    |
| X-6     | 103            | 17      | 3.26     | 22            | 43      | 32.77    |
| X-7     | 103            | 18      | 15.23    | 22            | 43      | 40.66    |
| X-8     | 103            | 18      | 28.55    | 22            | 43      | 48.86    |
| X-9     | 103            | 18      | 9.43     | 22            | 44      | 1.61     |
| X-10    | 103            | 18      | 24.52    | 22            | 44      | 16.66    |
| X-11    | 103            | 18      | 26.96    | 22            | 44      | 44.12    |
| X-12    | 103            | 18      | 52.67    | 22            | 44      | 50.75    |
| X-13    | 103            | 19      | 1.99     | 22            | 44      | 23.68    |
| X-14    | 103            | 19      | 28.06    | 22            | 44      | 18.42    |
| X-15    | 103            | 19      | 32.12    | 22            | 43      | 52.82    |
| X-16    | 103            | 19      | 58.48    | 22            | 43      | 41.63    |
| X-17    | 103            | 20      | 1.79     | 22            | 43      | 17.87    |
| X-18    | 103            | 20      | 29.80    | 22            | 43      | 9.37     |
| X-19    | 103            | 21      | 45.22    | 22            | 43      | 26.15    |
| X-20    | 103            | 22      | 41.02    | 22            | 43      | 16.50    |
| X-21    | 103            | 23      | 5.96     | 22            | 43      | 23.30    |
| X-22    | 103            | 24      | 4.72     | 22            | 42      | 49.10    |
| X-23    | 103            | 25      | 7.36     | 22            | 43      | 1.02     |
| X-24    | 103            | 26      | 52.30    | 22            | 42      | 36.25    |
| X-25    | 103            | 28      | 24.20    | 22            | 41      | 24.90    |
| X-26    | 103            | 28      | 50.34    | 22            | 41      | 22.06    |
| X-27    | 103            | 29      | 30.88    | 22            | 40      | 26.22    |
| X-28    | 103            | 29      | 4.52     | 22            | 40      | 10.67    |
| X-29    | 103            | 30      | 7.24     | 22            | 39      | 12.20    |
| X-30    | 103            | 31      | 44.87    | 22            | 38      | 51.11    |
| X-31    | 103            | 33      | 55.48    | 22            | 39      | 43.16    |
| X-32    | 103            | 35      | 3.77     | 22            | 39      | 49.90    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| X-33    | 103            | 35      | 59.50    | 22            | 40      | 15.92    |
| X-34    | 103            | 36      | 22.75    | 22            | 40      | 32.74    |
| X-35    | 103            | 36      | 27.97    | 22            | 40      | 58.55    |
| X-36    | 103            | 36      | 11.88    | 22            | 41      | 11.04    |
| X-37    | 103            | 37      | 2.86     | 22            | 41      | 17.59    |
| X-38    | 103            | 37      | 23.48    | 22            | 41      | 32.24    |
| X-39    | 103            | 37      | 55.70    | 22            | 42      | 40.36    |
| X-40    | 103            | 38      | 25.94    | 22            | 42      | 52.92    |
| X-41    | 103            | 38      | 21.80    | 22            | 43      | 22.04    |
| X-42    | 103            | 38      | 50.10    | 22            | 43      | 14.92    |
| X-43    | 103            | 39      | 39.28    | 22            | 43      | 20.93    |
| X-44    | 103            | 39      | 51.95    | 22            | 43      | 53.26    |
| X-45    | 103            | 40      | 26.87    | 22            | 43      | 55.92    |
| X-46    | 103            | 40      | 44.00    | 22            | 44      | 21.70    |
| X-47    | 103            | 42      | 5.11     | 22            | 43      | 56.10    |
| X-48    | 103            | 42      | 8.24     | 22            | 43      | 38.46    |
| X-49    | 103            | 42      | 47.20    | 22            | 43      | 27.08    |
| X-50    | 103            | 43      | 22.08    | 22            | 43      | 32.66    |
| X-51    | 103            | 43      | 48.14    | 22            | 44      | 19.18    |
| X-52    | 103            | 43      | 37.34    | 22            | 44      | 34.08    |
| X-53    | 103            | 44      | 10.46    | 22            | 45      | 19.48    |
| X-54    | 103            | 43      | 9.30     | 22            | 46      | 9.16     |
| X-55    | 103            | 43      | 40.04    | 22            | 46      | 55.85    |
| X-56    | 103            | 43      | 10.99    | 22            | 48      | 9.22     |
| X-57    | 103            | 43      | 34.03    | 22            | 48      | 36.68    |
| X-58    | 103            | 43      | 10.96    | 22            | 48      | 53.24    |
| X-59    | 103            | 43      | 21.83    | 22            | 50      | 46.82    |
| X-60    | 103            | 43      | 12.94    | 22            | 51      | 0.79     |
| X-61    | 103            | 42      | 35.35    | 22            | 50      | 54.10    |
| X-62    | 103            | 42      | 10.44    | 22            | 51      | 16.31    |
| X-63    | 103            | 40      | 53.40    | 22            | 51      | 26.32    |
| X-64    | 103            | 40      | 34.61    | 22            | 52      | 34.97    |
| X-65    | 103            | 40      | 41.88    | 22            | 53      | 0.10     |
| X-66    | 103            | 39      | 59.29    | 22            | 54      | 20.27    |
| X-67    | 103            | 40      | 27.19    | 22            | 54      | 54.50    |
| X-68    | 103            | 40      | 18.59    | 22            | 55      | 4.04     |
| X-69    | 103            | 40      | 42.46    | 22            | 55      | 23.66    |
| X-70    | 103            | 40      | 44.22    | 22            | 55      | 58.80    |
| X-71    | 103            | 40      | 23.41    | 22            | 56      | 13.13    |
| X-72    | 103            | 40      | 29.82    | 22            | 56      | 51.79    |
| X-73    | 103            | 39      | 55.51    | 22            | 58      | 11.24    |
| X-74    | 103            | 39      | 33.66    | 22            | 58      | 20.86    |
| X-75    | 103            | 38      | 53.81    | 22            | 58      | 7.68     |
| X-76    | 103            | 37      | 53.29    | 22            | 58      | 36.84    |
| X-77    | 103            | 37      | 26.58    | 22            | 58      | 16.93    |
| X-78    | 103            | 36      | 6.01     | 23            | 1       | 50.63    |
| X-79    | 103            | 35      | 49.96    | 23            | 2       | 5.96     |
| X-80    | 103            | 33      | 30.60    | 23            | 2       | 24.65    |
| X-81    | 103            | 33      | 32.11    | 23            | 3       | 42.01    |
| X-82    | 103            | 34      | 2.06     | 23            | 4       | 12.25    |
| X-83    | 103            | 33      | 35.03    | 23            | 4       | 58.37    |
| X-84    | 103            | 33      | 48.82    | 23            | 5       | 20.40    |
| X-85    | 103            | 32      | 18.53    | 23            | 5       | 13.67    |
| X-86    | 103            | 32      | 24.00    | 23            | 5       | 44.45    |
| X-87    | 103            | 30      | 41.54    | 23            | 5       | 55.32    |
| X-88    | 103            | 29      | 14.17    | 23            | 5       | 0.89     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| X-89    | 103            | 29      | 8.88     | 23            | 5       | 16.48    |
| X-90    | 103            | 28      | 22.22    | 23            | 5       | 18.67    |
| X-91    | 103            | 27      | 51.70    | 23            | 6       | 5.69     |
| X-92    | 103            | 27      | 9.11     | 23            | 6       | 18.76    |
| X-93    | 103            | 26      | 39.48    | 23            | 5       | 9.56     |
| X-94    | 103            | 27      | 0.29     | 23            | 4       | 46.81    |
| X-95    | 103            | 26      | 24.83    | 23            | 4       | 17.65    |
| X-96    | 103            | 25      | 37.13    | 23            | 4       | 22.76    |
| X-97    | 103            | 24      | 33.08    | 23            | 5       | 6.65     |
| X-98    | 103            | 23      | 37.14    | 23            | 4       | 27.84    |
| X-99    | 103            | 23      | 16.30    | 23            | 4       | 39.32    |
| X-100   | 103            | 22      | 21.07    | 23            | 4       | 27.16    |
| X-101   | 103            | 21      | 45.14    | 23            | 3       | 34.34    |
| X-102   | 103            | 22      | 4.33     | 23            | 3       | 5.65     |
| X-103   | 103            | 21      | 25.96    | 23            | 2       | 47.04    |
| X-104   | 103            | 21      | 12.31    | 23            | 2       | 1.03     |
| X-105   | 103            | 19      | 33.49    | 23            | 1       | 19.13    |
| X-106   | 103            | 18      | 53.46    | 22            | 59      | 50.06    |
| X-107   | 103            | 18      | 34.63    | 22            | 59      | 46.82    |
| X-108   | 103            | 17      | 48.70    | 22            | 58      | 45.52    |
| X-109   | 103            | 17      | 25.33    | 22            | 58      | 45.66    |
| X-110   | 103            | 17      | 5.35     | 22            | 58      | 20.46    |
| X-111   | 103            | 16      | 27.16    | 22            | 58      | 26.26    |
| X-112   | 103            | 15      | 10.98    | 22            | 57      | 39.60    |
| X-113   | 103            | 15      | 7.38     | 22            | 57      | 23.08    |
| X-114   | 103            | 15      | 30.71    | 22            | 56      | 57.70    |
| X-115   | 103            | 14      | 55.93    | 22            | 56      | 16.40    |
| X-116   | 103            | 14      | 31.42    | 22            | 56      | 2.47     |
| X-117   | 103            | 13      | 53.15    | 22            | 56      | 24.94    |
| X-118   | 103            | 12      | 45.76    | 22            | 56      | 27.38    |
| X-119   | 103            | 12      | 8.39     | 22            | 56      | 6.04     |
| X-120   | 103            | 12      | 8.42     | 22            | 55      | 40.33    |
| X-121   | 103            | 10      | 50.92    | 22            | 55      | 34.57    |
| X-122   | 103            | 11      | 9.28     | 22            | 55      | 27.01    |
| X-123   | 103            | 11      | 59.78    | 22            | 53      | 32.28    |
| X-124   | 103            | 12      | 15.91    | 22            | 53      | 26.23    |
| X-125   | 103            | 12      | 11.99    | 22            | 52      | 6.74     |
| X-126   | 103            | 12      | 37.76    | 22            | 51      | 41.51    |
| X-127   | 103            | 12      | 24.26    | 22            | 51      | 14.54    |
| X-128   | 103            | 12      | 41.08    | 22            | 50      | 47.94    |
| X-129   | 103            | 13      | 12.22    | 22            | 50      | 35.05    |
| X-130   | 103            | 12      | 56.59    | 22            | 49      | 12.11    |
| X-131   | 103            | 13      | 48.65    | 22            | 48      | 22.68    |
| X-132   | 103            | 13      | 50.66    | 22            | 47      | 59.75    |
| X-133   | 103            | 13      | 31.98    | 22            | 47      | 44.70    |
| X-134   | 103            | 13      | 55.70    | 22            | 47      | 17.09    |
| X-135   | 103            | 13      | 45.55    | 22            | 46      | 59.27    |
| X-136   | 103            | 14      | 16.55    | 22            | 46      | 13.30    |
| X-137   | 103            | 13      | 59.92    | 22            | 45      | 51.44    |
| X-138   | 103            | 14      | 3.80     | 22            | 45      | 32.98    |
| X-139   | 103            | 14      | 21.16    | 22            | 45      | 23.83    |
| X-140   | 103            | 14      | 11.98    | 22            | 45      | 5.62     |
| X-141   | 103            | 13      | 37.63    | 22            | 44      | 59.32    |
| X-142   | 103            | 13      | 51.10    | 22            | 44      | 22.70    |
| X-143   | 103            | 13      | 32.20    | 22            | 43      | 3.97     |

**XXV.- CUENCA HIDROLOGICA RIO BOLAÑOS 1: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 65.27 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde las estaciones hidrométricas La Gloria, El Zapote y La Florida, hasta la estación hidrométrica Bolaños.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la polygonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Bolaños 1 tiene una superficie de aportación de 4,434.2 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada por las siguientes cuencas hidrológicas: al Norte por la cuenca hidrológica Arroyo Lobatos, al Sur por la cuenca hidrológica Río Bolaños 2, al Este por las cuencas hidrológicas Río Tepetongo y Río Tlaltenango y al Oeste por las cuencas hidrológicas Río San Juan y Río Atengo. Geográficamente se ubica dentro de la polygonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Y-130   | 103            | 13      | 55.63    | 22            | 42      | 13.64    |
| Y-131   | 103            | 13      | 24.20    | 22            | 42      | 9.76     |
| V-90    | 103            | 12      | 25.63    | 22            | 40      | 48.07    |
| V-89    | 103            | 12      | 38.95    | 22            | 40      | 20.46    |
| V-88    | 103            | 13      | 2.32     | 22            | 39      | 59.26    |
| V-87    | 103            | 13      | 23.59    | 22            | 40      | 7.97     |
| V-86    | 103            | 13      | 35.76    | 22            | 39      | 55.87    |
| V-85    | 103            | 14      | 25.58    | 22            | 39      | 59.26    |
| V-84    | 103            | 14      | 55.82    | 22            | 39      | 48.13    |
| V-83    | 103            | 15      | 14.62    | 22            | 39      | 37.44    |
| V-82    | 103            | 15      | 14.94    | 22            | 39      | 25.34    |
| V-81    | 103            | 16      | 11.32    | 22            | 39      | 1.94     |
| V-80    | 103            | 15      | 49.46    | 22            | 38      | 17.12    |
| V-79    | 103            | 15      | 54.61    | 22            | 38      | 7.98     |
| V-78    | 103            | 16      | 17.29    | 22            | 38      | 8.20     |
| V-77    | 103            | 16      | 27.98    | 22            | 37      | 54.84    |
| V-76    | 103            | 17      | 9.96     | 22            | 37      | 58.98    |
| V-75    | 103            | 17      | 43.98    | 22            | 37      | 40.84    |
| V-74    | 103            | 17      | 21.95    | 22            | 37      | 14.52    |
| V-73    | 103            | 17      | 6.90     | 22            | 37      | 23.99    |
| V-72    | 103            | 16      | 37.52    | 22            | 36      | 40.79    |
| V-71    | 103            | 17      | 1.03     | 22            | 35      | 25.26    |
| V-70    | 103            | 16      | 38.53    | 22            | 35      | 4.52     |
| V-69    | 103            | 16      | 48.36    | 22            | 34      | 16.64    |
| V-68    | 103            | 16      | 24.42    | 22            | 33      | 41.33    |
| V-67    | 103            | 16      | 1.49     | 22            | 33      | 28.62    |
| V-66    | 103            | 16      | 14.48    | 22            | 32      | 52.12    |
| V-65    | 103            | 16      | 9.59     | 22            | 32      | 26.81    |
| V-64    | 103            | 17      | 1.43     | 22            | 31      | 45.62    |
| V-63    | 103            | 16      | 29.24    | 22            | 31      | 6.89     |
| V-62    | 103            | 16      | 44.44    | 22            | 30      | 42.23    |
| V-61    | 103            | 16      | 25.25    | 22            | 29      | 57.44    |
| V-60    | 103            | 16      | 57.00    | 22            | 29      | 1.97     |
| V-59    | 103            | 16      | 46.70    | 22            | 28      | 47.10    |
| V-58    | 103            | 16      | 56.71    | 22            | 28      | 27.12    |
| V-57    | 103            | 16      | 22.12    | 22            | 28      | 12.14    |
| V-56    | 103            | 16      | 20.86    | 22            | 27      | 28.69    |
| V-55    | 103            | 16      | 37.45    | 22            | 26      | 45.60    |
| V-54    | 103            | 16      | 0.01     | 22            | 25      | 49.94    |
| V-53    | 103            | 16      | 26.29    | 22            | 25      | 3.14     |
| V-52    | 103            | 16      | 21.86    | 22            | 24      | 22.79    |
| V-51    | 103            | 16      | 35.40    | 22            | 23      | 46.28    |
| V-50    | 103            | 17      | 20.33    | 22            | 23      | 9.53     |
| V-49    | 103            | 17      | 19.21    | 22            | 22      | 48.79    |
| V-48    | 103            | 17      | 55.82    | 22            | 21      | 54.50    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| V-47    | 103            | 18      | 6.59     | 22            | 21      | 22.79    |
| V-46    | 103            | 17      | 53.34    | 22            | 20      | 11.08    |
| V-45    | 103            | 17      | 58.20    | 22            | 19      | 35.29    |
| V-44    | 103            | 18      | 22.75    | 22            | 19      | 14.38    |
| V-43    | 103            | 18      | 0.47     | 22            | 18      | 43.85    |
| V-42    | 103            | 17      | 22.34    | 22            | 18      | 49.68    |
| V-41    | 103            | 17      | 13.81    | 22            | 18      | 33.73    |
| V-40    | 103            | 17      | 13.99    | 22            | 17      | 54.35    |
| V-39    | 103            | 17      | 43.26    | 22            | 17      | 5.82     |
| V-38    | 103            | 18      | 8.14     | 22            | 15      | 45.79    |
| V-37    | 103            | 17      | 20.00    | 22            | 15      | 11.09    |
| V-36    | 103            | 17      | 49.49    | 22            | 14      | 43.12    |
| V-35    | 103            | 18      | 25.67    | 22            | 13      | 27.23    |
| V-34    | 103            | 19      | 43.21    | 22            | 12      | 24.66    |
| V-33    | 103            | 20      | 31.49    | 22            | 10      | 47.64    |
| V-32    | 103            | 21      | 22.57    | 22            | 9       | 51.91    |
| V-31    | 103            | 20      | 51.36    | 22            | 8       | 59.53    |
| V-30    | 103            | 20      | 54.02    | 22            | 8       | 39.19    |
| V-29    | 103            | 21      | 17.46    | 22            | 8       | 17.59    |
| V-28    | 103            | 21      | 32.83    | 22            | 7       | 29.10    |
| V-27    | 103            | 22      | 25.61    | 22            | 7       | 4.73     |
| V-26    | 103            | 22      | 38.17    | 22            | 6       | 5.80     |
| V-25    | 103            | 23      | 9.28     | 22            | 5       | 10.32    |
| V-24    | 103            | 24      | 0.32     | 22            | 4       | 47.57    |
| V-23    | 103            | 23      | 51.54    | 22            | 4       | 30.04    |
| V-22    | 103            | 23      | 52.40    | 22            | 4       | 5.45     |
| V-21    | 103            | 23      | 56.51    | 22            | 4       | 4.22     |
| W-87    | 103            | 24      | 35.46    | 22            | 3       | 46.98    |
| W-86    | 103            | 25      | 14.99    | 22            | 3       | 57.78    |
| W-85    | 103            | 25      | 46.09    | 22            | 3       | 17.57    |
| W-84    | 103            | 26      | 13.81    | 22            | 3       | 28.40    |
| W-83    | 103            | 26      | 23.71    | 22            | 2       | 58.81    |
| W-82    | 103            | 26      | 16.48    | 22            | 2       | 36.46    |
| W-81    | 103            | 27      | 48.02    | 22            | 1       | 27.12    |
| W-80    | 103            | 27      | 52.31    | 22            | 0       | 54.22    |
| W-79    | 103            | 27      | 43.56    | 22            | 0       | 39.64    |
| W-78    | 103            | 28      | 41.81    | 22            | 0       | 33.12    |
| W-77    | 103            | 28      | 45.48    | 22            | 0       | 16.88    |
| W-76    | 103            | 29      | 14.03    | 22            | 0       | 2.95     |
| W-75    | 103            | 29      | 48.95    | 21            | 59      | 14.24    |
| W-74    | 103            | 30      | 10.87    | 21            | 59      | 0.20     |
| W-73    | 103            | 30      | 17.03    | 21            | 58      | 16.54    |
| W-72    | 103            | 30      | 37.84    | 21            | 57      | 43.38    |
| W-71    | 103            | 31      | 14.92    | 21            | 57      | 43.31    |
| W-70    | 103            | 31      | 43.32    | 21            | 57      | 35.42    |
| W-69    | 103            | 32      | 3.19     | 21            | 57      | 24.48    |
| W-68    | 103            | 32      | 13.49    | 21            | 56      | 54.96    |
| W-67    | 103            | 32      | 31.31    | 21            | 56      | 55.61    |
| Y-1     | 103            | 32      | 59.46    | 21            | 57      | 8.68     |
| Y-2     | 103            | 33      | 49.10    | 21            | 57      | 13.18    |
| Y-3     | 103            | 32      | 59.75    | 21            | 58      | 14.84    |
| Y-4     | 103            | 32      | 45.82    | 21            | 58      | 56.53    |
| Y-5     | 103            | 34      | 31.22    | 21            | 58      | 55.60    |
| Y-6     | 103            | 34      | 56.96    | 21            | 58      | 9.88     |
| Y-7     | 103            | 35      | 41.06    | 21            | 58      | 5.59     |
| Y-8     | 103            | 35      | 57.88    | 21            | 58      | 23.20    |
| Y-9     | 103            | 36      | 39.17    | 21            | 58      | 38.21    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Y-10    | 103            | 37      | 2.71     | 21            | 58      | 35.98    |
| Y-11    | 103            | 37      | 9.44     | 21            | 59      | 2.44     |
| Y-12    | 103            | 37      | 28.27    | 21            | 58      | 53.65    |
| Y-13    | 103            | 38      | 9.28     | 21            | 58      | 8.44     |
| Y-14    | 103            | 38      | 28.75    | 21            | 56      | 54.78    |
| Y-15    | 103            | 38      | 46.82    | 21            | 56      | 28.93    |
| Y-16    | 103            | 39      | 54.76    | 21            | 55      | 55.49    |
| Y-17    | 103            | 40      | 10.67    | 21            | 55      | 49.15    |
| Y-18    | 103            | 40      | 36.77    | 21            | 55      | 52.21    |
| Y-19    | 103            | 40      | 45.91    | 21            | 56      | 13.85    |
| Y-20    | 103            | 40      | 33.49    | 21            | 56      | 43.62    |
| Y-21    | 103            | 41      | 21.55    | 21            | 56      | 25.84    |
| Y-22    | 103            | 41      | 48.44    | 21            | 56      | 47.18    |
| Y-23    | 103            | 42      | 26.39    | 21            | 56      | 54.85    |
| Y-24    | 103            | 42      | 27.43    | 21            | 56      | 25.22    |
| Y-25    | 103            | 43      | 3.36     | 21            | 54      | 54.90    |
| Y-26    | 103            | 43      | 23.95    | 21            | 54      | 47.09    |
| Y-27    | 103            | 43      | 29.35    | 21            | 54      | 28.84    |
| Y-28    | 103            | 44      | 5.93     | 21            | 53      | 53.99    |
| Y-29    | 103            | 44      | 3.59     | 21            | 53      | 17.77    |
| Y-30    | 103            | 44      | 26.09    | 21            | 52      | 58.51    |
| Y-31    | 103            | 44      | 3.30     | 21            | 52      | 30.25    |
| Y-32    | 103            | 44      | 34.58    | 21            | 52      | 2.82     |
| Y-33    | 103            | 44      | 38.40    | 21            | 51      | 14.04    |
| Y-34    | 103            | 45      | 26.71    | 21            | 50      | 15.22    |
| Y-35    | 103            | 46      | 1.70     | 21            | 50      | 14.06    |
| Y-36    | 103            | 46      | 12.36    | 21            | 50      | 5.46     |
| Y-37    | 103            | 46      | 11.46    | 21            | 49      | 46.13    |
| Y-38    | 103            | 46      | 31.73    | 21            | 49      | 31.98    |
| Y-39    | 103            | 47      | 6.14     | 21            | 49      | 38.68    |
| Y-40    | 103            | 47      | 52.40    | 21            | 50      | 22.06    |
| Y-41    | 103            | 48      | 27.58    | 21            | 49      | 57.58    |
| Y-42    | 103            | 49      | 33.56    | 21            | 50      | 2.18     |
| Y-43    | 103            | 49      | 49.58    | 21            | 49      | 55.24    |
| Y-44    | 103            | 50      | 20.72    | 21            | 50      | 4.45     |
| Y-45    | 103            | 50      | 42.43    | 21            | 49      | 53.98    |
| Y-46    | 103            | 52      | 20.53    | 21            | 50      | 24.00    |
| Y-47    | 103            | 52      | 27.19    | 21            | 51      | 22.46    |
| Y-48    | 103            | 52      | 2.60     | 21            | 51      | 52.74    |
| Y-49    | 103            | 51      | 27.94    | 21            | 52      | 10.20    |
| Y-50    | 103            | 51      | 38.52    | 21            | 52      | 55.52    |
| Y-51    | 103            | 52      | 12.43    | 21            | 53      | 23.42    |
| Y-52    | 103            | 52      | 5.99     | 21            | 54      | 10.48    |
| Y-53    | 103            | 52      | 27.08    | 21            | 54      | 52.02    |
| Y-54    | 103            | 52      | 16.32    | 21            | 55      | 14.70    |
| Y-55    | 103            | 52      | 39.18    | 21            | 55      | 33.42    |
| Y-56    | 103            | 52      | 2.46     | 21            | 56      | 15.18    |
| Y-57    | 103            | 52      | 42.78    | 21            | 56      | 45.71    |
| Y-58    | 103            | 52      | 12.11    | 21            | 57      | 5.83     |
| Y-59    | 103            | 52      | 28.70    | 21            | 57      | 37.69    |
| Y-60    | 103            | 52      | 56.78    | 21            | 57      | 52.27    |
| Y-61    | 103            | 53      | 10.32    | 21            | 58      | 27.77    |
| Y-62    | 103            | 52      | 24.71    | 21            | 58      | 54.98    |
| Y-63    | 103            | 52      | 23.38    | 21            | 59      | 26.70    |
| Y-64    | 103            | 53      | 2.29     | 21            | 59      | 8.02     |
| Y-65    | 103            | 53      | 15.94    | 21            | 59      | 13.16    |
| Y-66    | 103            | 53      | 20.72    | 22            | 1       | 7.18     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Y-67    | 103            | 53      | 18.31    | 22            | 1       | 21.43    |
| Y-68    | 103            | 52      | 47.39    | 22            | 1       | 22.76    |
| Y-69    | 103            | 52      | 55.24    | 22            | 1       | 43.79    |
| Y-70    | 103            | 52      | 37.63    | 22            | 3       | 35.68    |
| Y-71    | 103            | 52      | 15.17    | 22            | 4       | 9.34     |
| Y-72    | 103            | 52      | 30.29    | 22            | 4       | 48.36    |
| Y-73    | 103            | 52      | 17.62    | 22            | 5       | 9.46     |
| Y-74    | 103            | 52      | 14.45    | 22            | 6       | 10.98    |
| Y-75    | 103            | 52      | 32.48    | 22            | 6       | 23.94    |
| Y-76    | 103            | 52      | 13.73    | 22            | 6       | 38.70    |
| Y-77    | 103            | 52      | 41.70    | 22            | 7       | 57.79    |
| Y-78    | 103            | 53      | 14.06    | 22            | 8       | 6.61     |
| Y-79    | 103            | 53      | 27.06    | 22            | 9       | 1.80     |
| Y-80    | 103            | 54      | 14.44    | 22            | 9       | 49.82    |
| Y-81    | 103            | 54      | 20.77    | 22            | 10      | 17.04    |
| Y-82    | 103            | 53      | 51.43    | 22            | 10      | 34.54    |
| Y-83    | 103            | 53      | 20.22    | 22            | 10      | 16.36    |
| Y-84    | 103            | 53      | 16.51    | 22            | 11      | 51.68    |
| Y-85    | 103            | 52      | 59.92    | 22            | 11      | 51.58    |
| Y-86    | 103            | 52      | 0.19     | 22            | 13      | 13.62    |
| Y-87    | 103            | 51      | 43.27    | 22            | 13      | 15.74    |
| Y-88    | 103            | 51      | 56.59    | 22            | 14      | 37.18    |
| Y-89    | 103            | 51      | 39.53    | 22            | 14      | 57.77    |
| Y-90    | 103            | 51      | 42.70    | 22            | 15      | 32.65    |
| Y-91    | 103            | 51      | 18.29    | 22            | 15      | 47.70    |
| Y-92    | 103            | 50      | 30.37    | 22            | 15      | 28.08    |
| Y-93    | 103            | 50      | 12.23    | 22            | 15      | 58.43    |
| Y-94    | 103            | 50      | 11.04    | 22            | 16      | 34.50    |
| Y-95    | 103            | 49      | 49.66    | 22            | 16      | 53.87    |
| Y-96    | 103            | 50      | 15.54    | 22            | 19      | 5.56     |
| Y-97    | 103            | 50      | 38.58    | 22            | 19      | 36.91    |
| Y-98    | 103            | 50      | 42.29    | 22            | 20      | 37.97    |
| Y-99    | 103            | 49      | 35.54    | 22            | 21      | 20.70    |
| Y-100   | 103            | 48      | 50.69    | 22            | 22      | 43.82    |
| Y-101   | 103            | 48      | 33.34    | 22            | 23      | 51.86    |
| Y-102   | 103            | 48      | 48.82    | 22            | 24      | 21.64    |
| Y-103   | 103            | 48      | 33.01    | 22            | 25      | 28.27    |
| Y-104   | 103            | 48      | 43.85    | 22            | 26      | 19.07    |
| Y-105   | 103            | 48      | 0.32     | 22            | 27      | 6.48     |
| Y-106   | 103            | 48      | 14.54    | 22            | 27      | 51.16    |
| Y-107   | 103            | 47      | 21.44    | 22            | 28      | 11.28    |
| Y-108   | 103            | 46      | 59.02    | 22            | 29      | 8.12     |
| Y-109   | 103            | 47      | 11.47    | 22            | 29      | 22.74    |
| Y-110   | 103            | 47      | 7.51     | 22            | 30      | 37.44    |
| Y-111   | 103            | 46      | 17.87    | 22            | 32      | 41.46    |
| Y-112   | 103            | 46      | 22.30    | 22            | 33      | 16.13    |
| Y-113   | 103            | 45      | 49.93    | 22            | 34      | 5.70     |
| Y-114   | 103            | 45      | 46.12    | 22            | 34      | 48.65    |
| Y-115   | 103            | 45      | 16.34    | 22            | 34      | 51.02    |
| Y-116   | 103            | 44      | 55.28    | 22            | 35      | 22.24    |
| Y-117   | 103            | 44      | 54.60    | 22            | 37      | 28.52    |
| Y-118   | 103            | 44      | 59.35    | 22            | 38      | 5.96     |
| Y-119   | 103            | 44      | 43.51    | 22            | 38      | 25.12    |
| Y-120   | 103            | 44      | 52.15    | 22            | 38      | 53.34    |
| Y-121   | 103            | 44      | 11.26    | 22            | 39      | 31.50    |
| Y-122   | 103            | 44      | 22.27    | 22            | 39      | 51.37    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Y-123   | 103            | 43      | 26.08    | 22            | 40      | 20.53    |
| Y-124   | 103            | 43      | 45.80    | 22            | 40      | 32.05    |
| Y-125   | 103            | 43      | 52.07    | 22            | 40      | 59.56    |
| Y-126   | 103            | 44      | 16.84    | 22            | 41      | 3.88     |
| Y-127   | 103            | 44      | 49.78    | 22            | 41      | 30.84    |
| Y-128   | 103            | 43      | 50.88    | 22            | 43      | 16.03    |
| X-50    | 103            | 43      | 22.08    | 22            | 43      | 32.66    |
| X-49    | 103            | 42      | 47.20    | 22            | 43      | 27.08    |
| X-48    | 103            | 42      | 8.24     | 22            | 43      | 38.46    |
| X-47    | 103            | 42      | 5.11     | 22            | 43      | 56.10    |
| X-46    | 103            | 40      | 44.00    | 22            | 44      | 21.70    |
| X-45    | 103            | 40      | 26.87    | 22            | 43      | 55.92    |
| X-44    | 103            | 39      | 51.95    | 22            | 43      | 53.26    |
| X-43    | 103            | 39      | 39.28    | 22            | 43      | 20.93    |
| X-42    | 103            | 38      | 50.10    | 22            | 43      | 14.92    |
| X-41    | 103            | 38      | 21.80    | 22            | 43      | 22.04    |
| X-40    | 103            | 38      | 25.94    | 22            | 42      | 52.92    |
| X-39    | 103            | 37      | 55.70    | 22            | 42      | 40.36    |
| X-38    | 103            | 37      | 23.48    | 22            | 41      | 32.24    |
| X-37    | 103            | 37      | 2.86     | 22            | 41      | 17.59    |
| X-36    | 103            | 36      | 11.88    | 22            | 41      | 11.04    |
| X-35    | 103            | 36      | 27.97    | 22            | 40      | 58.55    |
| X-34    | 103            | 36      | 22.75    | 22            | 40      | 32.74    |
| X-33    | 103            | 35      | 59.50    | 22            | 40      | 15.92    |
| X-32    | 103            | 35      | 3.77     | 22            | 39      | 49.90    |
| X-31    | 103            | 33      | 55.48    | 22            | 39      | 43.16    |
| X-30    | 103            | 31      | 44.87    | 22            | 38      | 51.11    |
| X-29    | 103            | 30      | 7.24     | 22            | 39      | 12.20    |
| X-28    | 103            | 29      | 4.52     | 22            | 40      | 10.67    |
| X-27    | 103            | 29      | 30.88    | 22            | 40      | 26.22    |
| X-26    | 103            | 28      | 50.34    | 22            | 41      | 22.06    |
| X-25    | 103            | 28      | 24.20    | 22            | 41      | 24.90    |
| X-24    | 103            | 26      | 52.30    | 22            | 42      | 36.25    |
| X-23    | 103            | 25      | 7.36     | 22            | 43      | 1.02     |
| X-22    | 103            | 24      | 4.72     | 22            | 42      | 49.10    |
| X-21    | 103            | 23      | 5.96     | 22            | 43      | 23.30    |
| X-20    | 103            | 22      | 41.02    | 22            | 43      | 16.50    |
| X-19    | 103            | 21      | 45.22    | 22            | 43      | 26.15    |
| X-18    | 103            | 20      | 29.80    | 22            | 43      | 9.37     |
| X-17    | 103            | 20      | 1.79     | 22            | 43      | 17.87    |
| X-16    | 103            | 19      | 58.48    | 22            | 43      | 41.63    |
| X-15    | 103            | 19      | 32.12    | 22            | 43      | 52.82    |
| X-14    | 103            | 19      | 28.06    | 22            | 44      | 18.42    |
| X-13    | 103            | 19      | 1.99     | 22            | 44      | 23.68    |
| X-12    | 103            | 18      | 52.67    | 22            | 44      | 50.75    |
| X-11    | 103            | 18      | 26.96    | 22            | 44      | 44.12    |
| X-10    | 103            | 18      | 24.52    | 22            | 44      | 16.66    |
| X-9     | 103            | 18      | 9.43     | 22            | 44      | 1.61     |
| X-8     | 103            | 18      | 28.55    | 22            | 43      | 48.86    |
| X-7     | 103            | 18      | 15.23    | 22            | 43      | 40.66    |
| X-6     | 103            | 17      | 3.26     | 22            | 43      | 32.77    |
| X-5     | 103            | 16      | 58.51    | 22            | 43      | 22.91    |
| X-4     | 103            | 15      | 47.52    | 22            | 42      | 57.20    |
| X-3     | 103            | 15      | 25.74    | 22            | 43      | 12.61    |
| X-2     | 103            | 14      | 47.44    | 22            | 42      | 34.70    |
| X-1     | 103            | 13      | 56.60    | 22            | 42      | 40.75    |

**XXVI.- CUENCA HIDROLOGICA RIO BOLAÑOS 2: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 92.20 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde la estación hidrométrica Bolaños hasta la estación hidrométrica El Caimán.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Bolaños 2 tiene una superficie de aportación de 2,939.3 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada por las siguientes cuencas hidrológicas: al Norte por la cuenca hidrológica Río Bolaños 1, al Sur por la cuenca hidrológica Río Santiago 3, al Este por las cuencas hidrológicas Presa Santa Rosa y Río Tlaltenango y al Oeste por las cuencas hidrológicas Río Atengo y Río Santiago 4. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| W-67    | 103            | 32      | 31.31    | 21            | 56      | 55.61    |
| W-66    | 103            | 33      | 55.40    | 21            | 56      | 25.30    |
| W-65    | 103            | 32      | 24.94    | 21            | 55      | 52.57    |
| W-64    | 103            | 32      | 14.06    | 21            | 55      | 34.54    |
| W-63    | 103            | 32      | 31.06    | 21            | 55      | 5.77     |
| W-62    | 103            | 32      | 26.84    | 21            | 54      | 55.91    |
| W-61    | 103            | 32      | 1.07     | 21            | 54      | 49.14    |
| W-60    | 103            | 31      | 49.94    | 21            | 54      | 28.84    |
| W-59    | 103            | 30      | 47.81    | 21            | 54      | 23.47    |
| W-58    | 103            | 30      | 37.87    | 21            | 54      | 19.62    |
| W-57    | 103            | 30      | 30.17    | 21            | 54      | 7.74     |
| W-56    | 103            | 30      | 5.72     | 21            | 54      | 0.86     |
| W-55    | 103            | 28      | 51.10    | 21            | 54      | 1.94     |
| W-54    | 103            | 28      | 30.22    | 21            | 53      | 52.44    |
| W-53    | 103            | 28      | 14.38    | 21            | 52      | 56.50    |
| W-52    | 103            | 27      | 40.68    | 21            | 52      | 32.81    |
| W-51    | 103            | 27      | 27.18    | 21            | 52      | 10.06    |
| W-50    | 103            | 27      | 23.62    | 21            | 51      | 28.15    |
| W-49    | 103            | 27      | 32.00    | 21            | 49      | 42.28    |
| W-48    | 103            | 26      | 33.07    | 21            | 48      | 50.58    |
| W-47    | 103            | 26      | 31.70    | 21            | 48      | 4.43     |
| W-46    | 103            | 26      | 23.68    | 21            | 47      | 34.44    |
| W-45    | 103            | 26      | 2.54     | 21            | 46      | 58.69    |
| W-44    | 103            | 24      | 22.18    | 21            | 46      | 35.76    |
| W-43    | 103            | 24      | 39.82    | 21            | 45      | 53.17    |
| W-42    | 103            | 25      | 12.25    | 21            | 45      | 13.75    |
| W-41    | 103            | 25      | 37.67    | 21            | 43      | 24.64    |
| W-40    | 103            | 27      | 8.68     | 21            | 42      | 29.34    |
| W-39    | 103            | 28      | 1.45     | 21            | 41      | 31.74    |
| W-38    | 103            | 28      | 45.77    | 21            | 41      | 10.68    |
| W-37    | 103            | 29      | 44.81    | 21            | 40      | 6.49     |
| W-36    | 103            | 30      | 11.45    | 21            | 40      | 4.94     |
| W-35    | 103            | 30      | 26.57    | 21            | 40      | 40.58    |
| W-34    | 103            | 30      | 46.91    | 21            | 41      | 2.11     |
| W-33    | 103            | 31      | 17.80    | 21            | 40      | 39.61    |
| W-32    | 103            | 31      | 20.28    | 21            | 41      | 0.24     |
| W-31    | 103            | 31      | 8.51     | 21            | 41      | 21.34    |
| W-30    | 103            | 31      | 30.47    | 21            | 41      | 28.32    |
| W-29    | 103            | 31      | 58.80    | 21            | 41      | 20.44    |
| W-28    | 103            | 32      | 14.10    | 21            | 40      | 58.22    |
| W-27    | 103            | 32      | 31.67    | 21            | 40      | 50.34    |
| W-26    | 103            | 32      | 33.22    | 21            | 39      | 36.54    |
| W-25    | 103            | 32      | 21.34    | 21            | 39      | 14.22    |
| W-24    | 103            | 33      | 3.96     | 21            | 38      | 57.95    |
| W-23    | 103            | 33      | 10.22    | 21            | 38      | 11.80    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| W-22    | 103            | 32      | 40.31    | 21            | 37      | 52.32    |
| W-21    | 103            | 32      | 35.99    | 21            | 37      | 39.94    |
| W-20    | 103            | 32      | 53.38    | 21            | 36      | 31.72    |
| W-19    | 103            | 33      | 10.12    | 21            | 36      | 18.65    |
| W-18    | 103            | 32      | 9.42     | 21            | 35      | 55.28    |
| W-17    | 103            | 31      | 54.55    | 21            | 35      | 56.98    |
| W-16    | 103            | 31      | 48.76    | 21            | 35      | 48.77    |
| W-15    | 103            | 31      | 55.02    | 21            | 35      | 37.64    |
| W-14    | 103            | 31      | 53.22    | 21            | 35      | 27.85    |
| W-13    | 103            | 31      | 38.03    | 21            | 35      | 15.40    |
| W-12    | 103            | 31      | 42.74    | 21            | 34      | 49.40    |
| W-11    | 103            | 31      | 32.45    | 21            | 34      | 50.23    |
| W-10    | 103            | 31      | 6.74     | 21            | 34      | 18.48    |
| W-9     | 103            | 31      | 48.97    | 21            | 34      | 1.96     |
| W-8     | 103            | 31      | 45.77    | 21            | 33      | 23.22    |
| W-7     | 103            | 32      | 1.82     | 21            | 33      | 13.43    |
| W-6     | 103            | 32      | 8.16     | 21            | 32      | 31.31    |
| W-5     | 103            | 32      | 22.99    | 21            | 31      | 58.62    |
| W-4     | 103            | 32      | 46.79    | 21            | 31      | 43.68    |
| W-3     | 103            | 32      | 30.66    | 21            | 31      | 20.06    |
| W-2     | 103            | 32      | 14.50    | 21            | 30      | 28.51    |
| W-1     | 103            | 33      | 19.37    | 21            | 29      | 49.85    |
| T-148   | 103            | 33      | 45.14    | 21            | 29      | 2.72     |
| T-147   | 103            | 33      | 56.30    | 21            | 28      | 47.46    |
| T-146   | 103            | 35      | 29.36    | 21            | 29      | 11.54    |
| T-145   | 103            | 36      | 27.47    | 21            | 28      | 37.09    |
| T-144   | 103            | 37      | 48.90    | 21            | 28      | 32.30    |
| T-143   | 103            | 39      | 3.49     | 21            | 27      | 59.15    |
| T-142   | 103            | 41      | 57.34    | 21            | 27      | 44.46    |
| T-141   | 103            | 42      | 5.44     | 21            | 27      | 27.72    |
| T-140   | 103            | 42      | 37.44    | 21            | 27      | 13.18    |
| T-139   | 103            | 42      | 39.71    | 21            | 27      | 1.48     |
| T-138   | 103            | 41      | 47.36    | 21            | 26      | 25.66    |
| T-137   | 103            | 41      | 53.23    | 21            | 25      | 14.59    |
| T-136   | 103            | 41      | 41.35    | 21            | 24      | 51.44    |
| T-135   | 103            | 41      | 45.71    | 21            | 24      | 13.86    |
| T-134   | 103            | 42      | 14.47    | 21            | 24      | 37.62    |
| T-133   | 103            | 42      | 43.85    | 21            | 24      | 23.65    |
| T-132   | 103            | 42      | 54.50    | 21            | 24      | 5.08     |
| T-131   | 103            | 44      | 14.17    | 21            | 23      | 7.84     |
| T-130   | 103            | 44      | 23.50    | 21            | 22      | 46.74    |
| T-129   | 103            | 44      | 32.75    | 21            | 22      | 19.45    |
| T-128   | 103            | 44      | 29.26    | 21            | 22      | 3.68     |
| T-127   | 103            | 44      | 43.01    | 21            | 21      | 48.56    |
| T-126   | 103            | 44      | 48.70    | 21            | 21      | 23.11    |
| T-125   | 103            | 44      | 37.46    | 21            | 21      | 13.25    |
| T-124   | 103            | 44      | 44.52    | 21            | 20      | 44.30    |
| U-125   | 103            | 45      | 10.19    | 21            | 20      | 48.62    |
| U-124   | 103            | 45      | 48.78    | 21            | 20      | 38.76    |
| U-123   | 103            | 45      | 55.33    | 21            | 20      | 16.55    |
| U-122   | 103            | 45      | 43.38    | 21            | 19      | 52.50    |
| U-121   | 103            | 46      | 3.04     | 21            | 19      | 24.38    |
| U-120   | 103            | 46      | 30.40    | 21            | 19      | 9.88     |
| U-119   | 103            | 46      | 20.28    | 21            | 18      | 54.40    |
| U-118   | 103            | 46      | 44.83    | 21            | 18      | 31.72    |
| U-117   | 103            | 47      | 26.66    | 21            | 18      | 29.05    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| U-116   | 103            | 48      | 22.32    | 21            | 17      | 43.37    |
| U-115   | 103            | 48      | 24.48    | 21            | 17      | 22.31    |
| U-114   | 103            | 48      | 52.96    | 21            | 17      | 13.45    |
| U-113   | 103            | 49      | 22.91    | 21            | 16      | 31.98    |
| U-112   | 103            | 49      | 40.30    | 21            | 16      | 34.46    |
| U-111   | 103            | 49      | 49.76    | 21            | 16      | 51.28    |
| U-110   | 103            | 50      | 48.59    | 21            | 16      | 41.77    |
| U-109   | 103            | 51      | 7.09     | 21            | 16      | 53.33    |
| U-108   | 103            | 51      | 14.87    | 21            | 16      | 40.84    |
| U-107   | 103            | 51      | 41.90    | 21            | 16      | 33.60    |
| U-106   | 103            | 52      | 3.11     | 21            | 16      | 3.61     |
| U-105   | 103            | 52      | 20.03    | 21            | 15      | 57.56    |
| U-104   | 103            | 52      | 57.00    | 21            | 16      | 4.04     |
| U-103   | 103            | 53      | 7.51     | 21            | 15      | 31.64    |
| U-102   | 103            | 53      | 29.62    | 21            | 15      | 22.28    |
| U-101   | 103            | 53      | 53.12    | 21            | 14      | 43.12    |
| U-100   | 103            | 53      | 46.28    | 21            | 14      | 27.89    |
| U-99    | 103            | 54      | 11.16    | 21            | 14      | 0.53     |
| U-98    | 103            | 54      | 4.54     | 21            | 13      | 59.05    |
| U-97    | 103            | 54      | 28.12    | 21            | 13      | 19.13    |
| U-96    | 103            | 55      | 19.78    | 21            | 12      | 59.36    |
| U-95    | 103            | 55      | 8.18     | 21            | 12      | 37.01    |
| U-94    | 103            | 55      | 16.25    | 21            | 12      | 8.10     |
| U-93    | 103            | 55      | 3.86     | 21            | 11      | 51.11    |
| U-92    | 103            | 55      | 2.82     | 21            | 11      | 30.12    |
| U-91    | 103            | 55      | 32.41    | 21            | 10      | 57.29    |
| U-90    | 103            | 56      | 23.39    | 21            | 11      | 10.28    |
| U-89    | 103            | 57      | 7.34     | 21            | 10      | 59.23    |
| U-88    | 103            | 57      | 47.84    | 21            | 11      | 19.86    |
| U-87    | 103            | 59      | 52.33    | 21            | 10      | 50.48    |
| U-86    | 104            | 0       | 3.31     | 21            | 10      | 28.78    |
| U-85    | 104            | 0       | 17.06    | 21            | 10      | 23.05    |
| U-84    | 104            | 1       | 31.22    | 21            | 10      | 34.07    |
| U-83    | 104            | 2       | 2.33     | 21            | 10      | 16.82    |
| U-82    | 104            | 2       | 49.31    | 21            | 10      | 50.48    |
| U-81    | 104            | 2       | 59.60    | 21            | 11      | 8.81     |
| U-80    | 104            | 3       | 32.18    | 21            | 11      | 14.86    |
| U-79    | 104            | 3       | 52.70    | 21            | 10      | 54.08    |
| U-78    | 104            | 4       | 13.73    | 21            | 11      | 9.60     |
| U-77    | 104            | 4       | 21.11    | 21            | 11      | 24.58    |
| Z-1     | 104            | 4       | 23.70    | 21            | 11      | 51.72    |
| Z-2     | 104            | 4       | 3.79     | 21            | 13      | 6.35     |
| Z-3     | 104            | 3       | 23.87    | 21            | 13      | 50.48    |
| Z-4     | 104            | 3       | 5.62     | 21            | 14      | 29.83    |
| Z-5     | 104            | 3       | 58.18    | 21            | 15      | 13.50    |
| Z-6     | 104            | 3       | 48.46    | 21            | 15      | 39.46    |
| Z-7     | 104            | 4       | 4.84     | 21            | 15      | 48.38    |
| Z-8     | 104            | 4       | 20.10    | 21            | 16      | 12.18    |
| Z-9     | 104            | 4       | 11.75    | 21            | 16      | 58.48    |
| Z-10    | 104            | 4       | 27.19    | 21            | 17      | 13.16    |
| Z-11    | 104            | 4       | 12.43    | 21            | 17      | 30.66    |
| Z-12    | 104            | 4       | 17.22    | 21            | 18      | 2.20     |
| Z-13    | 104            | 3       | 52.27    | 21            | 18      | 24.05    |
| Z-14    | 104            | 3       | 34.56    | 21            | 18      | 20.84    |
| Z-15    | 104            | 3       | 15.12    | 21            | 18      | 37.04    |
| Z-16    | 104            | 2       | 58.31    | 21            | 18      | 38.38    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Z-17    | 104            | 2       | 55.36    | 21            | 18      | 51.91    |
| Z-18    | 104            | 3       | 9.83     | 21            | 19      | 2.50     |
| Z-19    | 104            | 2       | 37.50    | 21            | 19      | 26.65    |
| Z-20    | 104            | 3       | 21.28    | 21            | 21      | 32.94    |
| Z-21    | 104            | 2       | 57.44    | 21            | 22      | 28.63    |
| Z-22    | 104            | 3       | 22.28    | 21            | 23      | 31.81    |
| Z-23    | 104            | 3       | 36.07    | 21            | 23      | 42.07    |
| Z-24    | 104            | 3       | 18.22    | 21            | 23      | 56.26    |
| Z-25    | 104            | 3       | 10.19    | 21            | 24      | 38.34    |
| Z-26    | 104            | 2       | 56.26    | 21            | 24      | 49.00    |
| Z-27    | 104            | 1       | 43.00    | 21            | 25      | 5.23     |
| Z-28    | 104            | 1       | 56.78    | 21            | 25      | 18.37    |
| Z-29    | 104            | 1       | 48.86    | 21            | 25      | 27.26    |
| Z-30    | 104            | 1       | 54.73    | 21            | 25      | 39.47    |
| Z-31    | 104            | 0       | 3.13     | 21            | 28      | 6.24     |
| Z-32    | 104            | 0       | 9.97     | 21            | 28      | 21.47    |
| Z-33    | 103            | 59      | 59.21    | 21            | 28      | 35.26    |
| Z-34    | 103            | 59      | 51.36    | 21            | 29      | 26.66    |
| Z-35    | 103            | 59      | 13.88    | 21            | 30      | 31.18    |
| Z-36    | 103            | 58      | 1.13     | 21            | 31      | 8.29     |
| Z-37    | 103            | 57      | 34.45    | 21            | 31      | 27.59    |
| Z-38    | 103            | 57      | 54.58    | 21            | 32      | 53.99    |
| Z-39    | 103            | 57      | 22.75    | 21            | 34      | 15.89    |
| Z-40    | 103            | 57      | 23.11    | 21            | 34      | 55.34    |
| Z-41    | 103            | 56      | 58.09    | 21            | 35      | 22.78    |
| Z-42    | 103            | 56      | 45.38    | 21            | 35      | 26.38    |
| Z-43    | 103            | 56      | 37.86    | 21            | 36      | 28.15    |
| Z-44    | 103            | 56      | 13.70    | 21            | 37      | 25.82    |
| Z-45    | 103            | 56      | 16.76    | 21            | 37      | 37.63    |
| Z-46    | 103            | 55      | 57.58    | 21            | 38      | 34.12    |
| Z-47    | 103            | 55      | 38.17    | 21            | 38      | 54.17    |
| Z-48    | 103            | 55      | 43.21    | 21            | 39      | 6.48     |
| Z-49    | 103            | 55      | 0.55     | 21            | 39      | 19.30    |
| Z-50    | 103            | 54      | 23.11    | 21            | 40      | 56.68    |
| Z-51    | 103            | 53      | 58.20    | 21            | 41      | 24.54    |
| Z-52    | 103            | 53      | 53.02    | 21            | 41      | 44.95    |
| Z-53    | 103            | 54      | 12.71    | 21            | 42      | 29.23    |
| Z-54    | 103            | 54      | 7.16     | 21            | 43      | 3.94     |
| Z-55    | 103            | 53      | 50.24    | 21            | 43      | 19.96    |
| Z-56    | 103            | 53      | 52.12    | 21            | 44      | 5.46     |
| Z-57    | 103            | 53      | 35.77    | 21            | 44      | 25.98    |
| Z-58    | 103            | 53      | 23.96    | 21            | 44      | 22.45    |
| Z-59    | 103            | 53      | 3.01     | 21            | 44      | 50.21    |
| Z-60    | 103            | 53      | 31.88    | 21            | 45      | 31.00    |
| Z-61    | 103            | 52      | 56.50    | 21            | 46      | 0.26     |
| Z-62    | 103            | 53      | 20.11    | 21            | 46      | 11.64    |
| Z-63    | 103            | 53      | 22.56    | 21            | 46      | 57.94    |
| Z-64    | 103            | 53      | 3.91     | 21            | 47      | 28.50    |
| Z-65    | 103            | 53      | 17.88    | 21            | 48      | 5.29     |
| Y-46    | 103            | 52      | 20.53    | 21            | 50      | 24.00    |
| Y-45    | 103            | 50      | 42.43    | 21            | 49      | 53.98    |
| Y-44    | 103            | 50      | 20.72    | 21            | 50      | 4.45     |
| Y-43    | 103            | 49      | 49.58    | 21            | 49      | 55.24    |
| Y-42    | 103            | 49      | 33.56    | 21            | 50      | 2.18     |
| Y-41    | 103            | 48      | 27.58    | 21            | 49      | 57.58    |
| Y-40    | 103            | 47      | 52.40    | 21            | 50      | 22.06    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Y-39    | 103            | 47      | 6.14     | 21            | 49      | 38.68    |
| Y-38    | 103            | 46      | 31.73    | 21            | 49      | 31.98    |
| Y-37    | 103            | 46      | 11.46    | 21            | 49      | 46.13    |
| Y-36    | 103            | 46      | 12.36    | 21            | 50      | 5.46     |
| Y-35    | 103            | 46      | 1.70     | 21            | 50      | 14.06    |
| Y-34    | 103            | 45      | 26.71    | 21            | 50      | 15.22    |
| Y-33    | 103            | 44      | 38.40    | 21            | 51      | 14.04    |
| Y-32    | 103            | 44      | 34.58    | 21            | 52      | 2.82     |
| Y-31    | 103            | 44      | 3.30     | 21            | 52      | 30.25    |
| Y-30    | 103            | 44      | 26.09    | 21            | 52      | 58.51    |
| Y-29    | 103            | 44      | 3.59     | 21            | 53      | 17.77    |
| Y-28    | 103            | 44      | 5.93     | 21            | 53      | 53.99    |
| Y-27    | 103            | 43      | 29.35    | 21            | 54      | 28.84    |
| Y-26    | 103            | 43      | 23.95    | 21            | 54      | 47.09    |
| Y-25    | 103            | 43      | 3.36     | 21            | 54      | 54.90    |
| Y-24    | 103            | 42      | 27.43    | 21            | 56      | 25.22    |
| Y-23    | 103            | 42      | 26.39    | 21            | 56      | 54.85    |
| Y-22    | 103            | 41      | 48.44    | 21            | 56      | 47.18    |
| Y-21    | 103            | 41      | 21.55    | 21            | 56      | 25.84    |
| Y-20    | 103            | 40      | 33.49    | 21            | 56      | 43.62    |
| Y-19    | 103            | 40      | 45.91    | 21            | 56      | 13.85    |
| Y-18    | 103            | 40      | 36.77    | 21            | 55      | 52.21    |
| Y-17    | 103            | 40      | 10.67    | 21            | 55      | 49.15    |
| Y-16    | 103            | 39      | 54.76    | 21            | 55      | 55.49    |
| Y-15    | 103            | 38      | 46.82    | 21            | 56      | 28.93    |
| Y-14    | 103            | 38      | 28.75    | 21            | 56      | 54.78    |
| Y-13    | 103            | 38      | 9.28     | 21            | 58      | 8.44     |
| Y-12    | 103            | 37      | 28.27    | 21            | 58      | 53.65    |
| Y-11    | 103            | 37      | 9.44     | 21            | 59      | 2.44     |
| Y-10    | 103            | 37      | 2.71     | 21            | 58      | 35.98    |
| Y-9     | 103            | 36      | 39.17    | 21            | 58      | 38.21    |
| Y-8     | 103            | 35      | 57.88    | 21            | 58      | 23.20    |
| Y-7     | 103            | 35      | 41.06    | 21            | 58      | 5.59     |
| Y-6     | 103            | 34      | 56.96    | 21            | 58      | 9.88     |
| Y-5     | 103            | 34      | 31.22    | 21            | 58      | 55.60    |
| Y-4     | 103            | 32      | 45.82    | 21            | 58      | 56.53    |
| Y-3     | 103            | 32      | 59.75    | 21            | 58      | 14.84    |
| Y-2     | 103            | 33      | 49.10    | 21            | 57      | 13.18    |
| Y-1     | 103            | 32      | 59.46    | 21            | 57      | 8.68     |

**XXVII.- CUENCA HIDROLOGICA RIO SAN JUAN: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 101.20 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde el nacimiento del Río San Juan hasta la estación hidrométrica El Platanito.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la polygonal que a continuación se indica y atendieron a que la cuenca hidrológica Río San Juan tiene una superficie de aportación de 5,636.8 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada por las siguientes regiones y cuencas hidrológicas: al Norte por la región hidrológica número 11 Presidio-San Pedro, al Sur por la cuenca hidrológica Río Atengo, al Este por la cuenca hidrológica Arroyo Lobatos y por la región hidrológica número 36 Nazas-Aguanaval y al Oeste por la región hidrológica número 11 Presidio-San Pedro y la cuenca hidrológica Río Jesús María. Geográficamente se ubica dentro de la polygonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Y-117   | 103            | 44      | 54.60    | 22            | 37      | 28.52    |
| Y-116   | 103            | 44      | 55.28    | 22            | 35      | 22.24    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Y-115   | 103            | 45      | 16.34    | 22            | 34      | 51.02    |
| Y-114   | 103            | 45      | 46.12    | 22            | 34      | 48.65    |
| Y-113   | 103            | 45      | 49.93    | 22            | 34      | 5.70     |
| Y-112   | 103            | 46      | 22.30    | 22            | 33      | 16.13    |
| Y-111   | 103            | 46      | 17.87    | 22            | 32      | 41.46    |
| Y-110   | 103            | 47      | 7.51     | 22            | 30      | 37.44    |
| Y-109   | 103            | 47      | 11.47    | 22            | 29      | 22.74    |
| Y-108   | 103            | 46      | 59.02    | 22            | 29      | 8.12     |
| Y-107   | 103            | 47      | 21.44    | 22            | 28      | 11.28    |
| Y-106   | 103            | 48      | 14.54    | 22            | 27      | 51.16    |
| Y-105   | 103            | 48      | 0.32     | 22            | 27      | 6.48     |
| Y-104   | 103            | 48      | 43.85    | 22            | 26      | 19.07    |
| Y-103   | 103            | 48      | 33.01    | 22            | 25      | 28.27    |
| Y-102   | 103            | 48      | 48.82    | 22            | 24      | 21.64    |
| Y-101   | 103            | 48      | 33.34    | 22            | 23      | 51.86    |
| Y-100   | 103            | 48      | 50.69    | 22            | 22      | 43.82    |
| Y-99    | 103            | 49      | 35.54    | 22            | 21      | 20.70    |
| Y-98    | 103            | 50      | 42.29    | 22            | 20      | 37.97    |
| Y-97    | 103            | 50      | 38.58    | 22            | 19      | 36.91    |
| Y-96    | 103            | 50      | 15.54    | 22            | 19      | 5.56     |
| Y-95    | 103            | 49      | 49.66    | 22            | 16      | 53.87    |
| Y-94    | 103            | 50      | 11.04    | 22            | 16      | 34.50    |
| Y-93    | 103            | 50      | 12.23    | 22            | 15      | 58.43    |
| Y-92    | 103            | 50      | 30.37    | 22            | 15      | 28.08    |
| Y-91    | 103            | 51      | 18.29    | 22            | 15      | 47.70    |
| Y-90    | 103            | 51      | 42.70    | 22            | 15      | 32.65    |
| Y-89    | 103            | 51      | 39.53    | 22            | 14      | 57.77    |
| Y-88    | 103            | 51      | 56.59    | 22            | 14      | 37.18    |
| Y-87    | 103            | 51      | 43.27    | 22            | 13      | 15.74    |
| Y-86    | 103            | 52      | 0.19     | 22            | 13      | 13.62    |
| Y-85    | 103            | 52      | 59.92    | 22            | 11      | 51.58    |
| Y-84    | 103            | 53      | 16.51    | 22            | 11      | 51.68    |
| Y-83    | 103            | 53      | 20.22    | 22            | 10      | 16.36    |
| Y-82    | 103            | 53      | 51.43    | 22            | 10      | 34.54    |
| Y-81    | 103            | 54      | 20.77    | 22            | 10      | 17.04    |
| Y-80    | 103            | 54      | 14.44    | 22            | 9       | 49.82    |
| Y-79    | 103            | 53      | 27.06    | 22            | 9       | 1.80     |
| Y-78    | 103            | 53      | 14.06    | 22            | 8       | 6.61     |
| Y-77    | 103            | 52      | 41.70    | 22            | 7       | 57.79    |
| Y-76    | 103            | 52      | 13.73    | 22            | 6       | 38.70    |
| Y-75    | 103            | 52      | 32.48    | 22            | 6       | 23.94    |
| Y-74    | 103            | 52      | 14.45    | 22            | 6       | 10.98    |
| Y-73    | 103            | 52      | 17.62    | 22            | 5       | 9.46     |
| Y-72    | 103            | 52      | 30.29    | 22            | 4       | 48.36    |
| Y-71    | 103            | 52      | 15.17    | 22            | 4       | 9.34     |
| Y-70    | 103            | 52      | 37.63    | 22            | 3       | 35.68    |
| Y-69    | 103            | 52      | 55.24    | 22            | 1       | 43.79    |
| Y-68    | 103            | 52      | 47.39    | 22            | 1       | 22.76    |
| Y-67    | 103            | 53      | 18.31    | 22            | 1       | 21.43    |
| Y-66    | 103            | 53      | 20.72    | 22            | 1       | 7.18     |
| Y-65    | 103            | 53      | 15.94    | 21            | 59      | 13.16    |
| Y-64    | 103            | 53      | 2.29     | 21            | 59      | 8.02     |
| Y-63    | 103            | 52      | 23.38    | 21            | 59      | 26.70    |
| Y-62    | 103            | 52      | 24.71    | 21            | 58      | 54.98    |
| Y-61    | 103            | 53      | 10.32    | 21            | 58      | 27.77    |
| Y-60    | 103            | 52      | 56.78    | 21            | 57      | 52.27    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Y-59    | 103            | 52      | 28.70    | 21            | 57      | 37.69    |
| Y-58    | 103            | 52      | 12.11    | 21            | 57      | 5.83     |
| Y-57    | 103            | 52      | 42.78    | 21            | 56      | 45.71    |
| Y-56    | 103            | 52      | 2.46     | 21            | 56      | 15.18    |
| Y-55    | 103            | 52      | 39.18    | 21            | 55      | 33.42    |
| Y-54    | 103            | 52      | 16.32    | 21            | 55      | 14.70    |
| Y-53    | 103            | 52      | 27.08    | 21            | 54      | 52.02    |
| Y-52    | 103            | 52      | 5.99     | 21            | 54      | 10.48    |
| Y-51    | 103            | 52      | 12.43    | 21            | 53      | 23.42    |
| Y-50    | 103            | 51      | 38.52    | 21            | 52      | 55.52    |
| Y-49    | 103            | 51      | 27.94    | 21            | 52      | 10.20    |
| Y-48    | 103            | 52      | 2.60     | 21            | 51      | 52.74    |
| Y-47    | 103            | 52      | 27.19    | 21            | 51      | 22.46    |
| Y-46    | 103            | 52      | 20.53    | 21            | 50      | 24.00    |
| Z-65    | 103            | 53      | 17.88    | 21            | 48      | 5.29     |
| Z-64    | 103            | 53      | 3.91     | 21            | 47      | 28.50    |
| Z-63    | 103            | 53      | 22.56    | 21            | 46      | 57.94    |
| Z-62    | 103            | 53      | 20.11    | 21            | 46      | 11.64    |
| Z-61    | 103            | 52      | 56.50    | 21            | 46      | 0.26     |
| Z-60    | 103            | 53      | 31.88    | 21            | 45      | 31.00    |
| Z-59    | 103            | 53      | 3.01     | 21            | 44      | 50.21    |
| Z-58    | 103            | 53      | 23.96    | 21            | 44      | 22.45    |
| Z-57    | 103            | 53      | 35.77    | 21            | 44      | 25.98    |
| Z-56    | 103            | 53      | 52.12    | 21            | 44      | 5.46     |
| Z-55    | 103            | 53      | 50.24    | 21            | 43      | 19.96    |
| Z-54    | 103            | 54      | 7.16     | 21            | 43      | 3.94     |
| Z-53    | 103            | 54      | 12.71    | 21            | 42      | 29.23    |
| Z-52    | 103            | 53      | 53.02    | 21            | 41      | 44.95    |
| Z-51    | 103            | 53      | 58.20    | 21            | 41      | 24.54    |
| Z-50    | 103            | 54      | 23.11    | 21            | 40      | 56.68    |
| Z-49    | 103            | 55      | 0.55     | 21            | 39      | 19.30    |
| Z-48    | 103            | 55      | 43.21    | 21            | 39      | 6.48     |
| Z-47    | 103            | 55      | 38.17    | 21            | 38      | 54.17    |
| Z-46    | 103            | 55      | 57.58    | 21            | 38      | 34.12    |
| Z-45    | 103            | 56      | 16.76    | 21            | 37      | 37.63    |
| Z-44    | 103            | 56      | 13.70    | 21            | 37      | 25.82    |
| Z-43    | 103            | 56      | 37.86    | 21            | 36      | 28.15    |
| Z-42    | 103            | 56      | 45.38    | 21            | 35      | 26.38    |
| Z-41    | 103            | 56      | 58.09    | 21            | 35      | 22.78    |
| Z-40    | 103            | 57      | 23.11    | 21            | 34      | 55.34    |
| Z-39    | 103            | 57      | 22.75    | 21            | 34      | 15.89    |
| Z-38    | 103            | 57      | 54.58    | 21            | 32      | 53.99    |
| Z-37    | 103            | 57      | 34.45    | 21            | 31      | 27.59    |
| Z-36    | 103            | 58      | 1.13     | 21            | 31      | 8.29     |
| Z-35    | 103            | 59      | 13.88    | 21            | 30      | 31.18    |
| Z-34    | 103            | 59      | 51.36    | 21            | 29      | 26.66    |
| Z-33    | 103            | 59      | 59.21    | 21            | 28      | 35.26    |
| Z-32    | 104            | 0       | 9.97     | 21            | 28      | 21.47    |
| Z-31    | 104            | 0       | 3.13     | 21            | 28      | 6.24     |
| Z-30    | 104            | 1       | 54.73    | 21            | 25      | 39.47    |
| Z-29    | 104            | 1       | 48.86    | 21            | 25      | 27.26    |
| Z-28    | 104            | 1       | 56.78    | 21            | 25      | 18.37    |
| Z-27    | 104            | 1       | 43.00    | 21            | 25      | 5.23     |
| Z-26    | 104            | 2       | 56.26    | 21            | 24      | 49.00    |
| Z-25    | 104            | 3       | 10.19    | 21            | 24      | 38.34    |
| AB-1    | 104            | 3       | 28.48    | 21            | 25      | 24.96    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AB-2    | 104            | 4       | 0.16     | 21            | 25      | 22.69    |
| AB-3    | 104            | 4       | 10.13    | 21            | 25      | 43.18    |
| AB-4    | 104            | 4       | 47.86    | 21            | 25      | 53.54    |
| AB-5    | 104            | 5       | 2.51     | 21            | 26      | 21.62    |
| AB-6    | 104            | 5       | 41.75    | 21            | 26      | 26.34    |
| AB-7    | 104            | 5       | 42.54    | 21            | 26      | 56.26    |
| AB-8    | 104            | 6       | 7.42     | 21            | 27      | 30.38    |
| AB-9    | 104            | 5       | 42.25    | 21            | 28      | 11.24    |
| AB-10   | 104            | 6       | 2.95     | 21            | 28      | 53.11    |
| AB-11   | 104            | 6       | 42.01    | 21            | 28      | 41.66    |
| AB-12   | 104            | 7       | 7.21     | 21            | 29      | 34.48    |
| AB-13   | 104            | 7       | 33.89    | 21            | 29      | 48.52    |
| AB-14   | 104            | 9       | 23.15    | 21            | 29      | 15.86    |
| AB-15   | 104            | 10      | 30.72    | 21            | 30      | 18.04    |
| AB-16   | 104            | 10      | 44.08    | 21            | 30      | 36.61    |
| AB-17   | 104            | 10      | 51.46    | 21            | 31      | 50.88    |
| AB-18   | 104            | 10      | 47.03    | 21            | 33      | 20.09    |
| AB-19   | 104            | 11      | 29.44    | 21            | 34      | 39.94    |
| AB-20   | 104            | 12      | 8.46     | 21            | 34      | 49.94    |
| AB-21   | 104            | 12      | 35.03    | 21            | 35      | 12.70    |
| AB-22   | 104            | 13      | 49.84    | 21            | 34      | 1.06     |
| AB-23   | 104            | 14      | 36.24    | 21            | 33      | 57.38    |
| AB-24   | 104            | 14      | 58.81    | 21            | 34      | 29.82    |
| AB-25   | 104            | 15      | 54.29    | 21            | 34      | 17.51    |
| AB-26   | 104            | 16      | 23.20    | 21            | 33      | 49.21    |
| AB-27   | 104            | 17      | 10.07    | 21            | 33      | 43.27    |
| AB-28   | 104            | 17      | 42.86    | 21            | 33      | 12.85    |
| AB-29   | 104            | 17      | 52.22    | 21            | 33      | 33.12    |
| AB-30   | 104            | 17      | 37.68    | 21            | 33      | 58.50    |
| AB-31   | 104            | 17      | 41.86    | 21            | 34      | 41.45    |
| AB-32   | 104            | 17      | 6.47     | 21            | 35      | 6.47     |
| AB-33   | 104            | 16      | 41.38    | 21            | 35      | 52.55    |
| AB-34   | 104            | 18      | 57.20    | 21            | 36      | 51.84    |
| AB-35   | 104            | 20      | 26.45    | 21            | 36      | 26.10    |
| AB-36   | 104            | 20      | 43.30    | 21            | 36      | 43.27    |
| AB-37   | 104            | 21      | 31.14    | 21            | 36      | 32.44    |
| AB-38   | 104            | 21      | 39.28    | 21            | 37      | 1.63     |
| AB-39   | 104            | 21      | 56.88    | 21            | 37      | 2.10     |
| AB-40   | 104            | 23      | 39.44    | 21            | 38      | 14.64    |
| AB-41   | 104            | 23      | 46.61    | 21            | 38      | 34.58    |
| AB-42   | 104            | 23      | 36.02    | 21            | 38      | 52.15    |
| AB-43   | 104            | 23      | 48.84    | 21            | 39      | 13.79    |
| AB-44   | 104            | 25      | 32.74    | 21            | 39      | 48.92    |
| AB-45   | 104            | 24      | 23.08    | 21            | 42      | 51.95    |
| AB-46   | 104            | 24      | 30.46    | 21            | 43      | 21.36    |
| AB-47   | 104            | 24      | 20.05    | 21            | 43      | 55.16    |
| AB-48   | 104            | 24      | 29.84    | 21            | 44      | 31.27    |
| AB-49   | 104            | 24      | 12.53    | 21            | 45      | 39.02    |
| AB-50   | 104            | 24      | 19.19    | 21            | 46      | 8.36     |
| AB-51   | 104            | 23      | 51.43    | 21            | 47      | 37.00    |
| AB-52   | 104            | 24      | 3.71     | 21            | 47      | 45.56    |
| AB-53   | 104            | 24      | 0.00     | 21            | 48      | 10.91    |
| AB-54   | 104            | 24      | 18.14    | 21            | 48      | 48.31    |
| AB-55   | 104            | 24      | 38.95    | 21            | 51      | 10.87    |
| AB-56   | 104            | 24      | 54.72    | 21            | 51      | 30.28    |
| AB-57   | 104            | 25      | 45.37    | 21            | 51      | 36.11    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AB-58   | 104            | 26      | 24.86    | 21            | 51      | 59.04    |
| AB-59   | 104            | 27      | 18.32    | 21            | 53      | 8.05     |
| AB-60   | 104            | 27      | 45.72    | 21            | 53      | 14.86    |
| AB-61   | 104            | 28      | 0.30     | 21            | 53      | 33.14    |
| AB-62   | 104            | 28      | 22.26    | 21            | 53      | 19.39    |
| AB-63   | 104            | 28      | 55.06    | 21            | 53      | 29.80    |
| AB-64   | 104            | 29      | 31.45    | 21            | 54      | 9.36     |
| AB-65   | 104            | 29      | 37.68    | 21            | 54      | 45.40    |
| AB-66   | 104            | 29      | 29.98    | 21            | 55      | 8.62     |
| AB-67   | 104            | 29      | 40.09    | 21            | 55      | 23.34    |
| AB-68   | 104            | 30      | 4.61     | 21            | 55      | 21.11    |
| AB-69   | 104            | 31      | 14.34    | 21            | 55      | 50.84    |
| AB-70   | 104            | 31      | 12.04    | 21            | 57      | 20.41    |
| AB-71   | 104            | 31      | 15.31    | 21            | 58      | 7.36     |
| AB-72   | 104            | 29      | 50.86    | 21            | 58      | 15.42    |
| AB-73   | 104            | 29      | 3.12     | 21            | 57      | 58.50    |
| AB-74   | 104            | 28      | 56.03    | 21            | 57      | 44.21    |
| AB-75   | 104            | 28      | 13.48    | 21            | 58      | 16.54    |
| AB-76   | 104            | 27      | 40.64    | 21            | 58      | 7.82     |
| AB-77   | 104            | 26      | 50.75    | 21            | 58      | 16.68    |
| AB-78   | 104            | 26      | 46.10    | 21            | 59      | 53.09    |
| AB-79   | 104            | 26      | 24.11    | 21            | 59      | 48.80    |
| AB-80   | 104            | 25      | 28.24    | 22            | 0       | 16.20    |
| AB-81   | 104            | 25      | 11.10    | 22            | 0       | 38.27    |
| AB-82   | 104            | 24      | 50.72    | 22            | 0       | 35.10    |
| AB-83   | 104            | 24      | 28.37    | 22            | 1       | 15.02    |
| AB-84   | 104            | 23      | 59.14    | 22            | 1       | 18.08    |
| AB-85   | 104            | 23      | 33.65    | 22            | 1       | 5.66     |
| AB-86   | 104            | 23      | 8.02     | 22            | 1       | 32.63    |
| AB-87   | 104            | 23      | 33.72    | 22            | 2       | 15.36    |
| AB-88   | 104            | 23      | 21.88    | 22            | 2       | 44.27    |
| AB-89   | 104            | 23      | 33.14    | 22            | 4       | 13.76    |
| AB-90   | 104            | 22      | 37.78    | 22            | 4       | 48.94    |
| AB-91   | 104            | 21      | 38.92    | 22            | 5       | 1.72     |
| AB-92   | 104            | 21      | 56.63    | 22            | 5       | 23.71    |
| AB-93   | 104            | 22      | 0.84     | 22            | 6       | 9.65     |
| AB-94   | 104            | 21      | 36.94    | 22            | 7       | 5.41     |
| AB-95   | 104            | 21      | 17.42    | 22            | 7       | 15.82    |
| AB-96   | 104            | 21      | 27.47    | 22            | 8       | 4.02     |
| AB-97   | 104            | 22      | 1.45     | 22            | 8       | 7.66     |
| AB-98   | 104            | 21      | 28.62    | 22            | 9       | 54.40    |
| AB-99   | 104            | 21      | 35.64    | 22            | 10      | 12.79    |
| AB-100  | 104            | 21      | 20.41    | 22            | 10      | 36.70    |
| AB-101  | 104            | 19      | 23.99    | 22            | 11      | 24.22    |
| AB-102  | 104            | 19      | 41.05    | 22            | 12      | 14.54    |
| AB-103  | 104            | 19      | 18.01    | 22            | 12      | 48.17    |
| AB-104  | 104            | 19      | 24.42    | 22            | 13      | 36.19    |
| AB-105  | 104            | 19      | 1.78     | 22            | 14      | 7.55     |
| AB-106  | 104            | 19      | 9.12     | 22            | 14      | 54.53    |
| AB-107  | 104            | 18      | 3.35     | 22            | 16      | 5.52     |
| AB-108  | 104            | 17      | 44.59    | 22            | 16      | 57.90    |
| AB-109  | 104            | 17      | 23.68    | 22            | 17      | 15.32    |
| AB-110  | 104            | 17      | 26.48    | 22            | 17      | 39.01    |
| AB-111  | 104            | 16      | 54.73    | 22            | 17      | 55.72    |
| AB-112  | 104            | 16      | 54.26    | 22            | 18      | 13.43    |
| AB-113  | 104            | 17      | 33.58    | 22            | 18      | 21.10    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AB-114  | 104            | 17      | 37.10    | 22            | 20      | 4.56     |
| AB-115  | 104            | 17      | 47.47    | 22            | 20      | 7.48     |
| AB-116  | 104            | 18      | 16.70    | 22            | 21      | 48.13    |
| AB-117  | 104            | 19      | 0.26     | 22            | 22      | 30.36    |
| AB-118  | 104            | 19      | 53.18    | 22            | 22      | 53.29    |
| AB-119  | 104            | 20      | 31.45    | 22            | 23      | 52.73    |
| AB-120  | 104            | 20      | 25.98    | 22            | 24      | 7.13     |
| AB-121  | 104            | 20      | 42.29    | 22            | 24      | 45.61    |
| AB-122  | 104            | 20      | 31.52    | 22            | 25      | 28.31    |
| AB-123  | 104            | 19      | 39.86    | 22            | 25      | 58.76    |
| AB-124  | 104            | 19      | 38.24    | 22            | 26      | 32.21    |
| AB-125  | 104            | 18      | 34.99    | 22            | 27      | 3.71     |
| AB-126  | 104            | 17      | 47.40    | 22            | 28      | 18.73    |
| AB-127  | 104            | 17      | 57.19    | 22            | 29      | 5.71     |
| AB-128  | 104            | 18      | 18.40    | 22            | 29      | 20.15    |
| AB-129  | 104            | 18      | 12.24    | 22            | 29      | 51.90    |
| AB-130  | 104            | 19      | 26.29    | 22            | 31      | 8.80     |
| AB-131  | 104            | 19      | 4.66     | 22            | 31      | 59.70    |
| AB-132  | 104            | 20      | 1.25     | 22            | 32      | 30.16    |
| AB-133  | 104            | 19      | 43.79    | 22            | 32      | 51.43    |
| AB-134  | 104            | 20      | 1.68     | 22            | 33      | 15.23    |
| AB-135  | 104            | 19      | 39.54    | 22            | 33      | 55.98    |
| AB-136  | 104            | 18      | 41.47    | 22            | 34      | 2.53     |
| AB-137  | 104            | 18      | 17.39    | 22            | 34      | 27.48    |
| AB-138  | 104            | 17      | 58.13    | 22            | 34      | 22.01    |
| AB-139  | 104            | 17      | 29.26    | 22            | 35      | 10.50    |
| AB-140  | 104            | 17      | 55.00    | 22            | 36      | 5.44     |
| AB-141  | 104            | 18      | 1.30     | 22            | 36      | 50.18    |
| AA-50   | 104            | 17      | 38.00    | 22            | 37      | 8.29     |
| AA-49   | 104            | 16      | 6.78     | 22            | 36      | 50.72    |
| AA-48   | 104            | 15      | 55.08    | 22            | 37      | 6.67     |
| AA-47   | 104            | 14      | 50.96    | 22            | 37      | 16.97    |
| AA-46   | 104            | 14      | 21.70    | 22            | 37      | 4.15     |
| AA-45   | 104            | 13      | 18.30    | 22            | 37      | 12.79    |
| AA-44   | 104            | 13      | 11.68    | 22            | 37      | 0.95     |
| AA-43   | 104            | 9       | 27.76    | 22            | 38      | 12.44    |
| AA-42   | 104            | 8       | 28.18    | 22            | 38      | 6.76     |
| AA-41   | 104            | 8       | 2.65     | 22            | 38      | 20.69    |
| AA-40   | 104            | 7       | 57.86    | 22            | 37      | 28.81    |
| AA-39   | 104            | 6       | 54.65    | 22            | 36      | 8.53     |
| AA-38   | 104            | 5       | 48.19    | 22            | 36      | 3.60     |
| AA-37   | 104            | 4       | 15.02    | 22            | 34      | 20.96    |
| AA-36   | 104            | 3       | 22.57    | 22            | 33      | 53.82    |
| AA-35   | 104            | 3       | 12.28    | 22            | 33      | 14.40    |
| AA-34   | 104            | 1       | 20.57    | 22            | 32      | 44.66    |
| AA-33   | 103            | 59      | 41.68    | 22            | 33      | 1.55     |
| AA-32   | 103            | 58      | 49.76    | 22            | 32      | 33.43    |
| AA-31   | 103            | 58      | 24.71    | 22            | 32      | 34.30    |
| AA-30   | 103            | 58      | 14.48    | 22            | 32      | 19.75    |
| AA-29   | 103            | 57      | 20.05    | 22            | 32      | 44.27    |
| AA-28   | 103            | 57      | 24.30    | 22            | 33      | 17.60    |
| AA-27   | 103            | 56      | 44.34    | 22            | 33      | 19.66    |
| AA-26   | 103            | 56      | 20.83    | 22            | 33      | 2.48     |
| AA-25   | 103            | 56      | 9.89     | 22            | 33      | 22.00    |
| AA-24   | 103            | 55      | 45.91    | 22            | 33      | 27.29    |
| AA-23   | 103            | 55      | 41.88    | 22            | 33      | 44.28    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AA-22   | 103            | 55      | 14.30    | 22            | 33      | 50.08    |
| AA-21   | 103            | 54      | 50.94    | 22            | 33      | 39.24    |
| AA-20   | 103            | 54      | 28.01    | 22            | 34      | 27.30    |
| AA-19   | 103            | 53      | 55.75    | 22            | 34      | 44.15    |
| AA-18   | 103            | 53      | 54.49    | 22            | 34      | 56.75    |
| AA-17   | 103            | 53      | 27.89    | 22            | 35      | 8.56     |
| AA-16   | 103            | 52      | 54.80    | 22            | 35      | 4.52     |
| AA-15   | 103            | 52      | 43.32    | 22            | 35      | 24.04    |
| AA-14   | 103            | 52      | 51.92    | 22            | 35      | 44.59    |
| AA-13   | 103            | 52      | 30.00    | 22            | 36      | 22.61    |
| AA-12   | 103            | 51      | 53.78    | 22            | 36      | 23.36    |
| AA-11   | 103            | 50      | 31.34    | 22            | 35      | 52.55    |
| AA-10   | 103            | 49      | 41.41    | 22            | 36      | 35.10    |
| AA-9    | 103            | 49      | 40.30    | 22            | 36      | 53.93    |
| AA-8    | 103            | 49      | 9.66     | 22            | 37      | 10.06    |
| AA-7    | 103            | 48      | 49.10    | 22            | 38      | 38.22    |
| AA-6    | 103            | 48      | 13.79    | 22            | 38      | 57.95    |
| AA-5    | 103            | 47      | 8.70     | 22            | 39      | 3.35     |
| AA-4    | 103            | 47      | 6.94     | 22            | 38      | 23.78    |
| AA-3    | 103            | 46      | 55.52    | 22            | 38      | 13.85    |
| AA-2    | 103            | 46      | 8.26     | 22            | 37      | 57.79    |
| AA-1    | 103            | 45      | 53.53    | 22            | 37      | 30.18    |

**XXVIII.- CUENCA HIDROLOGICA RIO ATENGO: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 299.14 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde la estación hidrométrica El Platanito hasta la confluencia del Río Atengo con el Río Jesús María.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Atengo tiene una superficie de aportación de 6,146.7 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada por las siguientes cuencas hidrológicas: al Norte por la cuenca hidrológica Río San Juan, al Sur por la cuenca hidrológica Río Santiago 4, al Este por las cuencas hidrológicas Río Bolaños 1 y Río Bolaños 2 y al Oeste por las cuencas hidrológicas Río Jesús María, Río Huaynamota y Río Santiago 5. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Y-117   | 103            | 44      | 54.60    | 22            | 37      | 28.52    |
| Y-116   | 103            | 44      | 55.28    | 22            | 35      | 22.24    |
| Y-115   | 103            | 45      | 16.34    | 22            | 34      | 51.02    |
| Y-114   | 103            | 45      | 46.12    | 22            | 34      | 48.65    |
| Y-113   | 103            | 45      | 49.93    | 22            | 34      | 5.70     |
| Y-112   | 103            | 46      | 22.30    | 22            | 33      | 16.13    |
| Y-111   | 103            | 46      | 17.87    | 22            | 32      | 41.46    |
| Y-110   | 103            | 47      | 7.51     | 22            | 30      | 37.44    |
| Y-109   | 103            | 47      | 11.47    | 22            | 29      | 22.74    |
| Y-108   | 103            | 46      | 59.02    | 22            | 29      | 8.12     |
| Y-107   | 103            | 47      | 21.44    | 22            | 28      | 11.28    |
| Y-106   | 103            | 48      | 14.54    | 22            | 27      | 51.16    |
| Y-105   | 103            | 48      | 0.32     | 22            | 27      | 6.48     |
| Y-104   | 103            | 48      | 43.85    | 22            | 26      | 19.07    |
| Y-103   | 103            | 48      | 33.01    | 22            | 25      | 28.27    |
| Y-102   | 103            | 48      | 48.82    | 22            | 24      | 21.64    |
| Y-101   | 103            | 48      | 33.34    | 22            | 23      | 51.86    |
| Y-100   | 103            | 48      | 50.69    | 22            | 22      | 43.82    |
| Y-99    | 103            | 49      | 35.54    | 22            | 21      | 20.70    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Y-98    | 103            | 50      | 42.29    | 22            | 20      | 37.97    |
| Y-97    | 103            | 50      | 38.58    | 22            | 19      | 36.91    |
| Y-96    | 103            | 50      | 15.54    | 22            | 19      | 5.56     |
| Y-95    | 103            | 49      | 49.66    | 22            | 16      | 53.87    |
| Y-94    | 103            | 50      | 11.04    | 22            | 16      | 34.50    |
| Y-93    | 103            | 50      | 12.23    | 22            | 15      | 58.43    |
| Y-92    | 103            | 50      | 30.37    | 22            | 15      | 28.08    |
| Y-91    | 103            | 51      | 18.29    | 22            | 15      | 47.70    |
| Y-90    | 103            | 51      | 42.70    | 22            | 15      | 32.65    |
| Y-89    | 103            | 51      | 39.53    | 22            | 14      | 57.77    |
| Y-88    | 103            | 51      | 56.59    | 22            | 14      | 37.18    |
| Y-87    | 103            | 51      | 43.27    | 22            | 13      | 15.74    |
| Y-86    | 103            | 52      | 0.19     | 22            | 13      | 13.62    |
| Y-85    | 103            | 52      | 59.92    | 22            | 11      | 51.58    |
| Y-84    | 103            | 53      | 16.51    | 22            | 11      | 51.68    |
| Y-83    | 103            | 53      | 20.22    | 22            | 10      | 16.36    |
| Y-82    | 103            | 53      | 51.43    | 22            | 10      | 34.54    |
| Y-81    | 103            | 54      | 20.77    | 22            | 10      | 17.04    |
| Y-80    | 103            | 54      | 14.44    | 22            | 9       | 49.82    |
| Y-79    | 103            | 53      | 27.06    | 22            | 9       | 1.80     |
| Y-78    | 103            | 53      | 14.06    | 22            | 8       | 6.61     |
| Y-77    | 103            | 52      | 41.70    | 22            | 7       | 57.79    |
| Y-76    | 103            | 52      | 13.73    | 22            | 6       | 38.70    |
| Y-75    | 103            | 52      | 32.48    | 22            | 6       | 23.94    |
| Y-74    | 103            | 52      | 14.45    | 22            | 6       | 10.98    |
| Y-73    | 103            | 52      | 17.62    | 22            | 5       | 9.46     |
| Y-72    | 103            | 52      | 30.29    | 22            | 4       | 48.36    |
| Y-71    | 103            | 52      | 15.17    | 22            | 4       | 9.34     |
| Y-70    | 103            | 52      | 37.63    | 22            | 3       | 35.68    |
| Y-69    | 103            | 52      | 55.24    | 22            | 1       | 43.79    |
| Y-68    | 103            | 52      | 47.39    | 22            | 1       | 22.76    |
| Y-67    | 103            | 53      | 18.31    | 22            | 1       | 21.43    |
| Y-66    | 103            | 53      | 20.72    | 22            | 1       | 7.18     |
| Y-65    | 103            | 53      | 15.94    | 21            | 59      | 13.16    |
| Y-64    | 103            | 53      | 2.29     | 21            | 59      | 8.02     |
| Y-63    | 103            | 52      | 23.38    | 21            | 59      | 26.70    |
| Y-62    | 103            | 52      | 24.71    | 21            | 58      | 54.98    |
| Y-61    | 103            | 53      | 10.32    | 21            | 58      | 27.77    |
| Y-60    | 103            | 52      | 56.78    | 21            | 57      | 52.27    |
| Y-59    | 103            | 52      | 28.70    | 21            | 57      | 37.69    |
| Y-58    | 103            | 52      | 12.11    | 21            | 57      | 5.83     |
| Y-57    | 103            | 52      | 42.78    | 21            | 56      | 45.71    |
| Y-56    | 103            | 52      | 2.46     | 21            | 56      | 15.18    |
| Y-55    | 103            | 52      | 39.18    | 21            | 55      | 33.42    |
| Y-54    | 103            | 52      | 16.32    | 21            | 55      | 14.70    |
| Y-53    | 103            | 52      | 27.08    | 21            | 54      | 52.02    |
| Y-52    | 103            | 52      | 5.99     | 21            | 54      | 10.48    |
| Y-51    | 103            | 52      | 12.43    | 21            | 53      | 23.42    |
| Y-50    | 103            | 51      | 38.52    | 21            | 52      | 55.52    |
| Y-49    | 103            | 51      | 27.94    | 21            | 52      | 10.20    |
| Y-48    | 103            | 52      | 2.60     | 21            | 51      | 52.74    |
| Y-47    | 103            | 52      | 27.19    | 21            | 51      | 22.46    |
| Y-46    | 103            | 52      | 20.53    | 21            | 50      | 24.00    |
| Z-65    | 103            | 53      | 17.88    | 21            | 48      | 5.29     |
| Z-64    | 103            | 53      | 3.91     | 21            | 47      | 28.50    |
| Z-63    | 103            | 53      | 22.56    | 21            | 46      | 57.94    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Z-62    | 103            | 53      | 20.11    | 21            | 46      | 11.64    |
| Z-61    | 103            | 52      | 56.50    | 21            | 46      | 0.26     |
| Z-60    | 103            | 53      | 31.88    | 21            | 45      | 31.00    |
| Z-59    | 103            | 53      | 3.01     | 21            | 44      | 50.21    |
| Z-58    | 103            | 53      | 23.96    | 21            | 44      | 22.45    |
| Z-57    | 103            | 53      | 35.77    | 21            | 44      | 25.98    |
| Z-56    | 103            | 53      | 52.12    | 21            | 44      | 5.46     |
| Z-55    | 103            | 53      | 50.24    | 21            | 43      | 19.96    |
| Z-54    | 103            | 54      | 7.16     | 21            | 43      | 3.94     |
| Z-53    | 103            | 54      | 12.71    | 21            | 42      | 29.23    |
| Z-52    | 103            | 53      | 53.02    | 21            | 41      | 44.95    |
| Z-51    | 103            | 53      | 58.20    | 21            | 41      | 24.54    |
| Z-50    | 103            | 54      | 23.11    | 21            | 40      | 56.68    |
| Z-49    | 103            | 55      | 0.55     | 21            | 39      | 19.30    |
| Z-48    | 103            | 55      | 43.21    | 21            | 39      | 6.48     |
| Z-47    | 103            | 55      | 38.17    | 21            | 38      | 54.17    |
| Z-46    | 103            | 55      | 57.58    | 21            | 38      | 34.12    |
| Z-45    | 103            | 56      | 16.76    | 21            | 37      | 37.63    |
| Z-44    | 103            | 56      | 13.70    | 21            | 37      | 25.82    |
| Z-43    | 103            | 56      | 37.86    | 21            | 36      | 28.15    |
| Z-42    | 103            | 56      | 45.38    | 21            | 35      | 26.38    |
| Z-41    | 103            | 56      | 58.09    | 21            | 35      | 22.78    |
| Z-40    | 103            | 57      | 23.11    | 21            | 34      | 55.34    |
| Z-39    | 103            | 57      | 22.75    | 21            | 34      | 15.89    |
| Z-38    | 103            | 57      | 54.58    | 21            | 32      | 53.99    |
| Z-37    | 103            | 57      | 34.45    | 21            | 31      | 27.59    |
| Z-36    | 103            | 58      | 1.13     | 21            | 31      | 8.29     |
| Z-35    | 103            | 59      | 13.88    | 21            | 30      | 31.18    |
| Z-34    | 103            | 59      | 51.36    | 21            | 29      | 26.66    |
| Z-33    | 103            | 59      | 59.21    | 21            | 28      | 35.26    |
| Z-32    | 104            | 0       | 9.97     | 21            | 28      | 21.47    |
| Z-31    | 104            | 0       | 3.13     | 21            | 28      | 6.24     |
| Z-30    | 104            | 1       | 54.73    | 21            | 25      | 39.47    |
| Z-29    | 104            | 1       | 48.86    | 21            | 25      | 27.26    |
| Z-28    | 104            | 1       | 56.78    | 21            | 25      | 18.37    |
| Z-27    | 104            | 1       | 43.00    | 21            | 25      | 5.23     |
| Z-26    | 104            | 2       | 56.26    | 21            | 24      | 49.00    |
| Z-25    | 104            | 3       | 10.19    | 21            | 24      | 38.34    |
| AB-1    | 104            | 3       | 28.48    | 21            | 25      | 24.96    |
| AB-2    | 104            | 4       | 0.16     | 21            | 25      | 22.69    |
| AB-3    | 104            | 4       | 10.13    | 21            | 25      | 43.18    |
| AB-4    | 104            | 4       | 47.86    | 21            | 25      | 53.54    |
| AB-5    | 104            | 5       | 2.51     | 21            | 26      | 21.62    |
| AB-6    | 104            | 5       | 41.75    | 21            | 26      | 26.34    |
| AB-7    | 104            | 5       | 42.54    | 21            | 26      | 56.26    |
| AB-8    | 104            | 6       | 7.42     | 21            | 27      | 30.38    |
| AB-9    | 104            | 5       | 42.25    | 21            | 28      | 11.24    |
| AB-10   | 104            | 6       | 2.95     | 21            | 28      | 53.11    |
| AB-11   | 104            | 6       | 42.01    | 21            | 28      | 41.66    |
| AB-12   | 104            | 7       | 7.21     | 21            | 29      | 34.48    |
| AB-13   | 104            | 7       | 33.89    | 21            | 29      | 48.52    |
| AB-14   | 104            | 9       | 23.15    | 21            | 29      | 15.86    |
| AB-15   | 104            | 10      | 30.72    | 21            | 30      | 18.04    |
| AB-16   | 104            | 10      | 44.08    | 21            | 30      | 36.61    |
| AB-17   | 104            | 10      | 51.46    | 21            | 31      | 50.88    |
| AB-18   | 104            | 10      | 47.03    | 21            | 33      | 20.09    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AB-19   | 104            | 11      | 29.44    | 21            | 34      | 39.94    |
| AB-20   | 104            | 12      | 8.46     | 21            | 34      | 49.94    |
| AB-21   | 104            | 12      | 35.03    | 21            | 35      | 12.70    |
| AB-22   | 104            | 13      | 49.84    | 21            | 34      | 1.06     |
| AB-23   | 104            | 14      | 36.24    | 21            | 33      | 57.38    |
| AB-24   | 104            | 14      | 58.81    | 21            | 34      | 29.82    |
| AB-25   | 104            | 15      | 54.29    | 21            | 34      | 17.51    |
| AB-26   | 104            | 16      | 23.20    | 21            | 33      | 49.21    |
| AB-27   | 104            | 17      | 10.07    | 21            | 33      | 43.27    |
| AB-28   | 104            | 17      | 42.86    | 21            | 33      | 12.85    |
| AB-29   | 104            | 17      | 52.22    | 21            | 33      | 33.12    |
| AB-30   | 104            | 17      | 37.68    | 21            | 33      | 58.50    |
| AB-31   | 104            | 17      | 41.86    | 21            | 34      | 41.45    |
| AB-32   | 104            | 17      | 6.47     | 21            | 35      | 6.47     |
| AB-33   | 104            | 16      | 41.38    | 21            | 35      | 52.55    |
| AB-34   | 104            | 18      | 57.20    | 21            | 36      | 51.84    |
| AB-35   | 104            | 20      | 26.45    | 21            | 36      | 26.10    |
| AB-36   | 104            | 20      | 43.30    | 21            | 36      | 43.27    |
| AB-37   | 104            | 21      | 31.14    | 21            | 36      | 32.44    |
| AB-38   | 104            | 21      | 39.28    | 21            | 37      | 1.63     |
| AB-39   | 104            | 21      | 56.88    | 21            | 37      | 2.10     |
| AB-40   | 104            | 23      | 39.44    | 21            | 38      | 14.64    |
| AB-41   | 104            | 23      | 46.61    | 21            | 38      | 34.58    |
| AB-42   | 104            | 23      | 36.02    | 21            | 38      | 52.15    |
| AB-43   | 104            | 23      | 48.84    | 21            | 39      | 13.79    |
| AB-44   | 104            | 25      | 32.74    | 21            | 39      | 48.92    |
| AB-45   | 104            | 24      | 23.08    | 21            | 42      | 51.95    |
| AB-46   | 104            | 24      | 30.46    | 21            | 43      | 21.36    |
| AB-47   | 104            | 24      | 20.05    | 21            | 43      | 55.16    |
| AB-48   | 104            | 24      | 29.84    | 21            | 44      | 31.27    |
| AB-49   | 104            | 24      | 12.53    | 21            | 45      | 39.02    |
| AB-50   | 104            | 24      | 19.19    | 21            | 46      | 8.36     |
| AB-51   | 104            | 23      | 51.43    | 21            | 47      | 37.00    |
| AB-52   | 104            | 24      | 3.71     | 21            | 47      | 45.56    |
| AB-53   | 104            | 24      | 0.00     | 21            | 48      | 10.91    |
| AB-54   | 104            | 24      | 18.14    | 21            | 48      | 48.31    |
| AB-55   | 104            | 24      | 38.95    | 21            | 51      | 10.87    |
| AB-56   | 104            | 24      | 54.72    | 21            | 51      | 30.28    |
| AB-57   | 104            | 25      | 45.37    | 21            | 51      | 36.11    |
| AB-58   | 104            | 26      | 24.86    | 21            | 51      | 59.04    |
| AB-59   | 104            | 27      | 18.32    | 21            | 53      | 8.05     |
| AB-60   | 104            | 27      | 45.72    | 21            | 53      | 14.86    |
| AB-61   | 104            | 28      | 0.30     | 21            | 53      | 33.14    |
| AB-62   | 104            | 28      | 22.26    | 21            | 53      | 19.39    |
| AB-63   | 104            | 28      | 55.06    | 21            | 53      | 29.80    |
| AB-64   | 104            | 29      | 31.45    | 21            | 54      | 9.36     |
| AB-65   | 104            | 29      | 37.68    | 21            | 54      | 45.40    |
| AB-66   | 104            | 29      | 29.98    | 21            | 55      | 8.62     |
| AB-67   | 104            | 29      | 40.09    | 21            | 55      | 23.34    |
| AB-68   | 104            | 30      | 4.61     | 21            | 55      | 21.11    |
| AB-69   | 104            | 31      | 14.34    | 21            | 55      | 50.84    |
| AB-70   | 104            | 31      | 12.04    | 21            | 57      | 20.41    |
| AB-71   | 104            | 31      | 15.31    | 21            | 58      | 7.36     |
| AB-72   | 104            | 29      | 50.86    | 21            | 58      | 15.42    |
| AB-73   | 104            | 29      | 3.12     | 21            | 57      | 58.50    |
| AB-74   | 104            | 28      | 56.03    | 21            | 57      | 44.21    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AB-75   | 104            | 28      | 13.48    | 21            | 58      | 16.54    |
| AB-76   | 104            | 27      | 40.64    | 21            | 58      | 7.82     |
| AB-77   | 104            | 26      | 50.75    | 21            | 58      | 16.68    |
| AB-78   | 104            | 26      | 46.10    | 21            | 59      | 53.09    |
| AB-79   | 104            | 26      | 24.11    | 21            | 59      | 48.80    |
| AB-80   | 104            | 25      | 28.24    | 22            | 0       | 16.20    |
| AB-81   | 104            | 25      | 11.10    | 22            | 0       | 38.27    |
| AB-82   | 104            | 24      | 50.72    | 22            | 0       | 35.10    |
| AB-83   | 104            | 24      | 28.37    | 22            | 1       | 15.02    |
| AB-84   | 104            | 23      | 59.14    | 22            | 1       | 18.08    |
| AB-85   | 104            | 23      | 33.65    | 22            | 1       | 5.66     |
| AB-86   | 104            | 23      | 8.02     | 22            | 1       | 32.63    |
| AB-87   | 104            | 23      | 33.72    | 22            | 2       | 15.36    |
| AB-88   | 104            | 23      | 21.88    | 22            | 2       | 44.27    |
| AB-89   | 104            | 23      | 33.14    | 22            | 4       | 13.76    |
| AB-90   | 104            | 22      | 37.78    | 22            | 4       | 48.94    |
| AB-91   | 104            | 21      | 38.92    | 22            | 5       | 1.72     |
| AB-92   | 104            | 21      | 56.63    | 22            | 5       | 23.71    |
| AB-93   | 104            | 22      | 0.84     | 22            | 6       | 9.65     |
| AB-94   | 104            | 21      | 36.94    | 22            | 7       | 5.41     |
| AB-95   | 104            | 21      | 17.42    | 22            | 7       | 15.82    |
| AB-96   | 104            | 21      | 27.47    | 22            | 8       | 4.02     |
| AB-97   | 104            | 22      | 1.45     | 22            | 8       | 7.66     |
| AB-98   | 104            | 21      | 28.62    | 22            | 9       | 54.40    |
| AB-99   | 104            | 21      | 35.64    | 22            | 10      | 12.79    |
| AB-100  | 104            | 21      | 20.41    | 22            | 10      | 36.70    |
| AB-101  | 104            | 19      | 23.99    | 22            | 11      | 24.22    |
| AB-102  | 104            | 19      | 41.05    | 22            | 12      | 14.54    |
| AB-103  | 104            | 19      | 18.01    | 22            | 12      | 48.17    |
| AB-104  | 104            | 19      | 24.42    | 22            | 13      | 36.19    |
| AB-105  | 104            | 19      | 1.78     | 22            | 14      | 7.55     |
| AB-106  | 104            | 19      | 9.12     | 22            | 14      | 54.53    |
| AB-107  | 104            | 18      | 3.35     | 22            | 16      | 5.52     |
| AB-108  | 104            | 17      | 44.59    | 22            | 16      | 57.90    |
| AB-109  | 104            | 17      | 23.68    | 22            | 17      | 15.32    |
| AB-110  | 104            | 17      | 26.48    | 22            | 17      | 39.01    |
| AB-111  | 104            | 16      | 54.73    | 22            | 17      | 55.72    |
| AB-112  | 104            | 16      | 54.26    | 22            | 18      | 13.43    |
| AB-113  | 104            | 17      | 33.58    | 22            | 18      | 21.10    |
| AB-114  | 104            | 17      | 37.10    | 22            | 20      | 4.56     |
| AB-115  | 104            | 17      | 47.47    | 22            | 20      | 7.48     |
| AB-116  | 104            | 18      | 16.70    | 22            | 21      | 48.13    |
| AB-117  | 104            | 19      | 0.26     | 22            | 22      | 30.36    |
| AB-118  | 104            | 19      | 53.18    | 22            | 22      | 53.29    |
| AB-119  | 104            | 20      | 31.45    | 22            | 23      | 52.73    |
| AB-120  | 104            | 20      | 25.98    | 22            | 24      | 7.13     |
| AB-121  | 104            | 20      | 42.29    | 22            | 24      | 45.61    |
| AB-122  | 104            | 20      | 31.52    | 22            | 25      | 28.31    |
| AB-123  | 104            | 19      | 39.86    | 22            | 25      | 58.76    |
| AB-124  | 104            | 19      | 38.24    | 22            | 26      | 32.21    |
| AB-125  | 104            | 18      | 34.99    | 22            | 27      | 3.71     |
| AB-126  | 104            | 17      | 47.40    | 22            | 28      | 18.73    |
| AB-127  | 104            | 17      | 57.19    | 22            | 29      | 5.71     |
| AB-128  | 104            | 18      | 18.40    | 22            | 29      | 20.15    |
| AB-129  | 104            | 18      | 12.24    | 22            | 29      | 51.90    |
| AB-130  | 104            | 19      | 26.29    | 22            | 31      | 8.80     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AB-131  | 104            | 19      | 4.66     | 22            | 31      | 59.70    |
| AB-132  | 104            | 20      | 1.25     | 22            | 32      | 30.16    |
| AB-133  | 104            | 19      | 43.79    | 22            | 32      | 51.43    |
| AB-134  | 104            | 20      | 1.68     | 22            | 33      | 15.23    |
| AB-135  | 104            | 19      | 39.54    | 22            | 33      | 55.98    |
| AB-136  | 104            | 18      | 41.47    | 22            | 34      | 2.53     |
| AB-137  | 104            | 18      | 17.39    | 22            | 34      | 27.48    |
| AB-138  | 104            | 17      | 58.13    | 22            | 34      | 22.01    |
| AB-139  | 104            | 17      | 29.26    | 22            | 35      | 10.50    |
| AB-140  | 104            | 17      | 55.00    | 22            | 36      | 5.44     |
| AB-141  | 104            | 18      | 1.30     | 22            | 36      | 50.18    |
| AA-50   | 104            | 17      | 38.00    | 22            | 37      | 8.29     |
| AA-49   | 104            | 16      | 6.78     | 22            | 36      | 50.72    |
| AA-48   | 104            | 15      | 55.08    | 22            | 37      | 6.67     |
| AA-47   | 104            | 14      | 50.96    | 22            | 37      | 16.97    |
| AA-46   | 104            | 14      | 21.70    | 22            | 37      | 4.15     |
| AA-45   | 104            | 13      | 18.30    | 22            | 37      | 12.79    |
| AA-44   | 104            | 13      | 11.68    | 22            | 37      | 0.95     |
| AA-43   | 104            | 9       | 27.76    | 22            | 38      | 12.44    |
| AA-42   | 104            | 8       | 28.18    | 22            | 38      | 6.76     |
| AA-41   | 104            | 8       | 2.65     | 22            | 38      | 20.69    |
| AA-40   | 104            | 7       | 57.86    | 22            | 37      | 28.81    |
| AA-39   | 104            | 6       | 54.65    | 22            | 36      | 8.53     |
| AA-38   | 104            | 5       | 48.19    | 22            | 36      | 3.60     |
| AA-37   | 104            | 4       | 15.02    | 22            | 34      | 20.96    |
| AA-36   | 104            | 3       | 22.57    | 22            | 33      | 53.82    |
| AA-35   | 104            | 3       | 12.28    | 22            | 33      | 14.40    |
| AA-34   | 104            | 1       | 20.57    | 22            | 32      | 44.66    |
| AA-33   | 103            | 59      | 41.68    | 22            | 33      | 1.55     |
| AA-32   | 103            | 58      | 49.76    | 22            | 32      | 33.43    |
| AA-31   | 103            | 58      | 24.71    | 22            | 32      | 34.30    |
| AA-30   | 103            | 58      | 14.48    | 22            | 32      | 19.75    |
| AA-29   | 103            | 57      | 20.05    | 22            | 32      | 44.27    |
| AA-28   | 103            | 57      | 24.30    | 22            | 33      | 17.60    |
| AA-27   | 103            | 56      | 44.34    | 22            | 33      | 19.66    |
| AA-26   | 103            | 56      | 20.83    | 22            | 33      | 2.48     |
| AA-25   | 103            | 56      | 9.89     | 22            | 33      | 22.00    |
| AA-24   | 103            | 55      | 45.91    | 22            | 33      | 27.29    |
| AA-23   | 103            | 55      | 41.88    | 22            | 33      | 44.28    |
| AA-22   | 103            | 55      | 14.30    | 22            | 33      | 50.08    |
| AA-21   | 103            | 54      | 50.94    | 22            | 33      | 39.24    |
| AA-20   | 103            | 54      | 28.01    | 22            | 34      | 27.30    |
| AA-19   | 103            | 53      | 55.75    | 22            | 34      | 44.15    |
| AA-18   | 103            | 53      | 54.49    | 22            | 34      | 56.75    |
| AA-17   | 103            | 53      | 27.89    | 22            | 35      | 8.56     |
| AA-16   | 103            | 52      | 54.80    | 22            | 35      | 4.52     |
| AA-15   | 103            | 52      | 43.32    | 22            | 35      | 24.04    |
| AA-14   | 103            | 52      | 51.92    | 22            | 35      | 44.59    |
| AA-13   | 103            | 52      | 30.00    | 22            | 36      | 22.61    |
| AA-12   | 103            | 51      | 53.78    | 22            | 36      | 23.36    |
| AA-11   | 103            | 50      | 31.34    | 22            | 35      | 52.55    |
| AA-10   | 103            | 49      | 41.41    | 22            | 36      | 35.10    |
| AA-9    | 103            | 49      | 40.30    | 22            | 36      | 53.93    |
| AA-8    | 103            | 49      | 9.66     | 22            | 37      | 10.06    |
| AA-7    | 103            | 48      | 49.10    | 22            | 38      | 38.22    |
| AA-6    | 103            | 48      | 13.79    | 22            | 38      | 57.95    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AA-5    | 103            | 47      | 8.70     | 22            | 39      | 3.35     |
| AA-4    | 103            | 47      | 6.94     | 22            | 38      | 23.78    |
| AA-3    | 103            | 46      | 55.52    | 22            | 38      | 13.85    |
| AA-2    | 103            | 46      | 8.26     | 22            | 37      | 57.79    |
| AA-1    | 103            | 45      | 53.53    | 22            | 37      | 30.18    |

**XXIX.- CUENCA HIDROLOGICA RIO JESUS MARIA: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 130.29 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde el nacimiento del Río Jesús María hasta donde se le unen los Arroyos Tempisque y Los Leones.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la polygonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Jesús María tiene una superficie de aportación de 3,083.4 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada por las siguientes regiones y cuencas hidrológicas: al Norte y al Oeste por la región hidrológica número 11 Presidio-San Pedro, al Sur por la cuenca hidrológica Río Huaynamota y al Este por las cuencas hidrológicas Río San Juan y Río Atengo. Geográficamente se ubica dentro de la polygonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AA-79   | 104            | 16      | 1.92     | 23            | 1       | 53.54    |
| AA-78   | 104            | 14      | 41.75    | 22            | 56      | 21.12    |
| AA-77   | 104            | 14      | 58.70    | 22            | 56      | 11.36    |
| AA-76   | 104            | 14      | 51.83    | 22            | 55      | 24.60    |
| AA-75   | 104            | 15      | 24.44    | 22            | 55      | 3.36     |
| AA-74   | 104            | 15      | 16.99    | 22            | 54      | 38.20    |
| AA-73   | 104            | 15      | 31.10    | 22            | 54      | 20.23    |
| AA-72   | 104            | 14      | 48.77    | 22            | 52      | 51.13    |
| AA-71   | 104            | 15      | 44.68    | 22            | 52      | 16.72    |
| AA-70   | 104            | 15      | 56.95    | 22            | 51      | 34.88    |
| AA-69   | 104            | 15      | 27.47    | 22            | 50      | 15.79    |
| AA-68   | 104            | 15      | 48.67    | 22            | 50      | 16.91    |
| AA-67   | 104            | 15      | 42.88    | 22            | 48      | 41.51    |
| AA-66   | 104            | 14      | 55.18    | 22            | 47      | 20.83    |
| AA-65   | 104            | 15      | 10.51    | 22            | 47      | 11.36    |
| AA-64   | 104            | 15      | 4.79     | 22            | 46      | 26.40    |
| AA-63   | 104            | 14      | 46.14    | 22            | 45      | 55.15    |
| AA-62   | 104            | 16      | 5.23     | 22            | 44      | 16.04    |
| AA-61   | 104            | 15      | 33.23    | 22            | 42      | 54.11    |
| AA-60   | 104            | 16      | 57.83    | 22            | 41      | 52.33    |
| AA-59   | 104            | 16      | 25.28    | 22            | 41      | 1.43     |
| AA-58   | 104            | 16      | 43.75    | 22            | 40      | 36.41    |
| AA-57   | 104            | 16      | 39.50    | 22            | 39      | 49.14    |
| AA-56   | 104            | 16      | 50.92    | 22            | 39      | 7.67     |
| AA-55   | 104            | 17      | 32.46    | 22            | 39      | 3.64     |
| AA-54   | 104            | 17      | 20.15    | 22            | 38      | 45.20    |
| AA-53   | 104            | 17      | 35.59    | 22            | 38      | 28.46    |
| AA-52   | 104            | 17      | 25.33    | 22            | 37      | 51.13    |
| AA-51   | 104            | 17      | 43.22    | 22            | 37      | 39.50    |
| AA-50   | 104            | 17      | 38.00    | 22            | 37      | 8.29     |
| AB-141  | 104            | 18      | 1.30     | 22            | 36      | 50.18    |
| AB-140  | 104            | 17      | 55.00    | 22            | 36      | 5.44     |
| AB-139  | 104            | 17      | 29.26    | 22            | 35      | 10.50    |
| AB-138  | 104            | 17      | 58.13    | 22            | 34      | 22.01    |
| AB-137  | 104            | 18      | 17.39    | 22            | 34      | 27.48    |
| AB-136  | 104            | 18      | 41.47    | 22            | 34      | 2.53     |
| AB-135  | 104            | 19      | 39.54    | 22            | 33      | 55.98    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AB-134  | 104            | 20      | 1.68     | 22            | 33      | 15.23    |
| AB-133  | 104            | 19      | 43.79    | 22            | 32      | 51.43    |
| AB-132  | 104            | 20      | 1.25     | 22            | 32      | 30.16    |
| AB-131  | 104            | 19      | 4.66     | 22            | 31      | 59.70    |
| AB-130  | 104            | 19      | 26.29    | 22            | 31      | 8.80     |
| AB-129  | 104            | 18      | 12.24    | 22            | 29      | 51.90    |
| AB-128  | 104            | 18      | 18.40    | 22            | 29      | 20.15    |
| AB-127  | 104            | 17      | 57.19    | 22            | 29      | 5.71     |
| AB-126  | 104            | 17      | 47.40    | 22            | 28      | 18.73    |
| AB-125  | 104            | 18      | 34.99    | 22            | 27      | 3.71     |
| AB-124  | 104            | 19      | 38.24    | 22            | 26      | 32.21    |
| AB-123  | 104            | 19      | 39.86    | 22            | 25      | 58.76    |
| AB-122  | 104            | 20      | 31.52    | 22            | 25      | 28.31    |
| AB-121  | 104            | 20      | 42.29    | 22            | 24      | 45.61    |
| AC-1    | 104            | 21      | 17.82    | 22            | 24      | 8.75     |
| AC-2    | 104            | 20      | 52.15    | 22            | 22      | 36.37    |
| AC-3    | 104            | 20      | 54.74    | 22            | 21      | 32.54    |
| AC-4    | 104            | 22      | 2.93     | 22            | 19      | 27.34    |
| AC-5    | 104            | 21      | 52.81    | 22            | 18      | 52.38    |
| AC-6    | 104            | 22      | 9.01     | 22            | 18      | 37.37    |
| AC-7    | 104            | 22      | 28.02    | 22            | 19      | 2.89     |
| AC-8    | 104            | 25      | 4.30     | 22            | 20      | 2.87     |
| AC-9    | 104            | 26      | 0.31     | 22            | 19      | 44.18    |
| AC-10   | 104            | 26      | 27.06    | 22            | 20      | 18.92    |
| AC-11   | 104            | 27      | 43.81    | 22            | 19      | 42.24    |
| AC-12   | 104            | 28      | 41.77    | 22            | 19      | 47.03    |
| AC-13   | 104            | 28      | 54.23    | 22            | 19      | 10.78    |
| AC-14   | 104            | 30      | 26.46    | 22            | 19      | 42.42    |
| AC-15   | 104            | 31      | 8.00     | 22            | 19      | 28.24    |
| AC-16   | 104            | 31      | 25.43    | 22            | 19      | 50.81    |
| AC-17   | 104            | 31      | 52.46    | 22            | 19      | 53.04    |
| AC-18   | 104            | 32      | 24.50    | 22            | 19      | 36.52    |
| AC-19   | 104            | 33      | 4.14     | 22            | 20      | 18.89    |
| AC-20   | 104            | 33      | 55.98    | 22            | 19      | 57.00    |
| AC-21   | 104            | 35      | 34.58    | 22            | 20      | 15.54    |
| AC-22   | 104            | 36      | 50.26    | 22            | 21      | 51.80    |
| AC-23   | 104            | 37      | 28.27    | 22            | 21      | 49.93    |
| AC-24   | 104            | 38      | 49.34    | 22            | 22      | 21.65    |
| AC-25   | 104            | 39      | 9.40     | 22            | 23      | 30.08    |
| AC-26   | 104            | 39      | 38.63    | 22            | 24      | 0.14     |
| AC-27   | 104            | 39      | 31.00    | 22            | 25      | 28.99    |
| AC-28   | 104            | 40      | 10.78    | 22            | 26      | 1.10     |
| AC-29   | 104            | 40      | 21.29    | 22            | 26      | 45.31    |
| AC-30   | 104            | 40      | 51.42    | 22            | 27      | 0.29     |
| AC-31   | 104            | 41      | 21.19    | 22            | 28      | 14.59    |
| AC-32   | 104            | 42      | 52.78    | 22            | 28      | 18.48    |
| AC-33   | 104            | 42      | 45.36    | 22            | 29      | 54.82    |
| AC-34   | 104            | 43      | 33.13    | 22            | 30      | 35.96    |
| AC-35   | 104            | 43      | 22.66    | 22            | 31      | 7.97     |
| AC-36   | 104            | 44      | 27.02    | 22            | 31      | 44.87    |
| AC-37   | 104            | 44      | 5.35     | 22            | 32      | 23.68    |
| AC-38   | 104            | 44      | 10.50    | 22            | 33      | 18.65    |
| AC-39   | 104            | 43      | 42.06    | 22            | 33      | 24.41    |
| AC-40   | 104            | 43      | 44.90    | 22            | 34      | 9.91     |
| AC-41   | 104            | 42      | 58.75    | 22            | 34      | 49.94    |
| AC-42   | 104            | 42      | 37.98    | 22            | 36      | 12.82    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AC-43   | 104            | 42      | 45.83    | 22            | 36      | 44.46    |
| AC-44   | 104            | 42      | 16.13    | 22            | 36      | 52.31    |
| AC-45   | 104            | 42      | 15.84    | 22            | 37      | 31.73    |
| AC-46   | 104            | 42      | 49.72    | 22            | 37      | 58.80    |
| AC-47   | 104            | 42      | 37.22    | 22            | 38      | 32.64    |
| AC-48   | 104            | 43      | 7.18     | 22            | 38      | 58.60    |
| AC-49   | 104            | 42      | 15.70    | 22            | 41      | 12.16    |
| AC-50   | 104            | 42      | 36.00    | 22            | 41      | 19.28    |
| AC-51   | 104            | 43      | 24.13    | 22            | 42      | 39.31    |
| AC-52   | 104            | 43      | 46.52    | 22            | 43      | 57.50    |
| AC-53   | 104            | 44      | 27.56    | 22            | 44      | 19.93    |
| AC-54   | 104            | 44      | 33.68    | 22            | 45      | 28.76    |
| AC-55   | 104            | 43      | 41.59    | 22            | 45      | 51.55    |
| AC-56   | 104            | 44      | 0.49     | 22            | 46      | 26.08    |
| AC-57   | 104            | 43      | 35.15    | 22            | 47      | 13.42    |
| AC-58   | 104            | 44      | 22.63    | 22            | 48      | 5.36     |
| AC-59   | 104            | 44      | 35.45    | 22            | 49      | 0.44     |
| AC-60   | 104            | 44      | 11.54    | 22            | 49      | 4.30     |
| AC-61   | 104            | 44      | 13.06    | 22            | 49      | 35.33    |
| AC-62   | 104            | 44      | 41.82    | 22            | 50      | 16.58    |
| AC-63   | 104            | 45      | 5.87     | 22            | 50      | 14.28    |
| AC-64   | 104            | 45      | 38.34    | 22            | 52      | 15.82    |
| AC-65   | 104            | 46      | 7.46     | 22            | 52      | 29.39    |
| AC-66   | 104            | 46      | 10.42    | 22            | 54      | 28.55    |
| AC-67   | 104            | 45      | 8.03     | 22            | 55      | 31.94    |
| AC-68   | 104            | 45      | 11.02    | 22            | 56      | 7.84     |
| AC-69   | 104            | 44      | 51.58    | 22            | 56      | 14.86    |
| AC-70   | 104            | 44      | 9.49     | 22            | 57      | 34.67    |
| AC-71   | 104            | 43      | 39.40    | 22            | 57      | 4.82     |
| AC-72   | 104            | 43      | 22.62    | 22            | 57      | 8.71     |
| AC-73   | 104            | 42      | 7.16     | 22            | 57      | 57.82    |
| AC-74   | 104            | 42      | 5.58     | 22            | 58      | 55.06    |
| AC-75   | 104            | 40      | 27.55    | 22            | 59      | 14.75    |
| AC-76   | 104            | 40      | 8.69     | 22            | 59      | 45.67    |
| AC-77   | 104            | 39      | 35.21    | 22            | 58      | 9.77     |
| AC-78   | 104            | 40      | 8.36     | 22            | 57      | 31.07    |
| AC-79   | 104            | 40      | 11.10    | 22            | 56      | 32.64    |
| AC-80   | 104            | 38      | 17.05    | 22            | 55      | 34.54    |
| AC-81   | 104            | 37      | 32.88    | 22            | 55      | 45.91    |
| AC-82   | 104            | 37      | 35.04    | 22            | 56      | 18.31    |
| AC-83   | 104            | 36      | 43.63    | 22            | 56      | 19.03    |
| AC-84   | 104            | 36      | 5.62     | 22            | 57      | 15.01    |
| AC-85   | 104            | 34      | 18.23    | 22            | 57      | 56.38    |
| AC-86   | 104            | 33      | 34.02    | 22            | 59      | 11.08    |
| AC-87   | 104            | 33      | 4.39     | 22            | 59      | 5.68     |
| AC-88   | 104            | 32      | 38.83    | 22            | 58      | 4.15     |
| AC-89   | 104            | 32      | 48.01    | 22            | 57      | 51.41    |
| AC-90   | 104            | 32      | 6.47     | 22            | 57      | 31.82    |
| AC-91   | 104            | 30      | 46.40    | 22            | 57      | 38.63    |
| AC-92   | 104            | 30      | 20.95    | 22            | 58      | 1.34     |
| AC-93   | 104            | 30      | 0.65     | 22            | 57      | 26.35    |
| AC-94   | 104            | 29      | 53.92    | 22            | 57      | 45.32    |
| AC-95   | 104            | 28      | 52.18    | 22            | 58      | 15.31    |
| AC-96   | 104            | 27      | 32.54    | 22            | 58      | 11.28    |
| AC-97   | 104            | 26      | 28.46    | 22            | 58      | 36.84    |
| AC-98   | 104            | 26      | 0.92     | 22            | 58      | 30.32    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AC-99   | 104            | 25      | 43.39    | 22            | 57      | 55.37    |
| AC-100  | 104            | 23      | 39.26    | 22            | 58      | 12.11    |
| AC-101  | 104            | 22      | 49.91    | 22            | 57      | 50.80    |
| AC-102  | 104            | 22      | 26.76    | 22            | 58      | 18.98    |
| AC-103  | 104            | 22      | 15.06    | 22            | 59      | 35.56    |
| AC-104  | 104            | 21      | 42.41    | 22            | 59      | 30.95    |
| AC-105  | 104            | 20      | 39.62    | 22            | 58      | 28.92    |
| AC-106  | 104            | 20      | 7.26     | 22            | 58      | 57.68    |
| AC-107  | 104            | 20      | 14.82    | 22            | 59      | 29.62    |
| AC-108  | 104            | 19      | 49.19    | 22            | 59      | 50.75    |
| AC-109  | 104            | 19      | 57.72    | 23            | 0       | 30.46    |
| AC-110  | 104            | 19      | 20.39    | 23            | 0       | 52.42    |
| AC-111  | 104            | 19      | 27.70    | 23            | 2       | 3.30     |
| AC-112  | 104            | 16      | 45.88    | 23            | 2       | 24.76    |

**XXX.- CUENCA HIDROLOGICA RIO HUAYNAMOTA:** VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 229.58 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).

El volumen disponible que se señala en el párrafo anterior, comprende desde la confluencia de los Arroyos Tempisque y Los Leones con el Río Jesús María, hasta su confluencia con el Río Atengo.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Huaynamota tiene una superficie de aportación de 2,049.2 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada por las siguientes regiones y cuencas hidrológicas: al Norte por la cuenca hidrológica Río Jesús María, al Sur por la cuenca hidrológica Río Santiago 5, al Este por la cuenca hidrológica Río Atengo y al Oeste por la región hidrológica número 11 Presidio-San Pedro. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AC-36   | 104            | 44      | 27.02    | 22            | 31      | 44.87    |
| AC-35   | 104            | 43      | 22.66    | 22            | 31      | 7.97     |
| AC-34   | 104            | 43      | 33.13    | 22            | 30      | 35.96    |
| AC-33   | 104            | 42      | 45.36    | 22            | 29      | 54.82    |
| AC-32   | 104            | 42      | 52.78    | 22            | 28      | 18.48    |
| AC-31   | 104            | 41      | 21.19    | 22            | 28      | 14.59    |
| AC-30   | 104            | 40      | 51.42    | 22            | 27      | 0.29     |
| AC-29   | 104            | 40      | 21.29    | 22            | 26      | 45.31    |
| AC-28   | 104            | 40      | 10.78    | 22            | 26      | 1.10     |
| AC-27   | 104            | 39      | 31.00    | 22            | 25      | 28.99    |
| AC-26   | 104            | 39      | 38.63    | 22            | 24      | 0.14     |
| AC-25   | 104            | 39      | 9.40     | 22            | 23      | 30.08    |
| AC-24   | 104            | 38      | 49.34    | 22            | 22      | 21.65    |
| AC-23   | 104            | 37      | 28.27    | 22            | 21      | 49.93    |
| AC-22   | 104            | 36      | 50.26    | 22            | 21      | 51.80    |
| AC-21   | 104            | 35      | 34.58    | 22            | 20      | 15.54    |
| AC-20   | 104            | 33      | 55.98    | 22            | 19      | 57.00    |
| AC-19   | 104            | 33      | 4.14     | 22            | 20      | 18.89    |
| AC-18   | 104            | 32      | 24.50    | 22            | 19      | 36.52    |
| AC-17   | 104            | 31      | 52.46    | 22            | 19      | 53.04    |
| AC-16   | 104            | 31      | 25.43    | 22            | 19      | 50.81    |
| AC-15   | 104            | 31      | 8.00     | 22            | 19      | 28.24    |
| AC-14   | 104            | 30      | 26.46    | 22            | 19      | 42.42    |
| AC-13   | 104            | 28      | 54.23    | 22            | 19      | 10.78    |
| AC-12   | 104            | 28      | 41.77    | 22            | 19      | 47.03    |
| AC-11   | 104            | 27      | 43.81    | 22            | 19      | 42.24    |
| AC-10   | 104            | 26      | 27.06    | 22            | 20      | 18.92    |
| AC-9    | 104            | 26      | 0.31     | 22            | 19      | 44.18    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AC-8    | 104            | 25      | 4.30     | 22            | 20      | 2.87     |
| AC-7    | 104            | 22      | 28.02    | 22            | 19      | 2.89     |
| AC-6    | 104            | 22      | 9.01     | 22            | 18      | 37.37    |
| AC-5    | 104            | 21      | 52.81    | 22            | 18      | 52.38    |
| AC-4    | 104            | 22      | 2.93     | 22            | 19      | 27.34    |
| AC-3    | 104            | 20      | 54.74    | 22            | 21      | 32.54    |
| AC-2    | 104            | 20      | 52.15    | 22            | 22      | 36.37    |
| AC-1    | 104            | 21      | 17.82    | 22            | 24      | 8.75     |
| AB-121  | 104            | 20      | 42.29    | 22            | 24      | 45.61    |
| AB-120  | 104            | 20      | 25.98    | 22            | 24      | 7.13     |
| AB-119  | 104            | 20      | 31.45    | 22            | 23      | 52.73    |
| AB-118  | 104            | 19      | 53.18    | 22            | 22      | 53.29    |
| AB-117  | 104            | 19      | 0.26     | 22            | 22      | 30.36    |
| AB-116  | 104            | 18      | 16.70    | 22            | 21      | 48.13    |
| AB-115  | 104            | 17      | 47.47    | 22            | 20      | 7.48     |
| AB-114  | 104            | 17      | 37.10    | 22            | 20      | 4.56     |
| AB-113  | 104            | 17      | 33.58    | 22            | 18      | 21.10    |
| AB-112  | 104            | 16      | 54.26    | 22            | 18      | 13.43    |
| AB-111  | 104            | 16      | 54.73    | 22            | 17      | 55.72    |
| AB-110  | 104            | 17      | 26.48    | 22            | 17      | 39.01    |
| AB-109  | 104            | 17      | 23.68    | 22            | 17      | 15.32    |
| AB-108  | 104            | 17      | 44.59    | 22            | 16      | 57.90    |
| AB-107  | 104            | 18      | 3.35     | 22            | 16      | 5.52     |
| AB-106  | 104            | 19      | 9.12     | 22            | 14      | 54.53    |
| AB-105  | 104            | 19      | 1.78     | 22            | 14      | 7.55     |
| AB-104  | 104            | 19      | 24.42    | 22            | 13      | 36.19    |
| AB-103  | 104            | 19      | 18.01    | 22            | 12      | 48.17    |
| AB-102  | 104            | 19      | 41.05    | 22            | 12      | 14.54    |
| AB-101  | 104            | 19      | 23.99    | 22            | 11      | 24.22    |
| AB-100  | 104            | 21      | 20.41    | 22            | 10      | 36.70    |
| AB-99   | 104            | 21      | 35.64    | 22            | 10      | 12.79    |
| AB-98   | 104            | 21      | 28.62    | 22            | 9       | 54.40    |
| AB-97   | 104            | 22      | 1.45     | 22            | 8       | 7.66     |
| AB-96   | 104            | 21      | 27.47    | 22            | 8       | 4.02     |
| AB-95   | 104            | 21      | 17.42    | 22            | 7       | 15.82    |
| AB-94   | 104            | 21      | 36.94    | 22            | 7       | 5.41     |
| AB-93   | 104            | 22      | 0.84     | 22            | 6       | 9.65     |
| AB-92   | 104            | 21      | 56.63    | 22            | 5       | 23.71    |
| AB-91   | 104            | 21      | 38.92    | 22            | 5       | 1.72     |
| AB-90   | 104            | 22      | 37.78    | 22            | 4       | 48.94    |
| AB-89   | 104            | 23      | 33.14    | 22            | 4       | 13.76    |
| AB-88   | 104            | 23      | 21.88    | 22            | 2       | 44.27    |
| AB-87   | 104            | 23      | 33.72    | 22            | 2       | 15.36    |
| AB-86   | 104            | 23      | 8.02     | 22            | 1       | 32.63    |
| AB-85   | 104            | 23      | 33.65    | 22            | 1       | 5.66     |
| AB-84   | 104            | 23      | 59.14    | 22            | 1       | 18.08    |
| AB-83   | 104            | 24      | 28.37    | 22            | 1       | 15.02    |
| AB-82   | 104            | 24      | 50.72    | 22            | 0       | 35.10    |
| AB-81   | 104            | 25      | 11.10    | 22            | 0       | 38.27    |
| AB-80   | 104            | 25      | 28.24    | 22            | 0       | 16.20    |
| AB-79   | 104            | 26      | 24.11    | 21            | 59      | 48.80    |
| AB-78   | 104            | 26      | 46.10    | 21            | 59      | 53.09    |
| AB-77   | 104            | 26      | 50.75    | 21            | 58      | 16.68    |
| AB-76   | 104            | 27      | 40.64    | 21            | 58      | 7.82     |
| AB-75   | 104            | 28      | 13.48    | 21            | 58      | 16.54    |
| AB-74   | 104            | 28      | 56.03    | 21            | 57      | 44.21    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AB-73   | 104            | 29      | 3.12     | 21            | 57      | 58.50    |
| AB-72   | 104            | 29      | 50.86    | 21            | 58      | 15.42    |
| AB-71   | 104            | 31      | 15.31    | 21            | 58      | 7.36     |
| AB-70   | 104            | 31      | 12.04    | 21            | 57      | 20.41    |
| AD-1    | 104            | 32      | 32.39    | 21            | 57      | 9.07     |
| AD-2    | 104            | 33      | 15.01    | 21            | 58      | 4.15     |
| AD-3    | 104            | 34      | 17.83    | 21            | 57      | 59.04    |
| AD-4    | 104            | 34      | 49.15    | 21            | 57      | 16.45    |
| AD-5    | 104            | 36      | 10.94    | 21            | 56      | 29.94    |
| AD-6    | 104            | 36      | 47.59    | 21            | 57      | 21.49    |
| AD-7    | 104            | 37      | 7.43     | 21            | 57      | 29.48    |
| AD-8    | 104            | 37      | 36.01    | 21            | 57      | 22.68    |
| AD-9    | 104            | 38      | 5.50     | 21            | 56      | 57.84    |
| AD-10   | 104            | 38      | 22.42    | 21            | 57      | 16.81    |
| AD-11   | 104            | 39      | 41.11    | 21            | 57      | 27.40    |
| AD-12   | 104            | 40      | 14.48    | 21            | 58      | 18.62    |
| AD-13   | 104            | 40      | 25.90    | 21            | 58      | 19.99    |
| AD-14   | 104            | 40      | 25.68    | 21            | 58      | 35.00    |
| AD-15   | 104            | 39      | 55.04    | 21            | 59      | 4.24     |
| AD-16   | 104            | 40      | 28.78    | 21            | 59      | 46.50    |
| AD-17   | 104            | 40      | 22.22    | 22            | 0       | 1.76     |
| AD-18   | 104            | 40      | 40.84    | 22            | 0       | 8.46     |
| AD-19   | 104            | 40      | 50.34    | 22            | 0       | 29.84    |
| AD-20   | 104            | 40      | 46.42    | 22            | 1       | 6.96     |
| AD-21   | 104            | 40      | 18.30    | 22            | 1       | 39.04    |
| AD-22   | 104            | 41      | 43.76    | 22            | 3       | 3.67     |
| AD-23   | 104            | 41      | 46.86    | 22            | 3       | 35.17    |
| AD-24   | 104            | 42      | 59.80    | 22            | 5       | 58.45    |
| AD-25   | 104            | 42      | 46.98    | 22            | 6       | 31.03    |
| AD-26   | 104            | 42      | 30.28    | 22            | 6       | 39.96    |
| AD-27   | 104            | 42      | 38.70    | 22            | 7       | 8.58     |
| AD-28   | 104            | 42      | 13.86    | 22            | 7       | 54.77    |
| AD-29   | 104            | 43      | 2.35     | 22            | 8       | 2.62     |
| AD-30   | 104            | 43      | 16.54    | 22            | 7       | 55.13    |
| AD-31   | 104            | 43      | 57.04    | 22            | 8       | 37.90    |
| AD-32   | 104            | 44      | 50.82    | 22            | 8       | 22.34    |
| AD-33   | 104            | 45      | 59.94    | 22            | 9       | 28.33    |
| AD-34   | 104            | 46      | 0.48     | 22            | 9       | 41.54    |
| AD-35   | 104            | 47      | 7.73     | 22            | 9       | 48.24    |
| AD-36   | 104            | 47      | 29.36    | 22            | 10      | 11.42    |
| AD-37   | 104            | 48      | 8.46     | 22            | 12      | 54.50    |
| AD-38   | 104            | 48      | 34.31    | 22            | 13      | 29.32    |
| AD-39   | 104            | 48      | 16.20    | 22            | 13      | 48.07    |
| AD-40   | 104            | 48      | 25.63    | 22            | 14      | 5.57     |
| AD-41   | 104            | 47      | 58.31    | 22            | 14      | 49.56    |
| AD-42   | 104            | 48      | 3.56     | 22            | 15      | 4.86     |
| AD-43   | 104            | 47      | 47.22    | 22            | 15      | 48.20    |
| AD-44   | 104            | 48      | 14.98    | 22            | 16      | 36.70    |
| AD-45   | 104            | 48      | 25.52    | 22            | 17      | 22.74    |
| AD-46   | 104            | 48      | 19.01    | 22            | 17      | 53.02    |
| AD-47   | 104            | 49      | 6.10     | 22            | 18      | 39.85    |
| AD-48   | 104            | 49      | 30.00    | 22            | 18      | 29.09    |
| AD-49   | 104            | 49      | 39.79    | 22            | 18      | 52.09    |
| AD-50   | 104            | 50      | 0.02     | 22            | 18      | 55.22    |
| AD-51   | 104            | 50      | 36.10    | 22            | 20      | 17.30    |
| AD-52   | 104            | 51      | 37.48    | 22            | 20      | 36.53    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AD-53   | 104            | 52      | 10.78    | 22            | 21      | 3.60     |
| AD-54   | 104            | 52      | 33.64    | 22            | 20      | 52.01    |
| AD-55   | 104            | 52      | 26.98    | 22            | 21      | 20.92    |
| AD-56   | 104            | 53      | 23.46    | 22            | 22      | 9.66     |
| AD-57   | 104            | 53      | 45.02    | 22            | 22      | 59.12    |
| AD-58   | 104            | 53      | 8.02     | 22            | 23      | 9.71     |
| AD-59   | 104            | 52      | 39.54    | 22            | 23      | 42.14    |
| AD-60   | 104            | 52      | 6.31     | 22            | 23      | 23.46    |
| AD-61   | 104            | 52      | 3.18     | 22            | 23      | 47.58    |
| AD-62   | 104            | 50      | 57.19    | 22            | 24      | 24.41    |
| AD-63   | 104            | 50      | 51.72    | 22            | 25      | 14.95    |
| AD-64   | 104            | 51      | 10.33    | 22            | 25      | 52.36    |
| AD-65   | 104            | 50      | 51.25    | 22            | 26      | 27.28    |
| AD-66   | 104            | 51      | 9.22     | 22            | 26      | 52.66    |
| AD-67   | 104            | 51      | 10.69    | 22            | 27      | 50.40    |
| AD-68   | 104            | 50      | 43.01    | 22            | 28      | 16.64    |
| AD-69   | 104            | 50      | 44.56    | 22            | 28      | 32.30    |
| AD-70   | 104            | 50      | 8.95     | 22            | 28      | 41.27    |
| AD-71   | 104            | 50      | 5.39     | 22            | 28      | 55.99    |
| AD-72   | 104            | 49      | 36.34    | 22            | 29      | 9.82     |
| AD-73   | 104            | 49      | 24.92    | 22            | 28      | 44.58    |
| AD-74   | 104            | 48      | 31.57    | 22            | 28      | 7.14     |
| AD-75   | 104            | 48      | 8.53     | 22            | 28      | 10.70    |
| AD-76   | 104            | 47      | 22.09    | 22            | 29      | 43.55    |
| AD-77   | 104            | 47      | 34.87    | 22            | 30      | 24.70    |
| AD-78   | 104            | 47      | 0.71     | 22            | 31      | 27.91    |
| AD-79   | 104            | 46      | 49.37    | 22            | 31      | 36.66    |
| AD-80   | 104            | 45      | 22.93    | 22            | 31      | 33.24    |
| AD-81   | 104            | 44      | 44.02    | 22            | 31      | 56.21    |

**XXXI.- CUENCA HIDROLOGICA RIO SANTIAGO 4: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 964.42 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde las estaciones hidrométricas La Yesca y El Caimán hasta la Presa El Cajón.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Santiago 4 tiene una superficie de aportación de 2,241.8 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada por las siguientes regiones y cuencas hidrológicas: al Norte por la cuenca hidrológica Río Atengo, al Sur por la región hidrológica número 14 Río Ameca, al Este por las cuencas hidrológicas Río Santiago 3 y Río Bolaños 2 y al Oeste por la cuenca hidrológica Río Santiago 5. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Z-25    | 104            | 3       | 10.19    | 21            | 24      | 38.34    |
| Z-24    | 104            | 3       | 18.22    | 21            | 23      | 56.26    |
| Z-23    | 104            | 3       | 36.07    | 21            | 23      | 42.07    |
| Z-22    | 104            | 3       | 22.28    | 21            | 23      | 31.81    |
| Z-21    | 104            | 2       | 57.44    | 21            | 22      | 28.63    |
| Z-20    | 104            | 3       | 21.28    | 21            | 21      | 32.94    |
| Z-19    | 104            | 2       | 37.50    | 21            | 19      | 26.65    |
| Z-18    | 104            | 3       | 9.83     | 21            | 19      | 2.50     |
| Z-17    | 104            | 2       | 55.36    | 21            | 18      | 51.91    |
| Z-16    | 104            | 2       | 58.31    | 21            | 18      | 38.38    |
| Z-15    | 104            | 3       | 15.12    | 21            | 18      | 37.04    |
| Z-14    | 104            | 3       | 34.56    | 21            | 18      | 20.84    |
| Z-13    | 104            | 3       | 52.27    | 21            | 18      | 24.05    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| Z-12    | 104            | 4       | 17.22    | 21            | 18      | 2.20     |
| Z-11    | 104            | 4       | 12.43    | 21            | 17      | 30.66    |
| Z-10    | 104            | 4       | 27.19    | 21            | 17      | 13.16    |
| Z-9     | 104            | 4       | 11.75    | 21            | 16      | 58.48    |
| Z-8     | 104            | 4       | 20.10    | 21            | 16      | 12.18    |
| Z-7     | 104            | 4       | 4.84     | 21            | 15      | 48.38    |
| Z-6     | 104            | 3       | 48.46    | 21            | 15      | 39.46    |
| Z-5     | 104            | 3       | 58.18    | 21            | 15      | 13.50    |
| Z-4     | 104            | 3       | 5.62     | 21            | 14      | 29.83    |
| Z-3     | 104            | 3       | 23.87    | 21            | 13      | 50.48    |
| Z-2     | 104            | 4       | 3.79     | 21            | 13      | 6.35     |
| Z-1     | 104            | 4       | 23.70    | 21            | 11      | 51.72    |
| U-77    | 104            | 4       | 21.11    | 21            | 11      | 24.58    |
| U-76    | 104            | 4       | 25.82    | 21            | 11      | 9.35     |
| U-75    | 104            | 4       | 37.38    | 21            | 11      | 6.83     |
| U-74    | 104            | 5       | 8.77     | 21            | 11      | 14.35    |
| U-73    | 104            | 5       | 22.16    | 21            | 11      | 11.65    |
| U-72    | 104            | 5       | 44.66    | 21            | 10      | 59.34    |
| U-71    | 104            | 5       | 50.50    | 21            | 10      | 37.99    |
| U-70    | 104            | 5       | 21.30    | 21            | 10      | 8.44     |
| U-69    | 104            | 6       | 2.02     | 21            | 9       | 54.14    |
| U-68    | 104            | 6       | 22.21    | 21            | 9       | 56.77    |
| U-67    | 104            | 6       | 40.21    | 21            | 9       | 24.12    |
| U-66    | 104            | 6       | 33.26    | 21            | 8       | 44.23    |
| U-65    | 104            | 6       | 46.08    | 21            | 8       | 37.90    |
| U-64    | 104            | 6       | 40.68    | 21            | 8       | 9.78     |
| U-63    | 104            | 6       | 57.60    | 21            | 7       | 56.24    |
| U-62    | 104            | 7       | 6.28     | 21            | 7       | 33.89    |
| U-61    | 104            | 7       | 23.81    | 21            | 7       | 21.65    |
| U-60    | 104            | 7       | 44.08    | 21            | 7       | 28.85    |
| U-59    | 104            | 7       | 53.62    | 21            | 7       | 44.94    |
| U-58    | 104            | 8       | 50.64    | 21            | 7       | 38.60    |
| U-57    | 104            | 8       | 57.26    | 21            | 7       | 26.22    |
| U-56    | 104            | 9       | 10.62    | 21            | 7       | 26.87    |
| U-55    | 104            | 9       | 30.13    | 21            | 6       | 53.50    |
| U-54    | 104            | 9       | 44.06    | 21            | 6       | 50.08    |
| U-53    | 104            | 9       | 49.03    | 21            | 6       | 39.06    |
| U-52    | 104            | 9       | 44.71    | 21            | 6       | 13.72    |
| U-51    | 104            | 9       | 2.16     | 21            | 6       | 11.05    |
| U-50    | 104            | 8       | 40.60    | 21            | 5       | 31.81    |
| U-49    | 104            | 8       | 2.87     | 21            | 5       | 22.20    |
| U-48    | 104            | 7       | 56.96    | 21            | 5       | 0.49     |
| U-47    | 104            | 6       | 59.72    | 21            | 3       | 59.36    |
| U-46    | 104            | 6       | 25.92    | 21            | 3       | 44.21    |
| U-45    | 104            | 5       | 52.62    | 21            | 3       | 10.12    |
| U-44    | 104            | 5       | 14.96    | 21            | 2       | 48.88    |
| U-43    | 104            | 5       | 3.19     | 21            | 2       | 28.14    |
| U-42    | 104            | 5       | 5.14     | 21            | 2       | 13.85    |
| U-41    | 104            | 4       | 46.06    | 21            | 1       | 51.82    |
| U-40    | 104            | 4       | 4.30     | 21            | 1       | 26.69    |
| U-39    | 104            | 3       | 54.50    | 21            | 0       | 53.32    |
| U-38    | 104            | 3       | 38.41    | 21            | 0       | 37.40    |
| U-37    | 104            | 2       | 59.28    | 21            | 0       | 32.58    |
| U-36    | 104            | 2       | 41.78    | 21            | 0       | 4.93     |
| U-35    | 104            | 1       | 31.01    | 20            | 59      | 7.80     |
| U-34    | 104            | 1       | 36.66    | 20            | 58      | 34.28    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AE-1    | 104            | 2       | 48.30    | 20            | 59      | 5.10     |
| AE-2    | 104            | 4       | 41.70    | 20            | 59      | 10.10    |
| AE-3    | 104            | 5       | 7.87     | 20            | 58      | 48.76    |
| AE-4    | 104            | 4       | 18.55    | 20            | 58      | 29.86    |
| AE-5    | 104            | 4       | 34.61    | 20            | 57      | 54.22    |
| AE-6    | 104            | 4       | 17.11    | 20            | 57      | 35.68    |
| AE-7    | 104            | 4       | 42.35    | 20            | 56      | 58.27    |
| AE-8    | 104            | 8       | 14.21    | 20            | 57      | 3.42     |
| AE-9    | 104            | 9       | 38.27    | 20            | 56      | 10.86    |
| AE-10   | 104            | 10      | 25.46    | 20            | 56      | 38.47    |
| AE-11   | 104            | 10      | 48.47    | 20            | 56      | 30.44    |
| AE-12   | 104            | 11      | 56.72    | 20            | 56      | 42.76    |
| AE-13   | 104            | 11      | 41.32    | 20            | 57      | 19.40    |
| AE-14   | 104            | 12      | 9.68     | 20            | 57      | 37.15    |
| AE-15   | 104            | 13      | 12.47    | 20            | 57      | 36.00    |
| AE-16   | 104            | 14      | 6.14     | 20            | 57      | 59.40    |
| AE-17   | 104            | 14      | 20.76    | 20            | 59      | 25.37    |
| AE-18   | 104            | 13      | 36.52    | 21            | 0       | 22.72    |
| AE-19   | 104            | 13      | 52.93    | 21            | 0       | 57.89    |
| AE-20   | 104            | 14      | 33.58    | 21            | 0       | 50.83    |
| AE-21   | 104            | 15      | 1.40     | 21            | 1       | 6.92     |
| AE-22   | 104            | 14      | 50.10    | 21            | 1       | 14.45    |
| AE-23   | 104            | 15      | 5.22     | 21            | 1       | 58.40    |
| AE-24   | 104            | 14      | 29.98    | 21            | 2       | 44.20    |
| AE-25   | 104            | 14      | 46.79    | 21            | 3       | 3.10     |
| AE-26   | 104            | 14      | 38.54    | 21            | 3       | 30.02    |
| AE-27   | 104            | 14      | 58.45    | 21            | 3       | 48.89    |
| AE-28   | 104            | 15      | 36.40    | 21            | 3       | 39.28    |
| AE-29   | 104            | 16      | 14.56    | 21            | 3       | 49.36    |
| AE-30   | 104            | 15      | 56.66    | 21            | 4       | 6.53     |
| AE-31   | 104            | 16      | 0.59     | 21            | 4       | 21.90    |
| AE-32   | 104            | 15      | 34.70    | 21            | 4       | 34.93    |
| AE-33   | 104            | 16      | 41.30    | 21            | 5       | 4.42     |
| AE-34   | 104            | 17      | 23.68    | 21            | 5       | 44.52    |
| AE-35   | 104            | 18      | 27.22    | 21            | 5       | 46.90    |
| AE-36   | 104            | 19      | 3.43     | 21            | 6       | 2.34     |
| AE-37   | 104            | 19      | 29.53    | 21            | 5       | 55.90    |
| AE-38   | 104            | 20      | 0.89     | 21            | 6       | 11.88    |
| AE-39   | 104            | 19      | 51.28    | 21            | 7       | 16.43    |
| AE-40   | 104            | 20      | 6.43     | 21            | 8       | 13.27    |
| AE-41   | 104            | 19      | 31.62    | 21            | 8       | 45.74    |
| AE-42   | 104            | 20      | 15.36    | 21            | 9       | 15.62    |
| AE-43   | 104            | 19      | 57.22    | 21            | 9       | 48.56    |
| AE-44   | 104            | 20      | 25.62    | 21            | 10      | 42.64    |
| AE-45   | 104            | 21      | 23.08    | 21            | 10      | 28.81    |
| AE-46   | 104            | 22      | 0.30     | 21            | 11      | 10.86    |
| AE-47   | 104            | 22      | 24.42    | 21            | 11      | 0.60     |
| AE-48   | 104            | 22      | 37.16    | 21            | 11      | 8.66     |
| AE-49   | 104            | 23      | 32.42    | 21            | 10      | 18.19    |
| AE-50   | 104            | 24      | 7.88     | 21            | 10      | 36.80    |
| AE-51   | 104            | 25      | 3.04     | 21            | 10      | 34.03    |
| AE-52   | 104            | 25      | 41.92    | 21            | 9       | 32.72    |
| AE-53   | 104            | 26      | 13.85    | 21            | 9       | 36.07    |
| AE-54   | 104            | 27      | 8.06     | 21            | 10      | 22.33    |
| AE-55   | 104            | 27      | 48.67    | 21            | 10      | 35.58    |
| AE-56   | 104            | 28      | 22.94    | 21            | 9       | 46.26    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AE-57   | 104            | 29      | 4.56     | 21            | 9       | 35.53    |
| AE-58   | 104            | 29      | 8.88     | 21            | 10      | 9.52     |
| AE-59   | 104            | 30      | 8.10     | 21            | 10      | 36.84    |
| AE-60   | 104            | 31      | 18.88    | 21            | 11      | 55.54    |
| AE-61   | 104            | 31      | 21.83    | 21            | 12      | 44.50    |
| AE-62   | 104            | 31      | 52.61    | 21            | 12      | 36.79    |
| AE-63   | 104            | 33      | 3.10     | 21            | 12      | 54.47    |
| AE-64   | 104            | 32      | 57.73    | 21            | 13      | 24.35    |
| AE-65   | 104            | 33      | 13.10    | 21            | 13      | 31.48    |
| AE-66   | 104            | 32      | 58.24    | 21            | 13      | 43.90    |
| AE-67   | 104            | 32      | 18.10    | 21            | 13      | 34.25    |
| AE-68   | 104            | 31      | 45.23    | 21            | 14      | 5.03     |
| AE-69   | 104            | 31      | 53.80    | 21            | 14      | 19.43    |
| AE-70   | 104            | 31      | 19.81    | 21            | 14      | 47.15    |
| AE-71   | 104            | 31      | 20.64    | 21            | 15      | 54.29    |
| AE-72   | 104            | 29      | 39.44    | 21            | 16      | 5.70     |
| AE-73   | 104            | 29      | 26.05    | 21            | 16      | 0.84     |
| AE-74   | 104            | 29      | 26.30    | 21            | 15      | 46.91    |
| AE-75   | 104            | 29      | 0.28     | 21            | 15      | 17.64    |
| AE-76   | 104            | 28      | 19.88    | 21            | 15      | 31.46    |
| AE-77   | 104            | 28      | 28.63    | 21            | 15      | 58.21    |
| AE-78   | 104            | 27      | 56.05    | 21            | 16      | 40.73    |
| AE-79   | 104            | 27      | 20.30    | 21            | 16      | 39.29    |
| AE-80   | 104            | 26      | 51.76    | 21            | 16      | 56.53    |
| AE-81   | 104            | 27      | 19.26    | 21            | 17      | 49.27    |
| AE-82   | 104            | 26      | 58.78    | 21            | 18      | 18.58    |
| AE-83   | 104            | 27      | 34.31    | 21            | 19      | 9.26     |
| AE-84   | 104            | 28      | 10.56    | 21            | 19      | 5.48     |
| AE-85   | 104            | 28      | 30.50    | 21            | 19      | 26.83    |
| AE-86   | 104            | 28      | 36.44    | 21            | 20      | 29.11    |
| AE-87   | 104            | 27      | 49.18    | 21            | 21      | 20.70    |
| AE-88   | 104            | 27      | 15.12    | 21            | 21      | 18.14    |
| AE-89   | 104            | 26      | 59.21    | 21            | 21      | 28.30    |
| AE-90   | 104            | 27      | 6.30     | 21            | 21      | 49.75    |
| AE-91   | 104            | 26      | 51.32    | 21            | 22      | 9.44     |
| AE-92   | 104            | 26      | 58.78    | 21            | 22      | 54.98    |
| AE-93   | 104            | 26      | 18.60    | 21            | 23      | 55.54    |
| AE-94   | 104            | 26      | 54.53    | 21            | 24      | 49.93    |
| AE-95   | 104            | 27      | 18.04    | 21            | 26      | 54.78    |
| AE-96   | 104            | 26      | 31.38    | 21            | 27      | 42.91    |
| AE-97   | 104            | 26      | 38.36    | 21            | 28      | 16.21    |
| AE-98   | 104            | 26      | 17.38    | 21            | 28      | 36.91    |
| AE-99   | 104            | 26      | 11.26    | 21            | 29      | 25.48    |
| AE-100  | 104            | 25      | 38.32    | 21            | 29      | 28.21    |
| AE-101  | 104            | 25      | 4.04     | 21            | 30      | 22.14    |
| AE-102  | 104            | 25      | 23.45    | 21            | 30      | 59.08    |
| AE-103  | 104            | 25      | 46.99    | 21            | 31      | 7.79     |
| AE-104  | 104            | 25      | 49.12    | 21            | 31      | 25.18    |
| AE-105  | 104            | 26      | 15.47    | 21            | 31      | 44.83    |
| AE-106  | 104            | 26      | 27.46    | 21            | 32      | 55.82    |
| AE-107  | 104            | 26      | 11.47    | 21            | 34      | 26.26    |
| AE-108  | 104            | 25      | 47.39    | 21            | 34      | 44.00    |
| AE-109  | 104            | 25      | 38.57    | 21            | 35      | 35.95    |
| AE-110  | 104            | 25      | 44.00    | 21            | 36      | 12.64    |
| AE-111  | 104            | 26      | 17.63    | 21            | 36      | 46.66    |
| AE-112  | 104            | 26      | 31.96    | 21            | 37      | 37.60    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AE-113  | 104            | 26      | 6.50     | 21            | 38      | 3.88     |
| AE-114  | 104            | 25      | 50.20    | 21            | 39      | 8.60     |
| AE-115  | 104            | 25      | 27.55    | 21            | 39      | 27.61    |
| AB-44   | 104            | 25      | 32.74    | 21            | 39      | 48.92    |
| AB-43   | 104            | 23      | 48.84    | 21            | 39      | 13.79    |
| AB-42   | 104            | 23      | 36.02    | 21            | 38      | 52.15    |
| AB-41   | 104            | 23      | 46.61    | 21            | 38      | 34.58    |
| AB-40   | 104            | 23      | 39.44    | 21            | 38      | 14.64    |
| AB-39   | 104            | 21      | 56.88    | 21            | 37      | 2.10     |
| AB-38   | 104            | 21      | 39.28    | 21            | 37      | 1.63     |
| AB-37   | 104            | 21      | 31.14    | 21            | 36      | 32.44    |
| AB-36   | 104            | 20      | 43.30    | 21            | 36      | 43.27    |
| AB-35   | 104            | 20      | 26.45    | 21            | 36      | 26.10    |
| AB-34   | 104            | 18      | 57.20    | 21            | 36      | 51.84    |
| AB-33   | 104            | 16      | 41.38    | 21            | 35      | 52.55    |
| AB-32   | 104            | 17      | 6.47     | 21            | 35      | 6.47     |
| AB-31   | 104            | 17      | 41.86    | 21            | 34      | 41.45    |
| AB-30   | 104            | 17      | 37.68    | 21            | 33      | 58.50    |
| AB-29   | 104            | 17      | 52.22    | 21            | 33      | 33.12    |
| AB-28   | 104            | 17      | 42.86    | 21            | 33      | 12.85    |
| AB-27   | 104            | 17      | 10.07    | 21            | 33      | 43.27    |
| AB-26   | 104            | 16      | 23.20    | 21            | 33      | 49.21    |
| AB-25   | 104            | 15      | 54.29    | 21            | 34      | 17.51    |
| AB-24   | 104            | 14      | 58.81    | 21            | 34      | 29.82    |
| AB-23   | 104            | 14      | 36.24    | 21            | 33      | 57.38    |
| AB-22   | 104            | 13      | 49.84    | 21            | 34      | 1.06     |
| AB-21   | 104            | 12      | 35.03    | 21            | 35      | 12.70    |
| AB-20   | 104            | 12      | 8.46     | 21            | 34      | 49.94    |
| AB-19   | 104            | 11      | 29.44    | 21            | 34      | 39.94    |
| AB-18   | 104            | 10      | 47.03    | 21            | 33      | 20.09    |
| AB-17   | 104            | 10      | 51.46    | 21            | 31      | 50.88    |
| AB-16   | 104            | 10      | 44.08    | 21            | 30      | 36.61    |
| AB-15   | 104            | 10      | 30.72    | 21            | 30      | 18.04    |
| AB-14   | 104            | 9       | 23.15    | 21            | 29      | 15.86    |
| AB-13   | 104            | 7       | 33.89    | 21            | 29      | 48.52    |
| AB-12   | 104            | 7       | 7.21     | 21            | 29      | 34.48    |
| AB-11   | 104            | 6       | 42.01    | 21            | 28      | 41.66    |
| AB-10   | 104            | 6       | 2.95     | 21            | 28      | 53.11    |
| AB-9    | 104            | 5       | 42.25    | 21            | 28      | 11.24    |
| AB-8    | 104            | 6       | 7.42     | 21            | 27      | 30.38    |
| AB-7    | 104            | 5       | 42.54    | 21            | 26      | 56.26    |
| AB-6    | 104            | 5       | 41.75    | 21            | 26      | 26.34    |
| AB-5    | 104            | 5       | 2.51     | 21            | 26      | 21.62    |
| AB-4    | 104            | 4       | 47.86    | 21            | 25      | 53.54    |
| AB-3    | 104            | 4       | 10.13    | 21            | 25      | 43.18    |
| AB-2    | 104            | 4       | 0.16     | 21            | 25      | 22.69    |
| AB-1    | 104            | 3       | 28.48    | 21            | 25      | 24.96    |

**XXXII.- CUENCA HIDROLOGICA RIO SANTIAGO 5: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 3231.87 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde la Presa El Cajón y la confluencia de los ríos Atengo y Jesús María, hasta aguas abajo de la cortina de la Presa Aguamilpa.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Santiago 5 tiene una superficie de aportación de 2,559.2 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada por las siguientes regiones y cuencas hidrológicas: al Norte por la

región hidrológica número 11 Presidio-San Pedro y por la cuenca hidrológica Río Huaynamota, al Sur por la región hidrológica número 14 Río Ameca, al Este por las cuencas hidrológicas Río Atengo y Río Santiago 4 y al Oeste por la cuenca hidrológica Río Santiago 6. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AB-70   | 104            | 31      | 12.04    | 21            | 57      | 20.41    |
| AB-69   | 104            | 31      | 14.34    | 21            | 55      | 50.84    |
| AB-68   | 104            | 30      | 4.61     | 21            | 55      | 21.11    |
| AB-67   | 104            | 29      | 40.09    | 21            | 55      | 23.34    |
| AB-66   | 104            | 29      | 29.98    | 21            | 55      | 8.62     |
| AB-65   | 104            | 29      | 37.68    | 21            | 54      | 45.40    |
| AB-64   | 104            | 29      | 31.45    | 21            | 54      | 9.36     |
| AB-63   | 104            | 28      | 55.06    | 21            | 53      | 29.80    |
| AB-62   | 104            | 28      | 22.26    | 21            | 53      | 19.39    |
| AB-61   | 104            | 28      | 0.30     | 21            | 53      | 33.14    |
| AB-60   | 104            | 27      | 45.72    | 21            | 53      | 14.86    |
| AB-59   | 104            | 27      | 18.32    | 21            | 53      | 8.05     |
| AB-58   | 104            | 26      | 24.86    | 21            | 51      | 59.04    |
| AB-57   | 104            | 25      | 45.37    | 21            | 51      | 36.11    |
| AB-56   | 104            | 24      | 54.72    | 21            | 51      | 30.28    |
| AB-55   | 104            | 24      | 38.95    | 21            | 51      | 10.87    |
| AB-54   | 104            | 24      | 18.14    | 21            | 48      | 48.31    |
| AB-53   | 104            | 24      | 0.00     | 21            | 48      | 10.91    |
| AB-52   | 104            | 24      | 3.71     | 21            | 47      | 45.56    |
| AB-51   | 104            | 23      | 51.43    | 21            | 47      | 37.00    |
| AB-50   | 104            | 24      | 19.19    | 21            | 46      | 8.36     |
| AB-49   | 104            | 24      | 12.53    | 21            | 45      | 39.02    |
| AB-48   | 104            | 24      | 29.84    | 21            | 44      | 31.27    |
| AB-47   | 104            | 24      | 20.05    | 21            | 43      | 55.16    |
| AB-46   | 104            | 24      | 30.46    | 21            | 43      | 21.36    |
| AB-45   | 104            | 24      | 23.08    | 21            | 42      | 51.95    |
| AB-44   | 104            | 25      | 32.74    | 21            | 39      | 48.92    |
| AE-115  | 104            | 25      | 27.55    | 21            | 39      | 27.61    |
| AE-114  | 104            | 25      | 50.20    | 21            | 39      | 8.60     |
| AE-113  | 104            | 26      | 6.50     | 21            | 38      | 3.88     |
| AE-112  | 104            | 26      | 31.96    | 21            | 37      | 37.60    |
| AE-111  | 104            | 26      | 17.63    | 21            | 36      | 46.66    |
| AE-110  | 104            | 25      | 44.00    | 21            | 36      | 12.64    |
| AE-109  | 104            | 25      | 38.57    | 21            | 35      | 35.95    |
| AE-108  | 104            | 25      | 47.39    | 21            | 34      | 44.00    |
| AE-107  | 104            | 26      | 11.47    | 21            | 34      | 26.26    |
| AE-106  | 104            | 26      | 27.46    | 21            | 32      | 55.82    |
| AE-105  | 104            | 26      | 15.47    | 21            | 31      | 44.83    |
| AE-104  | 104            | 25      | 49.12    | 21            | 31      | 25.18    |
| AE-103  | 104            | 25      | 46.99    | 21            | 31      | 7.79     |
| AE-102  | 104            | 25      | 23.45    | 21            | 30      | 59.08    |
| AE-101  | 104            | 25      | 4.04     | 21            | 30      | 22.14    |
| AE-100  | 104            | 25      | 38.32    | 21            | 29      | 28.21    |
| AE-99   | 104            | 26      | 11.26    | 21            | 29      | 25.48    |
| AE-98   | 104            | 26      | 17.38    | 21            | 28      | 36.91    |
| AE-97   | 104            | 26      | 38.36    | 21            | 28      | 16.21    |
| AE-96   | 104            | 26      | 31.38    | 21            | 27      | 42.91    |
| AE-95   | 104            | 27      | 18.04    | 21            | 26      | 54.78    |
| AE-94   | 104            | 26      | 54.53    | 21            | 24      | 49.93    |
| AE-93   | 104            | 26      | 18.60    | 21            | 23      | 55.54    |
| AE-92   | 104            | 26      | 58.78    | 21            | 22      | 54.98    |
| AE-91   | 104            | 26      | 51.32    | 21            | 22      | 9.44     |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AE-90   | 104            | 27      | 6.30     | 21            | 21      | 49.75    |
| AE-89   | 104            | 26      | 59.21    | 21            | 21      | 28.30    |
| AE-88   | 104            | 27      | 15.12    | 21            | 21      | 18.14    |
| AE-87   | 104            | 27      | 49.18    | 21            | 21      | 20.70    |
| AE-86   | 104            | 28      | 36.44    | 21            | 20      | 29.11    |
| AE-85   | 104            | 28      | 30.50    | 21            | 19      | 26.83    |
| AE-84   | 104            | 28      | 10.56    | 21            | 19      | 5.48     |
| AE-83   | 104            | 27      | 34.31    | 21            | 19      | 9.26     |
| AE-82   | 104            | 26      | 58.78    | 21            | 18      | 18.58    |
| AE-81   | 104            | 27      | 19.26    | 21            | 17      | 49.27    |
| AE-80   | 104            | 26      | 51.76    | 21            | 16      | 56.53    |
| AE-79   | 104            | 27      | 20.30    | 21            | 16      | 39.29    |
| AE-78   | 104            | 27      | 56.05    | 21            | 16      | 40.73    |
| AE-77   | 104            | 28      | 28.63    | 21            | 15      | 58.21    |
| AE-76   | 104            | 28      | 19.88    | 21            | 15      | 31.46    |
| AE-75   | 104            | 29      | 0.28     | 21            | 15      | 17.64    |
| AE-74   | 104            | 29      | 26.30    | 21            | 15      | 46.91    |
| AE-73   | 104            | 29      | 26.05    | 21            | 16      | 0.84     |
| AE-72   | 104            | 29      | 39.44    | 21            | 16      | 5.70     |
| AE-71   | 104            | 31      | 20.64    | 21            | 15      | 54.29    |
| AE-70   | 104            | 31      | 19.81    | 21            | 14      | 47.15    |
| AE-69   | 104            | 31      | 53.80    | 21            | 14      | 19.43    |
| AE-68   | 104            | 31      | 45.23    | 21            | 14      | 5.03     |
| AE-67   | 104            | 32      | 18.10    | 21            | 13      | 34.25    |
| AE-66   | 104            | 32      | 58.24    | 21            | 13      | 43.90    |
| AE-65   | 104            | 33      | 13.10    | 21            | 13      | 31.48    |
| AF-1    | 104            | 33      | 30.24    | 21            | 13      | 18.52    |
| AF-2    | 104            | 34      | 23.41    | 21            | 13      | 55.60    |
| AF-3    | 104            | 34      | 52.75    | 21            | 13      | 52.90    |
| AF-4    | 104            | 35      | 24.40    | 21            | 14      | 20.00    |
| AF-5    | 104            | 36      | 1.58     | 21            | 14      | 5.64     |
| AF-6    | 104            | 36      | 19.26    | 21            | 14      | 16.37    |
| AF-7    | 104            | 36      | 52.06    | 21            | 14      | 12.44    |
| AF-8    | 104            | 36      | 53.96    | 21            | 14      | 27.89    |
| AF-9    | 104            | 37      | 13.73    | 21            | 14      | 35.05    |
| AF-10   | 104            | 37      | 7.82     | 21            | 14      | 47.76    |
| AF-11   | 104            | 37      | 24.71    | 21            | 15      | 0.36     |
| AF-12   | 104            | 37      | 21.83    | 21            | 15      | 16.99    |
| AF-13   | 104            | 37      | 38.89    | 21            | 15      | 37.91    |
| AF-14   | 104            | 37      | 41.70    | 21            | 16      | 1.27     |
| AF-15   | 104            | 37      | 20.68    | 21            | 16      | 28.16    |
| AF-16   | 104            | 38      | 24.54    | 21            | 17      | 6.36     |
| AF-17   | 104            | 39      | 24.70    | 21            | 16      | 24.96    |
| AF-18   | 104            | 40      | 20.71    | 21            | 16      | 30.68    |
| AF-19   | 104            | 41      | 46.25    | 21            | 14      | 45.02    |
| AF-20   | 104            | 42      | 46.55    | 21            | 14      | 45.92    |
| AF-21   | 104            | 43      | 17.83    | 21            | 15      | 29.45    |
| AF-22   | 104            | 43      | 8.54     | 21            | 16      | 13.66    |
| AF-23   | 104            | 41      | 55.64    | 21            | 16      | 58.98    |
| AF-24   | 104            | 41      | 25.30    | 21            | 17      | 0.06     |
| AF-25   | 104            | 41      | 14.46    | 21            | 17      | 14.10    |
| AF-26   | 104            | 40      | 48.11    | 21            | 18      | 23.65    |
| AF-27   | 104            | 40      | 35.76    | 21            | 19      | 41.48    |
| AF-28   | 104            | 40      | 13.94    | 21            | 20      | 4.31     |
| AF-29   | 104            | 40      | 7.61     | 21            | 20      | 37.36    |
| AF-30   | 104            | 39      | 19.98    | 21            | 21      | 26.39    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AF-31   | 104            | 39      | 41.69    | 21            | 21      | 57.96    |
| AF-32   | 104            | 39      | 33.41    | 21            | 22      | 9.98     |
| AF-33   | 104            | 40      | 24.38    | 21            | 22      | 35.76    |
| AF-34   | 104            | 40      | 23.59    | 21            | 23      | 7.04     |
| AF-35   | 104            | 40      | 56.71    | 21            | 23      | 46.61    |
| AF-36   | 104            | 41      | 1.25     | 21            | 24      | 0.11     |
| AF-37   | 104            | 40      | 36.91    | 21            | 24      | 18.32    |
| AF-38   | 104            | 40      | 40.01    | 21            | 24      | 26.24    |
| AF-39   | 104            | 41      | 26.92    | 21            | 24      | 40.54    |
| AF-40   | 104            | 42      | 9.65     | 21            | 25      | 51.60    |
| AF-41   | 104            | 43      | 11.03    | 21            | 25      | 58.98    |
| AF-42   | 104            | 43      | 49.04    | 21            | 26      | 15.29    |
| AF-43   | 104            | 43      | 44.58    | 21            | 26      | 33.47    |
| AF-44   | 104            | 43      | 55.31    | 21            | 26      | 37.79    |
| AF-45   | 104            | 44      | 18.53    | 21            | 27      | 38.70    |
| AF-46   | 104            | 44      | 35.27    | 21            | 27      | 58.21    |
| AF-47   | 104            | 44      | 51.22    | 21            | 27      | 59.40    |
| AF-48   | 104            | 44      | 59.32    | 21            | 28      | 23.59    |
| AF-49   | 104            | 44      | 50.60    | 21            | 28      | 50.84    |
| AF-50   | 104            | 44      | 57.62    | 21            | 29      | 25.91    |
| AF-51   | 104            | 45      | 29.95    | 21            | 29      | 35.16    |
| AF-52   | 104            | 45      | 4.03     | 21            | 30      | 3.49     |
| AF-53   | 104            | 44      | 51.25    | 21            | 30      | 59.54    |
| AF-54   | 104            | 43      | 51.60    | 21            | 31      | 25.54    |
| AF-55   | 104            | 43      | 44.36    | 21            | 31      | 57.22    |
| AF-56   | 104            | 43      | 21.07    | 21            | 32      | 13.52    |
| AF-57   | 104            | 43      | 39.94    | 21            | 32      | 38.18    |
| AF-58   | 104            | 44      | 2.29     | 21            | 32      | 41.71    |
| AF-59   | 104            | 44      | 58.74    | 21            | 33      | 28.48    |
| AF-60   | 104            | 45      | 19.22    | 21            | 35      | 8.38     |
| AF-61   | 104            | 46      | 4.87     | 21            | 35      | 35.92    |
| AF-62   | 104            | 45      | 52.27    | 21            | 36      | 12.85    |
| AF-63   | 104            | 46      | 9.91     | 21            | 36      | 38.34    |
| AF-64   | 104            | 46      | 1.99     | 21            | 37      | 13.26    |
| AF-65   | 104            | 45      | 34.99    | 21            | 37      | 29.64    |
| AF-66   | 104            | 45      | 24.30    | 21            | 37      | 51.92    |
| AF-67   | 104            | 45      | 29.48    | 21            | 38      | 20.29    |
| AF-68   | 104            | 45      | 0.58     | 21            | 38      | 52.30    |
| AF-69   | 104            | 45      | 14.80    | 21            | 39      | 42.26    |
| AF-70   | 104            | 45      | 8.06     | 21            | 40      | 8.83     |
| AF-71   | 104            | 45      | 31.57    | 21            | 41      | 31.38    |
| AF-72   | 104            | 44      | 28.39    | 21            | 42      | 37.08    |
| AF-73   | 104            | 44      | 24.43    | 21            | 43      | 21.76    |
| AF-74   | 104            | 44      | 43.73    | 21            | 43      | 59.02    |
| AF-75   | 104            | 44      | 44.52    | 21            | 44      | 25.62    |
| AF-76   | 104            | 45      | 36.47    | 21            | 44      | 54.92    |
| AF-77   | 104            | 45      | 49.57    | 21            | 45      | 29.52    |
| AF-78   | 104            | 46      | 15.53    | 21            | 45      | 40.54    |
| AF-79   | 104            | 46      | 56.78    | 21            | 46      | 20.57    |
| AF-80   | 104            | 47      | 0.85     | 21            | 46      | 42.17    |
| AF-81   | 104            | 46      | 43.39    | 21            | 47      | 1.39     |
| AF-82   | 104            | 46      | 39.29    | 21            | 47      | 43.44    |
| AF-83   | 104            | 47      | 2.08     | 21            | 48      | 1.94     |
| AF-84   | 104            | 47      | 23.89    | 21            | 48      | 47.70    |
| AF-85   | 104            | 47      | 21.16    | 21            | 49      | 5.88     |
| AF-86   | 104            | 47      | 55.61    | 21            | 49      | 34.10    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AF-87   | 104            | 48      | 8.93     | 21            | 50      | 7.01     |
| AF-88   | 104            | 48      | 2.88     | 21            | 51      | 10.66    |
| AF-89   | 104            | 47      | 40.56    | 21            | 51      | 47.34    |
| AF-90   | 104            | 48      | 38.92    | 21            | 52      | 0.26     |
| AF-91   | 104            | 49      | 39.43    | 21            | 53      | 5.53     |
| AF-92   | 104            | 50      | 17.52    | 21            | 53      | 10.79    |
| AF-93   | 104            | 50      | 43.69    | 21            | 53      | 38.94    |
| AF-94   | 104            | 51      | 51.05    | 21            | 54      | 14.33    |
| AF-95   | 104            | 51      | 52.09    | 21            | 54      | 18.97    |
| AF-96   | 104            | 52      | 11.71    | 21            | 54      | 53.96    |
| AF-97   | 104            | 51      | 16.56    | 21            | 55      | 8.54     |
| AF-98   | 104            | 50      | 49.20    | 21            | 55      | 35.11    |
| AF-99   | 104            | 50      | 52.98    | 21            | 56      | 2.90     |
| AF-100  | 104            | 50      | 33.11    | 21            | 56      | 19.93    |
| AF-101  | 104            | 51      | 0.61     | 21            | 57      | 6.12     |
| AF-102  | 104            | 50      | 27.78    | 21            | 57      | 8.86     |
| AF-103  | 104            | 49      | 36.01    | 21            | 57      | 52.02    |
| AF-104  | 104            | 48      | 48.35    | 21            | 57      | 59.51    |
| AF-105  | 104            | 48      | 24.37    | 21            | 58      | 20.86    |
| AF-106  | 104            | 48      | 5.00     | 21            | 58      | 20.71    |
| AF-107  | 104            | 47      | 5.42     | 21            | 59      | 9.92     |
| AF-108  | 104            | 46      | 53.44    | 21            | 58      | 58.30    |
| AF-109  | 104            | 46      | 39.29    | 21            | 59      | 8.70     |
| AF-110  | 104            | 46      | 17.94    | 21            | 59      | 0.78     |
| AF-111  | 104            | 46      | 9.41     | 21            | 59      | 15.72    |
| AF-112  | 104            | 45      | 11.56    | 21            | 59      | 1.46     |
| AF-113  | 104            | 44      | 37.00    | 21            | 59      | 37.68    |
| AF-114  | 104            | 44      | 9.28     | 21            | 59      | 23.64    |
| AF-115  | 104            | 43      | 50.95    | 21            | 59      | 35.92    |
| AF-116  | 104            | 43      | 40.30    | 22            | 0       | 24.52    |
| AF-117  | 104            | 43      | 20.03    | 22            | 0       | 58.03    |
| AF-118  | 104            | 43      | 44.58    | 22            | 1       | 21.79    |
| AF-119  | 104            | 43      | 41.88    | 22            | 2       | 4.42     |
| AF-120  | 104            | 43      | 8.04     | 22            | 2       | 0.49     |
| AF-121  | 104            | 42      | 51.26    | 22            | 2       | 15.36    |
| AF-122  | 104            | 41      | 55.14    | 22            | 2       | 31.49    |
| AD-22   | 104            | 41      | 43.76    | 22            | 3       | 3.67     |
| AD-21   | 104            | 40      | 18.30    | 22            | 1       | 39.04    |
| AD-20   | 104            | 40      | 46.42    | 22            | 1       | 6.96     |
| AD-19   | 104            | 40      | 50.34    | 22            | 0       | 29.84    |
| AD-18   | 104            | 40      | 40.84    | 22            | 0       | 8.46     |
| AD-17   | 104            | 40      | 22.22    | 22            | 0       | 1.76     |
| AD-16   | 104            | 40      | 28.78    | 21            | 59      | 46.50    |
| AD-15   | 104            | 39      | 55.04    | 21            | 59      | 4.24     |
| AD-14   | 104            | 40      | 25.68    | 21            | 58      | 35.00    |
| AD-13   | 104            | 40      | 25.90    | 21            | 58      | 19.99    |
| AD-12   | 104            | 40      | 14.48    | 21            | 58      | 18.62    |
| AD-11   | 104            | 39      | 41.11    | 21            | 57      | 27.40    |
| AD-10   | 104            | 38      | 22.42    | 21            | 57      | 16.81    |
| AD-9    | 104            | 38      | 5.50     | 21            | 56      | 57.84    |
| AD-8    | 104            | 37      | 36.01    | 21            | 57      | 22.68    |
| AD-7    | 104            | 37      | 7.43     | 21            | 57      | 29.48    |
| AD-6    | 104            | 36      | 47.59    | 21            | 57      | 21.49    |
| AD-5    | 104            | 36      | 10.94    | 21            | 56      | 29.94    |
| AD-4    | 104            | 34      | 49.15    | 21            | 57      | 16.45    |
| AD-3    | 104            | 34      | 17.83    | 21            | 57      | 59.04    |
| AD-2    | 104            | 33      | 15.01    | 21            | 58      | 4.15     |
| AD-1    | 104            | 32      | 32.39    | 21            | 57      | 9.07     |

**XXXIII.- CUENCA HIDROLOGICA RIO SANTIAGO 6: VOLUMEN MEDIO ANUAL DISPONIBLE A LA SALIDA DE 6142.13 MILLONES DE METROS CUBICOS. CLASIFICACION: (DISPONIBILIDAD).**

El volumen disponible que se señala en el párrafo anterior, comprende desde la cortina de la Presa Aguamilpa y el nacimiento del Río Mololoa, hasta su desembocadura al Océano Pacífico.

Los estudios técnicos a través de los que se determinó el volumen que se señala en esta fracción, se realizaron respecto de la poligonal que a continuación se indica y atendieron a que la cuenca hidrológica Río Santiago 6 tiene una superficie de aportación de 1,961.3 kilómetros cuadrados, y se ubica en la parte Centro Oeste del país, que se encuentra delimitada por las siguientes regiones y cuencas hidrológicas: al Norte por la región hidrológica número 11 Presidio-San Pedro, al Sur por la región hidrológica número 13 Río Huicicila, al Este por la cuenca hidrológica Río Santiago 5 y al Oeste por la región hidrológica número 13 Río Huicicila y el Océano Pacífico. Geográficamente se ubica dentro de la poligonal cuyos vértices son los siguientes:

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AF-95   | 104            | 51      | 52.09    | 21            | 54      | 18.97    |
| AF-94   | 104            | 51      | 51.05    | 21            | 54      | 14.33    |
| AF-93   | 104            | 50      | 43.69    | 21            | 53      | 38.94    |
| AF-92   | 104            | 50      | 17.52    | 21            | 53      | 10.79    |
| AF-91   | 104            | 49      | 39.43    | 21            | 53      | 5.53     |
| AF-90   | 104            | 48      | 38.92    | 21            | 52      | 0.26     |
| AF-89   | 104            | 47      | 40.56    | 21            | 51      | 47.34    |
| AF-88   | 104            | 48      | 2.88     | 21            | 51      | 10.66    |
| AF-87   | 104            | 48      | 8.93     | 21            | 50      | 7.01     |
| AF-86   | 104            | 47      | 55.61    | 21            | 49      | 34.10    |
| AF-85   | 104            | 47      | 21.16    | 21            | 49      | 5.88     |
| AF-84   | 104            | 47      | 23.89    | 21            | 48      | 47.70    |
| AF-83   | 104            | 47      | 2.08     | 21            | 48      | 1.94     |
| AF-82   | 104            | 46      | 39.29    | 21            | 47      | 43.44    |
| AF-81   | 104            | 46      | 43.39    | 21            | 47      | 1.39     |
| AF-80   | 104            | 47      | 0.85     | 21            | 46      | 42.17    |
| AF-79   | 104            | 46      | 56.78    | 21            | 46      | 20.57    |
| AF-78   | 104            | 46      | 15.53    | 21            | 45      | 40.54    |
| AF-77   | 104            | 45      | 49.57    | 21            | 45      | 29.52    |
| AF-76   | 104            | 45      | 36.47    | 21            | 44      | 54.92    |
| AF-75   | 104            | 44      | 44.52    | 21            | 44      | 25.62    |
| AF-74   | 104            | 44      | 43.73    | 21            | 43      | 59.02    |
| AF-73   | 104            | 44      | 24.43    | 21            | 43      | 21.76    |
| AF-72   | 104            | 44      | 28.39    | 21            | 42      | 37.08    |
| AF-71   | 104            | 45      | 31.57    | 21            | 41      | 31.38    |
| AF-70   | 104            | 45      | 8.06     | 21            | 40      | 8.83     |
| AF-69   | 104            | 45      | 14.80    | 21            | 39      | 42.26    |
| AF-68   | 104            | 45      | 0.58     | 21            | 38      | 52.30    |
| AF-67   | 104            | 45      | 29.48    | 21            | 38      | 20.29    |
| AF-66   | 104            | 45      | 24.30    | 21            | 37      | 51.92    |
| AF-65   | 104            | 45      | 34.99    | 21            | 37      | 29.64    |
| AF-64   | 104            | 46      | 1.99     | 21            | 37      | 13.26    |
| AF-63   | 104            | 46      | 9.91     | 21            | 36      | 38.34    |
| AF-62   | 104            | 45      | 52.27    | 21            | 36      | 12.85    |
| AF-61   | 104            | 46      | 4.87     | 21            | 35      | 35.92    |
| AF-60   | 104            | 45      | 19.22    | 21            | 35      | 8.38     |
| AF-59   | 104            | 44      | 58.74    | 21            | 33      | 28.48    |
| AF-58   | 104            | 44      | 2.29     | 21            | 32      | 41.71    |
| AF-57   | 104            | 43      | 39.94    | 21            | 32      | 38.18    |
| AF-56   | 104            | 43      | 21.07    | 21            | 32      | 13.52    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AF-55   | 104            | 43      | 44.36    | 21            | 31      | 57.22    |
| AF-54   | 104            | 43      | 51.60    | 21            | 31      | 25.54    |
| AF-53   | 104            | 44      | 51.25    | 21            | 30      | 59.54    |
| AF-52   | 104            | 45      | 4.03     | 21            | 30      | 3.49     |
| AF-51   | 104            | 45      | 29.95    | 21            | 29      | 35.16    |
| AF-50   | 104            | 44      | 57.62    | 21            | 29      | 25.91    |
| AF-49   | 104            | 44      | 50.60    | 21            | 28      | 50.84    |
| AF-48   | 104            | 44      | 59.32    | 21            | 28      | 23.59    |
| AF-47   | 104            | 44      | 51.22    | 21            | 27      | 59.40    |
| AF-46   | 104            | 44      | 35.27    | 21            | 27      | 58.21    |
| AF-45   | 104            | 44      | 18.53    | 21            | 27      | 38.70    |
| AF-44   | 104            | 43      | 55.31    | 21            | 26      | 37.79    |
| AF-43   | 104            | 43      | 44.58    | 21            | 26      | 33.47    |
| AF-42   | 104            | 43      | 49.04    | 21            | 26      | 15.29    |
| AF-41   | 104            | 43      | 11.03    | 21            | 25      | 58.98    |
| AF-40   | 104            | 42      | 9.65     | 21            | 25      | 51.60    |
| AF-39   | 104            | 41      | 26.92    | 21            | 24      | 40.54    |
| AF-38   | 104            | 40      | 40.01    | 21            | 24      | 26.24    |
| AF-37   | 104            | 40      | 36.91    | 21            | 24      | 18.32    |
| AF-36   | 104            | 41      | 1.25     | 21            | 24      | 0.11     |
| AF-35   | 104            | 40      | 56.71    | 21            | 23      | 46.61    |
| AF-34   | 104            | 40      | 23.59    | 21            | 23      | 7.04     |
| AF-33   | 104            | 40      | 24.38    | 21            | 22      | 35.76    |
| AF-32   | 104            | 39      | 33.41    | 21            | 22      | 9.98     |
| AF-31   | 104            | 39      | 41.69    | 21            | 21      | 57.96    |
| AF-30   | 104            | 39      | 19.98    | 21            | 21      | 26.39    |
| AF-29   | 104            | 40      | 7.61     | 21            | 20      | 37.36    |
| AF-28   | 104            | 40      | 13.94    | 21            | 20      | 4.31     |
| AF-27   | 104            | 40      | 35.76    | 21            | 19      | 41.48    |
| AF-26   | 104            | 40      | 48.11    | 21            | 18      | 23.65    |
| AF-25   | 104            | 41      | 14.46    | 21            | 17      | 14.10    |
| AF-24   | 104            | 41      | 25.30    | 21            | 17      | 0.06     |
| AF-23   | 104            | 41      | 55.64    | 21            | 16      | 58.98    |
| AF-22   | 104            | 43      | 8.54     | 21            | 16      | 13.66    |
| AG-1    | 104            | 43      | 43.28    | 21            | 16      | 35.15    |
| AG-2    | 104            | 43      | 58.69    | 21            | 17      | 3.73     |
| AG-3    | 104            | 43      | 59.99    | 21            | 17      | 26.59    |
| AG-4    | 104            | 44      | 14.03    | 21            | 17      | 41.57    |
| AG-5    | 104            | 44      | 38.11    | 21            | 19      | 21.97    |
| AG-6    | 104            | 45      | 33.62    | 21            | 20      | 24.00    |
| AG-7    | 104            | 45      | 48.85    | 21            | 20      | 57.98    |
| AG-8    | 104            | 45      | 58.54    | 21            | 21      | 0.68     |
| AG-9    | 104            | 46      | 21.90    | 21            | 20      | 44.88    |
| AG-10   | 104            | 46      | 38.53    | 21            | 20      | 42.90    |
| AG-11   | 104            | 47      | 24.68    | 21            | 21      | 27.32    |
| AG-12   | 104            | 48      | 40.00    | 21            | 21      | 21.42    |
| AG-13   | 104            | 48      | 56.02    | 21            | 21      | 40.25    |
| AG-14   | 104            | 49      | 11.03    | 21            | 21      | 44.42    |
| AG-15   | 104            | 49      | 52.86    | 21            | 21      | 53.24    |
| AG-16   | 104            | 50      | 28.39    | 21            | 21      | 45.11    |
| AG-17   | 104            | 51      | 7.31     | 21            | 21      | 47.16    |
| AG-18   | 104            | 51      | 40.03    | 21            | 22      | 8.83     |
| AG-19   | 104            | 54      | 9.00     | 21            | 22      | 8.40     |
| AG-20   | 104            | 54      | 55.12    | 21            | 22      | 36.23    |
| AG-21   | 104            | 55      | 8.04     | 21            | 23      | 1.61     |
| AG-22   | 104            | 54      | 58.14    | 21            | 23      | 52.01    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AG-23   | 104            | 55      | 3.11     | 21            | 24      | 6.12     |
| AG-24   | 104            | 55      | 56.50    | 21            | 24      | 17.35    |
| AG-25   | 104            | 56      | 54.78    | 21            | 24      | 47.30    |
| AG-26   | 104            | 57      | 6.19     | 21            | 25      | 11.24    |
| AG-27   | 104            | 57      | 37.40    | 21            | 25      | 34.25    |
| AG-28   | 104            | 57      | 37.58    | 21            | 25      | 55.70    |
| AG-29   | 104            | 57      | 58.61    | 21            | 26      | 3.19     |
| AG-30   | 104            | 58      | 14.63    | 21            | 26      | 21.08    |
| AG-31   | 104            | 58      | 28.27    | 21            | 26      | 49.70    |
| AG-32   | 104            | 58      | 22.87    | 21            | 27      | 50.94    |
| AG-33   | 104            | 58      | 35.11    | 21            | 28      | 2.68     |
| AG-34   | 104            | 58      | 37.31    | 21            | 28      | 18.77    |
| AG-35   | 104            | 58      | 27.08    | 21            | 28      | 28.96    |
| AG-36   | 104            | 57      | 46.69    | 21            | 28      | 27.30    |
| AG-37   | 104            | 57      | 35.28    | 21            | 28      | 15.56    |
| AG-38   | 104            | 57      | 5.08     | 21            | 28      | 19.13    |
| AG-39   | 104            | 56      | 27.85    | 21            | 29      | 1.93     |
| AG-40   | 104            | 56      | 14.17    | 21            | 29      | 6.36     |
| AG-41   | 104            | 55      | 58.01    | 21            | 30      | 6.08     |
| AG-42   | 104            | 55      | 29.46    | 21            | 30      | 59.72    |
| AG-43   | 104            | 55      | 20.03    | 21            | 31      | 34.50    |
| AG-44   | 104            | 54      | 38.23    | 21            | 32      | 1.07     |
| AG-45   | 104            | 54      | 48.06    | 21            | 32      | 30.23    |
| AG-46   | 104            | 54      | 37.87    | 21            | 32      | 54.31    |
| AG-47   | 104            | 55      | 8.51     | 21            | 33      | 23.76    |
| AG-48   | 104            | 55      | 21.40    | 21            | 34      | 5.84     |
| AG-49   | 104            | 55      | 56.57    | 21            | 34      | 41.59    |
| AG-50   | 104            | 55      | 58.37    | 21            | 35      | 22.34    |
| AG-51   | 104            | 56      | 57.08    | 21            | 35      | 21.23    |
| AG-52   | 104            | 57      | 11.52    | 21            | 36      | 1.58     |
| AG-53   | 104            | 57      | 8.32     | 21            | 36      | 26.24    |
| AG-54   | 104            | 57      | 45.97    | 21            | 37      | 8.47     |
| AG-55   | 104            | 57      | 45.04    | 21            | 37      | 38.68    |
| AG-56   | 104            | 58      | 21.43    | 21            | 38      | 12.88    |
| AG-57   | 104            | 58      | 36.84    | 21            | 38      | 47.36    |
| AG-58   | 104            | 58      | 49.58    | 21            | 38      | 44.99    |
| AG-59   | 104            | 59      | 14.10    | 21            | 39      | 23.72    |
| AG-60   | 104            | 59      | 43.48    | 21            | 39      | 39.35    |
| AG-61   | 105            | 0       | 5.29     | 21            | 40      | 26.90    |
| AG-62   | 105            | 0       | 57.20    | 21            | 40      | 8.83     |
| AG-63   | 105            | 1       | 25.82    | 21            | 40      | 14.45    |
| AG-64   | 105            | 1       | 33.46    | 21            | 39      | 59.51    |
| AG-65   | 105            | 1       | 46.49    | 21            | 39      | 55.22    |
| AG-66   | 105            | 2       | 14.28    | 21            | 40      | 6.42     |
| AG-67   | 105            | 2       | 15.47    | 21            | 40      | 44.44    |
| AG-68   | 105            | 2       | 40.20    | 21            | 41      | 4.99     |
| AG-69   | 105            | 2       | 43.94    | 21            | 41      | 39.88    |
| AG-70   | 105            | 2       | 56.54    | 21            | 41      | 55.68    |
| AG-71   | 105            | 3       | 16.63    | 21            | 42      | 51.19    |
| AG-72   | 105            | 3       | 4.39     | 21            | 43      | 16.86    |
| AG-73   | 105            | 3       | 25.45    | 21            | 43      | 23.84    |
| AG-74   | 105            | 4       | 16.43    | 21            | 44      | 21.84    |
| AG-75   | 105            | 4       | 57.43    | 21            | 44      | 33.83    |
| AG-76   | 105            | 5       | 12.44    | 21            | 44      | 49.81    |
| AG-77   | 105            | 5       | 1.46     | 21            | 45      | 50.83    |
| AG-78   | 105            | 5       | 31.45    | 21            | 46      | 57.83    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AG-79   | 105            | 5       | 54.42    | 21            | 47      | 12.84    |
| AG-80   | 105            | 6       | 5.44     | 21            | 47      | 37.82    |
| AG-81   | 105            | 6       | 59.40    | 21            | 48      | 33.84    |
| AG-82   | 105            | 7       | 23.45    | 21            | 48      | 38.84    |
| AG-83   | 105            | 7       | 45.44    | 21            | 48      | 20.84    |
| AG-84   | 105            | 14      | 18.46    | 21            | 44      | 42.83    |
| AG-85   | 105            | 15      | 34.45    | 21            | 43      | 13.84    |
| AG-86   | 105            | 17      | 25.44    | 21            | 41      | 46.82    |
| AG-87   | 105            | 21      | 27.47    | 21            | 40      | 6.82     |
| AG-88   | 105            | 21      | 56.45    | 21            | 39      | 41.83    |
| AG-89   | 105            | 26      | 29.47    | 21            | 37      | 27.84    |
| AG-90   | 105            | 27      | 11.45    | 21            | 37      | 23.81    |
| AG-91   | 105            | 27      | 3.46     | 21            | 37      | 52.82    |
| AG-92   | 105            | 27      | 30.46    | 21            | 39      | 58.82    |
| AG-93   | 105            | 27      | 1.33     | 21            | 41      | 9.24     |
| AG-94   | 105            | 26      | 41.46    | 21            | 42      | 30.82    |
| AG-95   | 105            | 25      | 31.48    | 21            | 42      | 56.84    |
| AG-96   | 105            | 24      | 10.44    | 21            | 42      | 55.84    |
| AG-97   | 105            | 23      | 2.47     | 21            | 43      | 24.82    |
| AG-98   | 105            | 22      | 15.46    | 21            | 44      | 52.84    |
| AG-99   | 105            | 21      | 42.44    | 21            | 45      | 16.81    |
| AG-100  | 105            | 16      | 1.45     | 21            | 47      | 28.82    |
| AG-101  | 105            | 14      | 16.44    | 21            | 48      | 45.83    |
| AG-102  | 105            | 12      | 11.45    | 21            | 50      | 49.85    |
| AG-103  | 105            | 11      | 40.45    | 21            | 51      | 33.84    |
| AG-104  | 105            | 9       | 49.46    | 21            | 52      | 14.84    |
| AG-105  | 105            | 9       | 4.46     | 21            | 52      | 3.83     |
| AG-106  | 105            | 8       | 44.41    | 21            | 52      | 10.34    |
| AG-107  | 105            | 8       | 34.08    | 21            | 52      | 23.70    |
| AG-108  | 105            | 8       | 49.67    | 21            | 53      | 8.09     |
| AG-109  | 105            | 8       | 17.41    | 21            | 53      | 23.86    |
| AG-110  | 105            | 7       | 57.43    | 21            | 53      | 51.43    |
| AG-111  | 105            | 7       | 38.03    | 21            | 54      | 4.39     |
| AG-112  | 105            | 7       | 14.48    | 21            | 54      | 2.12     |
| AG-113  | 105            | 7       | 11.42    | 21            | 53      | 39.37    |
| AG-114  | 105            | 7       | 3.50     | 21            | 53      | 36.31    |
| AG-115  | 105            | 6       | 28.19    | 21            | 53      | 38.90    |
| AG-116  | 105            | 5       | 46.32    | 21            | 54      | 2.41     |
| AG-117  | 105            | 5       | 12.84    | 21            | 53      | 38.65    |
| AG-118  | 105            | 4       | 40.22    | 21            | 53      | 33.97    |
| AG-119  | 105            | 4       | 33.74    | 21            | 53      | 48.91    |
| AG-120  | 105            | 3       | 50.54    | 21            | 53      | 54.82    |
| AG-121  | 105            | 4       | 0.12     | 21            | 54      | 25.96    |
| AG-122  | 105            | 3       | 33.30    | 21            | 55      | 3.79     |
| AG-123  | 105            | 2       | 47.40    | 21            | 55      | 33.46    |
| AG-124  | 105            | 1       | 51.10    | 21            | 55      | 23.81    |
| AG-125  | 105            | 1       | 34.57    | 21            | 55      | 51.49    |
| AG-126  | 105            | 1       | 19.16    | 21            | 55      | 53.11    |
| AG-127  | 105            | 1       | 3.07     | 21            | 56      | 12.55    |
| AG-128  | 105            | 0       | 48.20    | 21            | 56      | 17.81    |
| AG-129  | 105            | 0       | 23.72    | 21            | 56      | 3.88     |
| AG-130  | 104            | 59      | 44.99    | 21            | 55      | 23.95    |
| AG-131  | 104            | 59      | 7.22     | 21            | 55      | 21.86    |
| AG-132  | 104            | 58      | 49.04    | 21            | 55      | 38.93    |
| AG-133  | 104            | 58      | 23.05    | 21            | 55      | 47.53    |
| AG-134  | 104            | 58      | 18.37    | 21            | 55      | 58.66    |

| VERTICE | LONGITUD OESTE |         |          | LATITUD NORTE |         |          |
|---------|----------------|---------|----------|---------------|---------|----------|
|         | GRADOS         | MINUTOS | SEGUNDOS | GRADOS        | MINUTOS | SEGUNDOS |
| AG-135  | 104            | 57      | 59.40    | 21            | 55      | 56.32    |
| AG-136  | 104            | 57      | 13.39    | 21            | 55      | 18.77    |
| AG-137  | 104            | 56      | 48.98    | 21            | 55      | 25.18    |
| AG-138  | 104            | 56      | 36.78    | 21            | 55      | 10.85    |
| AG-139  | 104            | 56      | 43.37    | 21            | 54      | 31.86    |
| AG-140  | 104            | 56      | 25.98    | 21            | 54      | 12.85    |
| AG-141  | 104            | 56      | 5.50     | 21            | 54      | 9.94     |
| AG-142  | 104            | 55      | 30.29    | 21            | 53      | 45.53    |
| AG-143  | 104            | 54      | 43.45    | 21            | 53      | 47.08    |
| AG-144  | 104            | 54      | 9.04     | 21            | 54      | 10.01    |
| AG-145  | 104            | 53      | 14.32    | 21            | 53      | 47.36    |

**ARTICULO TERCERO.-** La actualización de los resultados de la disponibilidad media anual determinada respecto de las cuencas hidrológicas a que se refiere el presente Acuerdo, corresponden a aquellas cuencas hidrológicas que se encuentran descritas gráficamente en el Plano denominado "Subregión Hidrológica Río Santiago", de la Comisión Nacional del Agua, en el que aparece la localización, límites y extensión geográfica de dichas cuencas hidrológicas.

**ARTICULO CUARTO.-** Los valores de los principales términos que intervienen en el cálculo de la disponibilidad media anual de aguas superficiales y los resultados de la disponibilidad media anual, se presentan en el cuadro localizable al final del presente Acuerdo. De éste se desprende que la disponibilidad media anual total de las aguas superficiales no comprometidas en la subregión hidrológica Río Santiago, asciende a 6,142.13 millones de metros cúbicos.

**ARTICULO QUINTO.-** La subregión hidrológica Río Santiago pertenece a la región hidrológica número 12 Lerma-Santiago, y se localiza en el Centro Oeste del país, en parte de los Estados de Jalisco, Zacatecas, Nayarit, Aguascalientes, Durango, Guanajuato y San Luis Potosí.

La subregión hidrológica Río Santiago, está limitada al Norte con las regiones hidrológicas números 11 Presidio-San Pedro, 36 Nazas-Aguanaval y 37 El Salado, al Sur con la subregión hidrológica Lerma-Chapala y las regiones hidrológicas números 13 Río Huicicila y 14 Río Ameca, al Este por la región hidrológica número 37 El Salado y la subregión hidrológica Lerma-Chapala y al Oeste con las regiones hidrológicas números 11 Presidio-San Pedro y 13 Río Huicicila y el Océano Pacífico. La superficie que ocupa comprende un área de 75,750.6 kilómetros cuadrados.

El sistema hidrológico de esta subregión hidrológica, está constituido por el Río Santiago que es la corriente principal; sus principales afluentes aportadores son los Ríos Verde, Juchipila, Bolaños y Huaynamota.

#### TRANSITORIOS

**ARTICULO PRIMERO.-** El presente Acuerdo entrará en vigor al día siguiente de su publicación en el Diario Oficial de la Federación.

**ARTICULO SEGUNDO.-** Respecto al volumen disponible, corresponderá a las unidades administrativas competentes de la Comisión Nacional del Agua, emitir los dictámenes técnicos correspondientes, apoyados en los estudios y balances hidrológicos.

**ARTICULO TERCERO.-** Los estudios técnicos señalados en el presente Acuerdo, así como los planos indicados y resultados de dichos estudios, que constituyen el sustento de la actualización de la disponibilidad media anual de las aguas superficiales de la subregión hidrológica Río Santiago, señalados en el presente Acuerdo, estarán disponibles para consulta pública en el Organismo de Cuenca Lerma Santiago Pacífico, de la Comisión Nacional del Agua, localizable en la Avenida Federalismo Norte número 275, quinto piso, Sector Hidalgo, código postal 44100, en la ciudad de Guadalajara, Jalisco; y en la Gerencia de Aguas Superficiales e Ingeniería de Ríos de la Subdirección General Técnica de la Comisión Nacional del Agua, ubicada en avenida Insurgentes Sur número 2416, noveno piso, colonia Copilco El Bajo, Delegación Coyoacán, código postal 04340, en la Ciudad de México, Distrito Federal.

**ARTICULO CUARTO.-** Las poligonales establecidas en este Acuerdo, respecto de los límites de las cuencas hidrológicas cuya disponibilidad se determina a través del mismo, podrán ser utilizadas con posterioridad para delimitar las regiones hidrológico-administrativas en las que se comprenderá la circunscripción territorial de las unidades administrativas de esta Comisión Nacional del Agua, de conformidad con lo dispuesto por los artículos 9, Duodécimo Transitorio y demás aplicables de la Ley de Aguas Nacionales.

Atentamente

México, Distrito Federal, a los veintinueve días del mes de octubre de dos mil diez.- El Director General,  
**José Luis Luege Tamargo.-** Rúbrica.

REGION HIDROLOGICA No. 12 LERMA-SANTIAGO  
SUBREGION HIDROLOGICA RIO SANTIAGO

CUADRO RESUMEN DE VALORES DE LOS TERMINOS QUE INTERVIENEN EN EL CALCULO DE LA DISPONIBILIDAD SUPERFICIAL

| Cuenca         | Nombre y descripción                                                                                                                             | Cp      | Ar      | Uc       | R        | Im     | Ex     | Ev     | Av     | Ab      | Rxy     | Ab - Rxy | D       | CLASIFICACION  |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|----------|----------|--------|--------|--------|--------|---------|---------|----------|---------|----------------|
| I              | Río San Pedro: Desde el nacimiento del Río San Pedro hasta la EC San Francisco de los Romo                                                       | 60.67   | 47.88   | 31.76    | 3.24     | 0.00   | 15.56  | 2.19   | 0.00   | 62.28   | 62.04   | 0.24     | 0.24    | Disponibilidad |
| II             | Presa Calles: Desde el nacimiento del Río Santiago hasta la Presa Plutarco Elías Calles                                                          | 57.63   | 0.00    | 3.85     | 0.55     | 15.56  | 0.00   | 17.09  | 4.92   | 47.88   | 47.78   | 0.10     | 0.10    | Disponibilidad |
| III            | Presa El Niágara: Desde la EC San Francisco de los Romo y la Presa Plutarco Elías Calles, hasta la Presa El Niágara                              | 41.65   | 62.28   | 53.84    | 5.40     | 0.00   | 0.00   | 14.43  | 0.63   | 40.43   | 40.00   | 0.43     | 0.43    | Disponibilidad |
| IV             | Presa El Cuarenta: Desde el nacimiento del Río de Lagos hasta la Presa El Cuarenta                                                               | 54.67   | 0.00    | 12.81    | 1.47     | 0.00   | 0.00   | 2.70   | -0.45  | 41.08   | 40.67   | 0.41     | 0.41    | Disponibilidad |
| V              | Río de Lagos: Desde la Presa El Cuarenta hasta la confluencia del Río de Lagos con el Río Verde                                                  | 126.81  | 41.08   | 46.38    | 5.14     | 0.00   | 0.00   | 10.14  | 0.00   | 116.51  | 114.80  | 1.71     | 1.71    | Disponibilidad |
| VI             | Presa Ajojuar: Desde la Presa El Niágara hasta la Presa Ajojuar                                                                                  | 29.88   | 40.43   | 14.79    | 1.53     | 0.00   | 0.00   | 2.29   | 0.00   | 54.76   | 54.00   | 0.76     | 0.76    | Disponibilidad |
| VII            | Río Grande: Desde el nacimiento del Río Grande hasta la Presa Agostadero                                                                         | 41.16   | 0.00    | 1.45     | 0.16     | 0.00   | 0.00   | 0.43   | 0.00   | 39.44   | 38.89   | 0.55     | 0.55    | Disponibilidad |
| VIII           | Río Encarnación: Desde el nacimiento del Río Encarnación hasta su confluencia con el Río Verde                                                   | 135.13  | 0.00    | 27.55    | 2.87     | 0.00   | 0.00   | 5.56   | 0.00   | 104.89  | 103.43  | 1.46     | 1.46    | Disponibilidad |
| IX             | Río Aguascalientes: Desde las Presas Ajojuar y Agostadero y la confluencia del Río Encarnación con el Río Verde, hasta la EH Paso del Sabino     | 43.52   | 199.09  | 10.85    | 1.92     | 0.00   | 0.00   | 1.65   | 0.00   | 232.03  | 228.63  | 3.40     | 3.40    | Disponibilidad |
| X              | Río San Miguel: Desde el nacimiento del Río San Miguel hasta su confluencia con el Río Verde                                                     | 80.51   | 0.00    | 2.72     | 0.55     | 0.00   | 0.00   | 1.17   | 0.00   | 77.17   | 76.04   | 1.13     | 1.13    | Disponibilidad |
| XI             | Río del Valle: Desde el nacimiento del Río del Valle hasta su confluencia con el Río Verde                                                       | 68.28   | 0.00    | 38.21    | 0.17     | 0.00   | 0.00   | 6.73   | 0.00   | 23.51   | 23.16   | 0.34     | 0.34    | Disponibilidad |
| XII            | Río Verde 1: Desde la EH Paso del Sabino y la confluencia de los Ríos de Lagos, San Miguel y del Valle con el Río Verde, hasta la EH La Cuña     | 166.27  | 449.22  | 17.07    | 2.34     | 0.00   | 119.84 | 3.67   | 0.24   | 477.01  | 467.96  | 9.05     | 9.05    | Disponibilidad |
| XIII           | Río Verde 2: Desde la EH La Cuña hasta la confluencia del Río Verde con el Río Santiago                                                          | 199.65  | 477.01  | 371.19   | 6.21     | 0.00   | 0.00   | 4.47   | 0.00   | 307.21  | 294.26  | 12.95    | 12.95   | Disponibilidad |
| XIV            | Río Palomas: Desde el nacimiento del Río Palomas hasta la Presa Palomas                                                                          | 29.30   | 0.00    | 0.06     | 0.01     | 0.00   | 0.00   | 2.00   | -0.43  | 27.68   | 27.02   | 0.66     | 0.66    | Disponibilidad |
| XV             | Presa El Chique: Desde el nacimiento del Arroyo Malpaso y la Presa Palomas hasta la Presa El Chique                                              | 77.61   | 27.68   | 26.40    | 2.67     | 0.00   | 0.00   | 11.52  | -1.86  | 71.90   | 69.31   | 2.59     | 2.59    | Disponibilidad |
| XVI            | Río Juchipila 1: Desde la Presa El Chique hasta la Presa Achoquen                                                                                | 124.93  | 71.90   | 55.09    | 5.73     | 0.00   | 0.00   | 7.48   | -0.08  | 140.07  | 132.78  | 7.29     | 7.29    | Disponibilidad |
| XVII           | Río Juchipila 2: Desde la Presa Achoquen hasta la confluencia del Río Juchipila con el Río Santiago                                              | 147.24  | 140.07  | 15.31    | 1.94     | 0.00   | 0.00   | 1.09   | 0.00   | 272.85  | 257.79  | 15.06    | 15.06   | Disponibilidad |
| XVIII          | Río Santiago 1: Desde la salida del Lago de Chapala hasta la EH Las Juntas                                                                       | 315.76  | 0.00    | 2066.12  | 2004.90  | 79.40  | 0.00   | 42.53  | 1.77   | 289.64  | 277.43  | 12.21    | 12.21   | Disponibilidad |
| XIX            | Río Santiago 2: Desde la EH Las Juntas hasta la EH San Cristóbal II                                                                              | 540.07  | 596.85  | 385.80   | 356.87   | 157.70 | 0.00   | 4.08   | 0.00   | 1261.61 | 1191.98 | 69.63    | 69.63   | Disponibilidad |
| XX             | Presa Santa Rosa: Desde la EH San Cristóbal II hasta la Presa Santa Rosa                                                                         | 423.23  | 1534.46 | 1572.46  | 1560.46  | 0.00   | 0.00   | 15.53  | 7.85   | 1922.32 | 1728.14 | 194.17   | 194.17  | Disponibilidad |
| XXI            | Río Santiago 3: Desde la Presa Santa Rosa hasta la EH La Yesca                                                                                   | 467.22  | 1922.32 | 3.96     | 1.34     | 0.00   | 0.00   | 0.36   | 0.00   | 2386.56 | 2145.05 | 241.50   | 241.50  | Disponibilidad |
| XXII           | Río Tepetongo: Desde el nacimiento del Río Tepetongo hasta la EH La Gloria                                                                       | 82.59   | 0.00    | 38.83    | 4.01     | 0.00   | 0.00   | 10.12  | 1.22   | 36.43   | 32.84   | 3.59     | 3.59    | Disponibilidad |
| XXIII          | Río Tlaltenango: Desde el nacimiento del Río Tlaltenango hasta la EH El Zapote                                                                   | 205.09  | 0.00    | 29.54    | 3.65     | 0.00   | 0.00   | 8.42   | 0.53   | 170.25  | 153.49  | 16.76    | 16.76   | Disponibilidad |
| XXIV           | Arroyo Lobatos: Desde el nacimiento del Arroyo Lobatos hasta la EH La Florida                                                                    | 63.95   | 0.00    | 5.58     | 0.69     | 0.00   | 0.00   | 1.06   | 0.00   | 58.00   | 52.29   | 5.71     | 5.71    | Disponibilidad |
| XXV            | Río Bolaños 1: Desde las EH La Gloria, El Zapote y La Florida, hasta la EH Bolaños                                                               | 396.26  | 264.68  | 11.73    | 1.95     | 0.00   | 0.00   | 2.15   | 0.00   | 649.01  | 583.74  | 65.27    | 65.27   | Disponibilidad |
| XXVI           | Río Bolaños 2: Desde la EH Bolaños hasta la EH El Caimán                                                                                         | 266.37  | 649.01  | 4.46     | 1.35     | 0.00   | 0.00   | 1.14   | 0.00   | 911.13  | 818.93  | 92.20    | 92.20   | Disponibilidad |
| XXVII          | Río San Juan: Desde el nacimiento del Río San Juan hasta la EH El Platanito                                                                      | 370.12  | 0.00    | 1.81     | 0.56     | 0.00   | 0.00   | 1.97   | 0.00   | 366.90  | 265.70  | 101.20   | 101.20  | Disponibilidad |
| XXVIII         | Río Atengo: Desde la EH El Platanito hasta la confluencia del Río Atengo con el Río Jesús María                                                  | 716.46  | 366.90  | 3.07     | 1.17     | 0.00   | 0.00   | 0.67   | 0.00   | 1080.80 | 781.66  | 299.14   | 299.14  | Disponibilidad |
| XXIX           | Río Jesús María: Desde el nacimiento del Río Jesús María hasta donde se le unen los arroyos Tempisque y Los Leones                               | 471.16  | 0.00    | 0.21     | 0.17     | 0.00   | 0.00   | 0.00   | 0.00   | 471.12  | 340.84  | 130.29   | 130.29  | Disponibilidad |
| XXX            | Río Huaynamota: Desde la confluencia de los Arroyos Tempisque y Los Leones con el Río Jesús María, hasta su confluencia con el Río Atengo        | 358.49  | 471.12  | 0.70     | 0.56     | 0.00   | 0.00   | 0.00   | 0.00   | 829.47  | 599.89  | 229.58   | 229.58  | Disponibilidad |
| XXXI           | Río Santiago 4: Desde las EH La Yesca y El Caimán hasta la Presa El Cajón                                                                        | 292.00  | 3297.69 | 5941.84  | 5940.78  | 0.00   | 0.00   | 53.16  | 51.00  | 3484.47 | 2520.05 | 964.42   | 964.42  | Disponibilidad |
| XXXII          | Río Santiago 5: Desde la Presa El Cajón y la confluencia de los Ríos Atengo y Jesús María, hasta aguas abajo de la cortina de la Presa Aguamilpa | 313.56  | 5394.74 | 5977.74  | 5968.56  | 0.00   | 0.00   | 158.32 | -54.18 | 5594.98 | 2363.11 | 3231.87  | 3231.87 | Disponibilidad |
| XXXIII         | Río Santiago 6: Desde la cortina de la Presa Aguamilpa y el nacimiento del Río Mololoa, hasta su desembocadura al Océano Pacífico.               | 655.44  | 5594.98 | 4486.69  | 4382.77  | 0.00   | 0.00   | 4.37   | 0.00   | 6142.13 | 0.00    | 6142.13  | 6142.13 | Disponibilidad |
| <b>Totales</b> |                                                                                                                                                  | 7422.68 |         | 21259.86 | 20271.69 | 252.66 | 135.40 | 398.49 | 11.16  |         |         |          | 6142.13 |                |

\* Valores en millones de metros cúbicos

ECUACIONES

$$Ab = Cp + Ar + R + Im - (Uc + Ev + Ex + Av)$$

$$D = Ab - Rxy$$

SIMBOLOGIA

Cp.- Volumen medio anual de escurrimiento natural

Ar.- Volumen medio anual de escurrimiento desde la cuenca aguas arriba

Uc.- Volumen anual de extracción de agua superficial

R.- Volumen anual de retornos

Im.- Volumen anual de importaciones

Ex.- Volumen anual de exportaciones

Ev.- Volumen anual de evaporación en embalses

Av.- Volumen anual de variación de almacenamiento en embalses

Ab.- Volumen medio anual de escurrimiento de la cuenca hacia aguas abajo

Rxy.- Volumen anual actual comprometido aguas abajo

D.- Disponibilidad media anual de agua superficial en la cuenca hidrológica

EH.- Estación hidrométrica

EC.- Estación climatológica

## REGIONES HIDROLOGICAS

| CLAVE DE REGION<br>HIDROLOGICA | NOMBRE DE LA REGION<br>HIDROLOGICA     |
|--------------------------------|----------------------------------------|
| 1                              | BAJA CALIFORNIA NOROESTE               |
| 2                              | BAJA CALIFORNIA CENTRO-OESTE           |
| 3                              | BAJA CALIFORNIA SUROESTE               |
| 4                              | BAJA CALIFORNIA NORESTE                |
| 5                              | BAJA CALIFORNIA CENTRO-ESTE            |
| 6                              | BAJA CALIFORNIA SURESTE                |
| 7                              | RIO COLORADO                           |
| 8                              | SONORA NORTE                           |
| 9                              | SONORA SUR                             |
| 10                             | SINALOA                                |
| 11                             | PRESIDIO - SAN PEDRO                   |
| 12                             | LERMA - SANTIAGO                       |
| 13                             | RIO HUICICILA                          |
| 14                             | RIO AMECA                              |
| 15                             | COSTA DE JALISCO                       |
| 16                             | ARMERIA-COAHUAYANA                     |
| 17                             | COSTA DE MICHOACAN                     |
| 18                             | BALSAS                                 |
| 19                             | COSTA GRANDE DE GUERRERO               |
| 20                             | COSTA CHICA DE GUERRERO                |
| 21                             | COSTA DE OAXACA                        |
| 22                             | TEHUANTEPEC                            |
| 23                             | COSTA DE CHIAPAS                       |
| 24                             | BRAVO-CONCHOS                          |
| 25                             | SAN FERNANDO - SOTO LA MARINA          |
| 26                             | PANUCO                                 |
| 27                             | NORTE DE VERACRUZ (RIOS TUXPAN-NAUTLA) |
| 28                             | PAPALOAPAN                             |
| 29                             | COATZACOALCOS                          |
| 30                             | GRIJALVA-USUMACINTA                    |
| 31                             | YUCATAN OESTE                          |
| 32                             | YUCATAN NORTE                          |
| 33                             | YUCATAN ESTE                           |
| 34                             | CUENCAS CERRADAS DEL NORTE             |
| 35                             | MAPIMI                                 |
| 36                             | NAZAS-AGUANAVAL                        |
| 37                             | SALADO                                 |