GOBIERNO NACIONAL
★ CON PASO FIRME ★

IDAAN

18/NOV/2024 3:22PM
D.E.I.A.
MIAMBIENTE

Panamá, 06 de noviembre de 2024
Nota 1136-2024-DNING-DEPROCA

Licenciada
**Graciela Palacios**
Directora de Evaluación de Impacto Ambiental
**MINISTERIO DE AMBIENTE**
E. S. D.

**Ref.** Contrato 02-2023: "Estudio, Diseño, Construcción, Operación, Mantenimiento y Financiamiento del Nuevo Sistema de Agua Potable para las Comunidades de Las Tablas, La Mesa, Guabito, Distrito de Changuinola, Provincia de Bocas del Toro".
**Asunto**: Entrega de Segunda Información Aclaratoria DEIA-DEEIA-AC-0133-2709-2024

Respetada Licenciada Palacios:

Por medio de la presente, damos respuesta a la Información Aclaratoria **DEIA-DEEIA-AC-0133-2709-2024**, referente al Estudio de Impacto Ambiental, categoría II, titulado **"ESTUDIO, DISEÑO, CONSTRUCCIÓN, OPERACIÓN-MANTENIMIENTO Y FINANCIAMIENTO DEL NUEVO SISTEMA DE AGUA POTABLE PARA LAS COMUNIDADES DE LAS TABLAS, LA MESA, GUABITO, DISTRITO DE CHANGUINOLA, PROVINCIA DE BOCAS DEL TORO"**, cuyo Promotor es el Instituto de Acueductos y Alcantarillados Nacionales (IDAAN), a desarrollarse en las comunidades de Las Tablas, La Mesa, Guabito, distrito de Changuinola, provincia de Bocas del Toro.

Deseándole éxito en sus funciones, quedo de usted.
Atentamente,

**Ing. RUTILIO ALBERTO VILLARREAL L.**
Director Ejecutivo

JLV/JGP

Adj. Respuesta a la Información Aclaratoria.

**RESPUESTA A NOTA DEIA-DEEIA-AC-0133- 2709-2024**

**ESTUDIO DE IMPACTO AMBIENTAL**

***CATEGORÍA II***

# *"ESTUDIO, DISEÑO, CONSTRUCCIÓN, OPERACIÓN- MANTENIMIENTO Y FINANCIAMIENTO DEL NUEVO SISTEMA DE AGUA POTABLE PARA LAS COMUNIDADES DE LAS TABLAS, LA MESA, GUABITO, DISTRITO DE CHANGUINOLA, PROVINCIA DE BOCAS DEL TORO"*

**PROMOTOR: INSTITUTO DE ACUEDUCTOS Y ALCANTARILLADOS NACIONALES**




**CONSULTORES:**

**ING. CARLOS MONTENEGRO DEIA-IRC-026-2019 / ACT. 2022 MGTER.**
**DIOSENETH APONTE DEIA-IRC-018-2020 / ACT. 2023**
**ING. NASLHEY LORENZO DEIA-IRC-083-2022**

**NOVIEMBRE, 2024**

En respuesta a la nota **DEIA-DEEIA-AC-0133-2709-2024,** correspondiente al proyecto categoría II, denominado **"ESTUDIO, DISEÑO, CONSTRUCCIÓN, OPERACIÓN- MANTENIMIENTO Y FINANCIAMIENTO DEL NUEVO SISTEMA DE AGUA POTABLE PARA LAS COMUNIDADES DE LAS TABLAS, LA MESA, GUABITO. DISTRITO DE CHANGUINOLA, PROVINCIA DE BOCAS DEL TORO", a** desarrollarse en los corregimientos de Las Tablas, La Mesa, Guabito, distrito de Changuinola, provincia de Bocas del Toro, cuyo promotor es el **INSTITUTO DE ACUEDUCTOS ALCANTARILLADOS NACIONALES,** que consiste en lo siguiente:

1. En atención a la respuesta de la pregunta 1, donde se solicitaba presentar las coordenadas del polígono de los caminos, el promotor presenta las coordenadas de los caminos hacia la toma y la planta, sin embargo, los polígonos presentado no coinciden con los alineamientos, no se incluyen los polígonos de los caminos a construir hacia los tanques de almacenamientos y adicional se contempla la construcción de una línea eléctrica desde el punto de suministro hasta el proyecto, por lo cual se solicita:

a) Aportar coordenadas UTM de todos polígonos faltantes que serán intervenidos por el desarrollo del proyecto e indicar su superficie.

**Respuesta:** En el cuadro Nº1-6 se aportan las coordenadas UTM de los polígonos faltantes a intervenirse y se indica la superficie correspondiente a cada uno. Se adjunta archivo digital con las coordenadas.

**Cuadro N° 1. Coordenadas del Área de afectación Acceso PTAP - SINOSTRE SIBUBE (C1) = 1.7702317 Ha.**

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1 | 1,060,555.2786m | 299,263.9232m | 0+000.00 |
| 2 | 1,060,556.2734m | 299,264.0251m | 0+001.00 |
| 3 | 1,060,557.2682m | 299,264.1270m | 0+002.00 |
| 4 | 1,060,558.2630m | 299,264.2289m | 0+003.00 |
| 5 | 1,060,559.2578m | 299,264.3308m | 0+004.00 |
| 6 | 1,060,560.2526m | 299,264.4327m | 0+005.00 |
| 7 | 1,060,561.2474m | 299,264.5346m | 0+006.00 |
| 8 | 1,060,562.2422m | 299,264.6365m | 0+007.00 |
| 9 | 1,060,563.2370m | 299,264.7384m | 0+008.00 |
| 10 | 1,060,564.2318m | 299,264.8403m | 0+009.00 |
| 11 | 1,060,565.2266m | 299,264.9422m | 0+010.00 |
| 12 | 1,060,566.2214m | 299,265.0441m | 0+011.00 |
| 13 | 1,060,567.2162m | 299,265.1460m | 0+012.00 |
| 14 | 1,060,568.2110m | 299,265.2479m | 0+013.00 |
| 15 | 1,060,569.2058m | 299,265.3498m | 0+014.00 |
| 16 | 1,060,570.2005m | 299,265.4517m | 0+015.00 |
| 17 | 1,060,571.1953m | 299,265.5536m | 0+016.00 |
| 18 | 1,060,572.1901m | 299,265.6555m | 0+017.00 |
| 19 | 1,060,573.1849m | 299,265.7574m | 0+018.00 |
| 20 | 1,060,574.1797m | 299,265.8593m | 0+019.00 |
| 21 | 1,060,575.1745m | 299,265.9612m | 0+020.00 |
| 22 | 1,060,576.1693m | 299,266.0631m | 0+021.00 |
| 23 | 1,060,577.1641m | 299,266.1650m | 0+022.00 |
| 24 | 1,060,578.1589m | 299,266.2669m | 0+023.00 |
| 25 | 1,060,579.1537m | 299,266.3688m | 0+024.00 |
| 26 | 1,060,580.1485m | 299,266.4707m | 0+025.00 |
| 27 | 1,060,581.1433m | 299,266.5726m | 0+026.00 |
| 28 | 1,060,582.1381m | 299,266.6745m | 0+027.00 |
| 29 | 1,060,583.1329m | 299,266.7764m | 0+028.00 |
| 30 | 1,060,584.1277m | 299,266.8783m | 0+029.00 |
| 31 | 1,060,585.1225m | 299,266.9802m | 0+030.00 |
| 32 | 1,060,586.1173m | 299,267.0821m | 0+031.00 |
| 33 | 1,060,587.1121m | 299,267.1840m | 0+032.00 |
| 34 | 1,060,588.1069m | 299,267.2859m | 0+033.00 |
| 35 | 1,060,589.1016m | 299,267.3878m | 0+034.00 |
| 36 | 1,060,590.0964m | 299,267.4897m | 0+035.00 |
| 37 | 1,060,591.0912m | 299,267.5916m | 0+036.00 |
| 38 | 1,060,592.0860m | 299,267.6935m | 0+037.00 |
| 39 | 1,060,593.0808m | 299,267.7954m | 0+038.00 |
| 40 | 1,060,594.0756m | 299,267.8973m | 0+039.00 |
| 41 | 1,060,595.0704m | 299,267.9992m | 0+040.00 |
| 42 | 1,060,596.0652m | 299,268.1011m | 0+041.00 |
| 43 | 1,060,597.0600m | 299,268.2030m | 0+042.00 |
| 44 | 1,060,598.0548m | 299,268.3049m | 0+043.00 |
| 45 | 1,060,599.0496m | 299,268.4068m | 0+044.00 |
| 46 | 1,060,600.0444m | 299,268.5087m | 0+045.00 |
| 47 | 1,060,601.0392m | 299,268.6106m | 0+046.00 |
| 48 | 1,060,602.0340m | 299,268.7125m | 0+047.00 |
| 49 | 1,060,603.0288m | 299,268.8144m | 0+048.00 |
| 50 | 1,060,604.0236m | 299,268.9163m | 0+049.00 |
| 51 | 1,060,605.0184m | 299,269.0182m | 0+050.00 |
| 52 | 1,060,606.0132m | 299,269.1201m | 0+051.00 |
| 53 | 1,060,607.0080m | 299,269.2220m | 0+052.00 |
| 54 | 1,060,608.0027m | 299,269.3239m | 0+053.00 |
| 55 | 1,060,608.9975m | 299,269.4258m | 0+054.00 |
| 56 | 1,060,609.9923m | 299,269.5277m | 0+055.00 |
| 57 | 1,060,610.9871m | 299,269.6296m | 0+056.00 |
| 58 | 1,060,611.9819m | 299,269.7315m | 0+057.00 |
| 59 | 1,060,612.9767m | 299,269.8334m | 0+058.00 |
| 60 | 1,060,613.9715m | 299,269.9353m | 0+059.00 |
| 61 | 1,060,614.9663m | 299,270.0372m | 0+060.00 |
| 62 | 1,060,615.9611m | 299,270.1391m | 0+061.00 |
| 63 | 1,060,616.9559m | 299,270.2410m | 0+062.00 |
| 64 | 1,060,617.9507m | 299,270.3429m | 0+063.00 |
| 65 | 1,060,618.9455m | 299,270.4448m | 0+064.00 |
| 66 | 1,060,619.9403m | 299,270.5467m | 0+065.00 |
| 67 | 1,060,620.9351m | 299,270.6486m | 0+066.00 |
| 68 | 1,060,621.9299m | 299,270.7505m | 0+067.00 |
| 69 | 1,060,622.9247m | 299,270.8524m | 0+068.00 |
| 70 | 1,060,623.9195m | 299,270.9543m | 0+069.00 |
| 71 | 1,060,624.9143m | 299,271.0562m | 0+070.00 |
| 72 | 1,060,625.9091m | 299,271.1581m | 0+071.00 |
| 73 | 1,060,626.9038m | 299,271.2600m | 0+072.00 |
| 74 | 1,060,627.8986m | 299,271.3619m | 0+073.00 |
| 75 | 1,060,628.8934m | 299,271.4638m | 0+074.00 |
| 76 | 1,060,629.8882m | 299,271.5657m | 0+075.00 |
| 77 | 1,060,630.8830m | 299,271.6676m | 0+076.00 |
| 78 | 1,060,631.8778m | 299,271.7695m | 0+077.00 |
| 79 | 1,060,632.8726m | 299,271.8714m | 0+078.00 |
| 80 | 1,060,633.8674m | 299,271.9733m | 0+079.00 |
| 81 | 1,060,634.8622m | 299,272.0752m | 0+080.00 |
| 82 | 1,060,635.8570m | 299,272.1771m | 0+081.00 |
| 83 | 1,060,636.8518m | 299,272.2790m | 0+082.00 |
| 84 | 1,060,637.8466m | 299,272.3809m | 0+083.00 |
| 85 | 1,060,638.8414m | 299,272.4828m | 0+084.00 |
| 86 | 1,060,639.8362m | 299,272.5847m | 0+085.00 |
| 87 | 1,060,640.8310m | 299,272.6866m | 0+086.00 |
| 88 | 1,060,641.8258m | 299,272.7885m | 0+087.00 |
| 89 | 1,060,642.8206m | 299,272.8904m | 0+088.00 |
| 90 | 1,060,643.8154m | 299,272.9923m | 0+089.00 |
| 91 | 1,060,644.8101m | 299,273.0942m | 0+090.00 |
| 92 | 1,060,645.8049m | 299,273.1961m | 0+091.00 |
| 93 | 1,060,646.7997m | 299,273.2980m | 0+092.00 |
| 94 | 1,060,647.7945m | 299,273.3999m | 0+093.00 |
| 95 | 1,060,648.7893m | 299,273.5018m | 0+094.00 |
| 96 | 1,060,649.7841m | 299,273.6037m | 0+095.00 |
| 97 | 1,060,650.7789m | 299,273.7056m | 0+096.00 |
| 98 | 1,060,651.7737m | 299,273.8075m | 0+097.00 |
| 99 | 1,060,652.7685m | 299,273.9094m | 0+098.00 |
| 100 | 1,060,653.7633m | 299,274.0113m | 0+099.00 |
| 101 | 1,060,654.7581m | 299,274.1132m | 0+100.00 |
| 102 | 1,060,655.7529m | 299,274.2151m | 0+101.00 |
| 103 | 1,060,656.7477m | 299,274.3170m | 0+102.00 |
| 104 | 1,060,657.7425m | 299,274.4189m | 0+103.00 |
| 105 | 1,060,658.7373m | 299,274.5208m | 0+104.00 |
| 106 | 1,060,659.7321m | 299,274.6227m | 0+105.00 |
| 107 | 1,060,660.7269m | 299,274.7246m | 0+106.00 |
| 108 | 1,060,661.7217m | 299,274.8265m | 0+107.00 |
| 109 | 1,060,662.7165m | 299,274.9284m | 0+108.00 |
| 110 | 1,060,663.7112m | 299,275.0303m | 0+109.00 |
| 111 | 1,060,664.7060m | 299,275.1322m | 0+110.00 |
| 112 | 1,060,665.7008m | 299,275.2341m | 0+111.00 |
| 113 | 1,060,666.6956m | 299,275.3360m | 0+112.00 |
| 114 | 1,060,667.6904m | 299,275.4379m | 0+113.00 |
| 115 | 1,060,668.6852m | 299,275.5398m | 0+114.00 |
| 116 | 1,060,669.6800m | 299,275.6417m | 0+115.00 |
| 117 | 1,060,670.6748m | 299,275.7436m | 0+116.00 |
| 118 | 1,060,671.6696m | 299,275.8455m | 0+117.00 |
| 119 | 1,060,672.6644m | 299,275.9474m | 0+118.00 |
| 120 | 1,060,673.6592m | 299,276.0493m | 0+119.00 |
| 121 | 1,060,674.6540m | 299,276.1512m | 0+120.00 |
| 122 | 1,060,675.6488m | 299,276.2531m | 0+121.00 |
| 123 | 1,060,676.6436m | 299,276.3550m | 0+122.00 |
| 124 | 1,060,677.6384m | 299,276.4569m | 0+123.00 |
| 125 | 1,060,678.6332m | 299,276.5588m | 0+124.00 |
| 126 | 1,060,679.6280m | 299,276.6607m | 0+125.00 |
| 127 | 1,060,680.6228m | 299,276.7626m | 0+126.00 |
| 128 | 1,060,681.6176m | 299,276.8645m | 0+127.00 |
| 129 | 1,060,682.6123m | 299,276.9664m | 0+128.00 |
| 130 | 1,060,683.6071m | 299,277.0683m | 0+129.00 |
| 131 | 1,060,684.6019m | 299,277.1702m | 0+130.00 |
| 132 | 1,060,685.5967m | 299,277.2721m | 0+131.00 |
| 133 | 1,060,686.5915m | 299,277.3740m | 0+132.00 |
| 134 | 1,060,687.5863m | 299,277.4759m | 0+133.00 |
| 135 | 1,060,688.5811m | 299,277.5778m | 0+134.00 |
| 136 | 1,060,689.5759m | 299,277.6797m | 0+135.00 |
| 137 | 1,060,690.5707m | 299,277.7816m | 0+136.00 |
| 138 | 1,060,691.5655m | 299,277.8835m | 0+137.00 |
| 139 | 1,060,692.5603m | 299,277.9854m | 0+138.00 |
| 140 | 1,060,693.5551m | 299,278.0873m | 0+139.00 |
| 141 | 1,060,694.5499m | 299,278.1892m | 0+140.00 |
| 142 | 1,060,695.5447m | 299,278.2911m | 0+141.00 |
| 143 | 1,060,696.5395m | 299,278.3930m | 0+142.00 |
| 144 | 1,060,697.5343m | 299,278.4948m | 0+143.00 |
| 145 | 1,060,698.5291m | 299,278.5962m | 0+144.00 |
| 146 | 1,060,699.5240m | 299,278.6971m | 0+145.00 |
| 147 | 1,060,700.5190m | 299,278.7975m | 0+146.00 |
| 148 | 1,060,701.5140m | 299,278.8975m | 0+147.00 |
| 149 | 1,060,702.5090m | 299,278.9969m | 0+148.00 |
| 150 | 1,060,703.5040m | 299,279.0964m | 0+149.00 |
| 151 | 1,060,704.4991m | 299,279.1958m | 0+150.00 |
| 152 | 1,060,705.4941m | 299,279.2952m | 0+151.00 |
| 153 | 1,060,706.4892m | 299,279.3946m | 0+152.00 |
| 154 | 1,060,707.4842m | 299,279.4941m | 0+153.00 |
| 155 | 1,060,708.4793m | 299,279.5935m | 0+154.00 |
| 156 | 1,060,709.4743m | 299,279.6929m | 0+155.00 |
| 157 | 1,060,710.4694m | 299,279.7923m | 0+156.00 |
| 158 | 1,060,711.4644m | 299,279.8918m | 0+157.00 |
| 159 | 1,060,712.4594m | 299,279.9912m | 0+158.00 |
| 160 | 1,060,713.4545m | 299,280.0906m | 0+159.00 |
| 161 | 1,060,714.4495m | 299,280.1901m | 0+160.00 |
| 162 | 1,060,715.4446m | 299,280.2895m | 0+161.00 |
| 163 | 1,060,716.4396m | 299,280.3889m | 0+162.00 |
| 164 | 1,060,717.4347m | 299,280.4883m | 0+163.00 |
| 165 | 1,060,718.4297m | 299,280.5878m | 0+164.00 |
| 166 | 1,060,719.4248m | 299,280.6872m | 0+165.00 |
| 167 | 1,060,720.4198m | 299,280.7866m | 0+166.00 |
| 168 | 1,060,721.4148m | 299,280.8860m | 0+167.00 |
| 169 | 1,060,722.4099m | 299,280.9855m | 0+168.00 |
| 170 | 1,060,723.4049m | 299,281.0849m | 0+169.00 |
| 171 | 1,060,724.4000m | 299,281.1843m | 0+170.00 |
| 172 | 1,060,725.3950m | 299,281.2837m | 0+171.00 |
| 173 | 1,060,726.3901m | 299,281.3832m | 0+172.00 |
| 174 | 1,060,727.3851m | 299,281.4826m | 0+173.00 |
| 175 | 1,060,728.3802m | 299,281.5820m | 0+174.00 |
| 176 | 1,060,729.3752m | 299,281.6814m | 0+175.00 |
| 177 | 1,060,730.3703m | 299,281.7809m | 0+176.00 |
| 178 | 1,060,731.3653m | 299,281.8803m | 0+177.00 |
| 179 | 1,060,732.3603m | 299,281.9797m | 0+178.00 |
| 180 | 1,060,733.3554m | 299,282.0791m | 0+179.00 |
| 181 | 1,060,734.3504m | 299,282.1786m | 0+180.00 |
| 182 | 1,060,735.3455m | 299,282.2780m | 0+181.00 |
| 183 | 1,060,736.3405m | 299,282.3774m | 0+182.00 |
| 184 | 1,060,737.3356m | 299,282.4768m | 0+183.00 |
| 185 | 1,060,738.3306m | 299,282.5763m | 0+184.00 |
| 186 | 1,060,739.3257m | 299,282.6757m | 0+185.00 |
| 187 | 1,060,740.3207m | 299,282.7751m | 0+186.00 |
| 188 | 1,060,741.3157m | 299,282.8745m | 0+187.00 |
| 189 | 1,060,742.3108m | 299,282.9740m | 0+188.00 |
| 190 | 1,060,743.3058m | 299,283.0734m | 0+189.00 |
| 191 | 1,060,744.3009m | 299,283.1728m | 0+190.00 |
| 192 | 1,060,745.2959m | 299,283.2722m | 0+191.00 |
| 193 | 1,060,746.2910m | 299,283.3717m | 0+192.00 |
| 194 | 1,060,747.2860m | 299,283.4711m | 0+193.00 |
| 195 | 1,060,748.2811m | 299,283.5705m | 0+194.00 |
| 196 | 1,060,749.2761m | 299,283.6699m | 0+195.00 |
| 197 | 1,060,750.2712m | 299,283.7694m | 0+196.00 |
| 198 | 1,060,751.2662m | 299,283.8688m | 0+197.00 |
| 199 | 1,060,752.2612m | 299,283.9682m | 0+198.00 |
| 200 | 1,060,753.2563m | 299,284.0676m | 0+199.00 |
| 201 | 1,060,754.2513m | 299,284.1671m | 0+200.00 |
| 202 | 1,060,755.2464m | 299,284.2665m | 0+201.00 |
| 203 | 1,060,756.2414m | 299,284.3659m | 0+202.00 |
| 204 | 1,060,757.2365m | 299,284.4653m | 0+203.00 |
| 205 | 1,060,758.2315m | 299,284.5648m | 0+204.00 |
| 206 | 1,060,759.2266m | 299,284.6642m | 0+205.00 |
| 207 | 1,060,760.2216m | 299,284.7636m | 0+206.00 |
| 208 | 1,060,761.2166m | 299,284.8630m | 0+207.00 |
| 209 | 1,060,762.2117m | 299,284.9625m | 0+208.00 |
| 210 | 1,060,763.2067m | 299,285.0619m | 0+209.00 |
| 211 | 1,060,764.2018m | 299,285.1613m | 0+210.00 |
| 212 | 1,060,765.1968m | 299,285.2607m | 0+211.00 |
| 213 | 1,060,766.1919m | 299,285.3602m | 0+212.00 |
| 214 | 1,060,767.1869m | 299,285.4596m | 0+213.00 |
| 215 | 1,060,768.1820m | 299,285.5590m | 0+214.00 |
| 216 | 1,060,769.1770m | 299,285.6584m | 0+215.00 |
| 217 | 1,060,770.1721m | 299,285.7579m | 0+216.00 |
| 218 | 1,060,771.1671m | 299,285.8573m | 0+217.00 |
| 219 | 1,060,772.1621m | 299,285.9567m | 0+218.00 |
| 220 | 1,060,773.1572m | 299,286.0561m | 0+219.00 |
| 221 | 1,060,774.1522m | 299,286.1556m | 0+220.00 |
| 222 | 1,060,775.1473m | 299,286.2550m | 0+221.00 |
| 223 | 1,060,776.1423m | 299,286.3544m | 0+222.00 |
| 224 | 1,060,777.1374m | 299,286.4539m | 0+223.00 |
| 225 | 1,060,778.1324m | 299,286.5533m | 0+224.00 |
| 226 | 1,060,779.1275m | 299,286.6527m | 0+225.00 |
| 227 | 1,060,780.1225m | 299,286.7521m | 0+226.00 |
| 228 | 1,060,781.1175m | 299,286.8516m | 0+227.00 |
| 229 | 1,060,782.1126m | 299,286.9510m | 0+228.00 |
| 230 | 1,060,783.1076m | 299,287.0504m | 0+229.00 |
| 231 | 1,060,784.1027m | 299,287.1498m | 0+230.00 |
| 232 | 1,060,785.0977m | 299,287.2493m | 0+231.00 |
| 233 | 1,060,786.0928m | 299,287.3487m | 0+232.00 |
| 234 | 1,060,787.0878m | 299,287.4481m | 0+233.00 |
| 235 | 1,060,788.0829m | 299,287.5475m | 0+234.00 |
| 236 | 1,060,789.0779m | 299,287.6470m | 0+235.00 |
| 237 | 1,060,790.0730m | 299,287.7464m | 0+236.00 |
| 238 | 1,060,791.0680m | 299,287.8458m | 0+237.00 |
| 239 | 1,060,792.0630m | 299,287.9452m | 0+238.00 |
| 240 | 1,060,793.0581m | 299,288.0447m | 0+239.00 |
| 241 | 1,060,794.0531m | 299,288.1441m | 0+240.00 |
| 242 | 1,060,795.0482m | 299,288.2435m | 0+241.00 |
| 243 | 1,060,796.0432m | 299,288.3429m | 0+242.00 |
| 244 | 1,060,797.0383m | 299,288.4424m | 0+243.00 |
| 245 | 1,060,798.0333m | 299,288.5418m | 0+244.00 |
| 246 | 1,060,799.0284m | 299,288.6412m | 0+245.00 |
| 247 | 1,060,800.0234m | 299,288.7406m | 0+246.00 |
| 248 | 1,060,801.0184m | 299,288.8401m | 0+247.00 |
| 249 | 1,060,802.0135m | 299,288.9395m | 0+248.00 |
| 250 | 1,060,803.0085m | 299,289.0389m | 0+249.00 |
| 251 | 1,060,804.0036m | 299,289.1383m | 0+250.00 |
| 252 | 1,060,804.9986m | 299,289.2378m | 0+251.00 |
| 253 | 1,060,805.9937m | 299,289.3372m | 0+252.00 |
| 254 | 1,060,806.9887m | 299,289.4366m | 0+253.00 |
| 255 | 1,060,807.9838m | 299,289.5360m | 0+254.00 |
| 256 | 1,060,808.9788m | 299,289.6355m | 0+255.00 |
| 257 | 1,060,809.9739m | 299,289.7349m | 0+256.00 |
| 258 | 1,060,810.9689m | 299,289.8343m | 0+257.00 |
| 259 | 1,060,811.9639m | 299,289.9337m | 0+258.00 |
| 260 | 1,060,812.9590m | 299,290.0332m | 0+259.00 |
| 261 | 1,060,813.9540m | 299,290.1326m | 0+260.00 |
| 262 | 1,060,814.9491m | 299,290.2320m | 0+261.00 |
| 263 | 1,060,815.9441m | 299,290.3314m | 0+262.00 |
| 264 | 1,060,816.9392m | 299,290.4309m | 0+263.00 |
| 265 | 1,060,817.9342m | 299,290.5303m | 0+264.00 |
| 266 | 1,060,818.9293m | 299,290.6297m | 0+265.00 |
| 267 | 1,060,819.9243m | 299,290.7291m | 0+266.00 |
| 268 | 1,060,820.9193m | 299,290.8286m | 0+267.00 |
| 269 | 1,060,821.9144m | 299,290.9280m | 0+268.00 |
| 270 | 1,060,822.9094m | 299,291.0274m | 0+269.00 |
| 271 | 1,060,823.9045m | 299,291.1268m | 0+270.00 |
| 272 | 1,060,824.8995m | 299,291.2263m | 0+271.00 |
| 273 | 1,060,825.8946m | 299,291.3257m | 0+272.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 274 | 1,060,826.8896m | 299,291.4251m | 0+273.00 |
| 275 | 1,060,827.8847m | 299,291.5245m | 0+274.00 |
| 276 | 1,060,828.8797m | 299,291.6240m | 0+275.00 |
| 277 | 1,060,829.8748m | 299,291.7234m | 0+276.00 |
| 278 | 1,060,830.8698m | 299,291.8228m | 0+277.00 |
| 279 | 1,060,831.8648m | 299,291.9222m | 0+278.00 |
| 280 | 1,060,832.8599m | 299,292.0217m | 0+279.00 |
| 281 | 1,060,833.8549m | 299,292.1211m | 0+280.00 |
| 282 | 1,060,834.8500m | 299,292.2205m | 0+281.00 |
| 283 | 1,060,835.8450m | 299,292.3199m | 0+282.00 |
| 284 | 1,060,836.8401m | 299,292.4194m | 0+283.00 |
| 285 | 1,060,837.8351m | 299,292.5188m | 0+284.00 |
| 286 | 1,060,838.8302m | 299,292.6182m | 0+285.00 |
| 287 | 1,060,839.8252m | 299,292.7176m | 0+286.00 |
| 288 | 1,060,840.8203m | 299,292.8171m | 0+287.00 |
| 289 | 1,060,841.8153m | 299,292.9165m | 0+288.00 |
| 290 | 1,060,842.8103m | 299,293.0159m | 0+289.00 |
| 291 | 1,060,843.8054m | 299,293.1154m | 0+290.00 |
| 292 | 1,060,844.8004m | 299,293.2148m | 0+291.00 |
| 293 | 1,060,845.7955m | 299,293.3142m | 0+292.00 |
| 294 | 1,060,846.7905m | 299,293.4136m | 0+293.00 |
| 295 | 1,060,847.7856m | 299,293.5131m | 0+294.00 |
| 296 | 1,060,848.7806m | 299,293.6125m | 0+295.00 |
| 297 | 1,060,849.7757m | 299,293.7119m | 0+296.00 |
| 298 | 1,060,850.7707m | 299,293.8113m | 0+297.00 |
| 299 | 1,060,851.7657m | 299,293.9108m | 0+298.00 |
| 300 | 1,060,852.7608m | 299,294.0102m | 0+299.00 |
| 301 | 1,060,853.7558m | 299,294.1096m | 0+300.00 |
| 302 | 1,060,854.7509m | 299,294.2090m | 0+301.00 |
| 303 | 1,060,855.7459m | 299,294.3085m | 0+302.00 |
| 304 | 1,060,856.7410m | 299,294.4079m | 0+303.00 |
| 305 | 1,060,857.7360m | 299,294.5073m | 0+304.00 |
| 306 | 1,060,858.7311m | 299,294.6067m | 0+305.00 |
| 307 | 1,060,859.7261m | 299,294.7062m | 0+306.00 |
| 308 | 1,060,860.7212m | 299,294.8056m | 0+307.00 |
| 309 | 1,060,861.7162m | 299,294.9050m | 0+308.00 |
| 310 | 1,060,862.7112m | 299,295.0044m | 0+309.00 |
| 311 | 1,060,863.7063m | 299,295.1039m | 0+310.00 |
| 312 | 1,060,864.7013m | 299,295.2033m | 0+311.00 |
| 313 | 1,060,865.6964m | 299,295.3027m | 0+312.00 |
| 314 | 1,060,866.6914m | 299,295.4021m | 0+313.00 |
| 315 | 1,060,867.6865m | 299,295.5016m | 0+314.00 |
| 316 | 1,060,868.6815m | 299,295.6010m | 0+315.00 |
| 317 | 1,060,869.6766m | 299,295.7004m | 0+316.00 |
| 318 | 1,060,870.6716m | 299,295.7998m | 0+317.00 |
| 319 | 1,060,871.6666m | 299,295.8993m | 0+318.00 |
| 320 | 1,060,872.6617m | 299,295.9987m | 0+319.00 |
| 321 | 1,060,873.6567m | 299,296.0981m | 0+320.00 |
| 322 | 1,060,874.6518m | 299,296.1975m | 0+321.00 |
| 323 | 1,060,875.6468m | 299,296.2970m | 0+322.00 |
| 324 | 1,060,876.6419m | 299,296.3964m | 0+323.00 |
| 325 | 1,060,877.6369m | 299,296.4958m | 0+324.00 |
| 326 | 1,060,878.6320m | 299,296.5952m | 0+325.00 |
| 327 | 1,060,879.6270m | 299,296.6947m | 0+326.00 |
| 328 | 1,060,880.6221m | 299,296.7941m | 0+327.00 |
| 329 | 1,060,881.6171m | 299,296.8935m | 0+328.00 |
| 330 | 1,060,882.6121m | 299,296.9929m | 0+329.00 |
| 331 | 1,060,883.6072m | 299,297.0924m | 0+330.00 |
| 332 | 1,060,884.6022m | 299,297.1918m | 0+331.00 |
| 333 | 1,060,885.5973m | 299,297.2912m | 0+332.00 |
| 334 | 1,060,886.5923m | 299,297.3906m | 0+333.00 |
| 335 | 1,060,887.5874m | 299,297.4901m | 0+334.00 |
| 336 | 1,060,888.5824m | 299,297.5895m | 0+335.00 |
| 337 | 1,060,889.5775m | 299,297.6889m | 0+336.00 |
| 338 | 1,060,890.5725m | 299,297.7883m | 0+337.00 |
| 339 | 1,060,891.5675m | 299,297.8878m | 0+338.00 |
| 340 | 1,060,892.5626m | 299,297.9872m | 0+339.00 |
| 341 | 1,060,893.5576m | 299,298.0866m | 0+340.00 |
| 342 | 1,060,894.5527m | 299,298.1860m | 0+341.00 |
| 343 | 1,060,895.5477m | 299,298.2855m | 0+342.00 |
| 344 | 1,060,896.5428m | 299,298.3849m | 0+343.00 |
| 345 | 1,060,897.5378m | 299,298.4843m | 0+344.00 |
| 346 | 1,060,898.5329m | 299,298.5837m | 0+345.00 |
| 347 | 1,060,899.5279m | 299,298.6832m | 0+346.00 |
| 348 | 1,060,900.5230m | 299,298.7826m | 0+347.00 |
| 349 | 1,060,901.5180m | 299,298.8820m | 0+348.00 |
| 350 | 1,060,902.5130m | 299,298.9814m | 0+349.00 |
| 351 | 1,060,903.5081m | 299,299.0809m | 0+350.00 |
| 352 | 1,060,904.5031m | 299,299.1803m | 0+351.00 |
| 353 | 1,060,905.4982m | 299,299.2797m | 0+352.00 |
| 354 | 1,060,906.4932m | 299,299.3792m | 0+353.00 |
| 355 | 1,060,907.4883m | 299,299.4786m | 0+354.00 |
| 356 | 1,060,908.4833m | 299,299.5780m | 0+355.00 |
| 357 | 1,060,909.4784m | 299,299.6774m | 0+356.00 |
| 358 | 1,060,910.4734m | 299,299.7769m | 0+357.00 |
| 359 | 1,060,911.4684m | 299,299.8763m | 0+358.00 |
| 360 | 1,060,912.4635m | 299,299.9757m | 0+359.00 |
| 361 | 1,060,913.4585m | 299,300.0751m | 0+360.00 |
| 362 | 1,060,914.4536m | 299,300.1746m | 0+361.00 |
| 363 | 1,060,915.4486m | 299,300.2740m | 0+362.00 |
| 364 | 1,060,916.4437m | 299,300.3734m | 0+363.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 365 | 1,060,917.4387m | 299,300.4728m | 0+364.00 |
| 366 | 1,060,918.4338m | 299,300.5723m | 0+365.00 |
| 367 | 1,060,919.4288m | 299,300.6717m | 0+366.00 |
| 368 | 1,060,920.4239m | 299,300.7711m | 0+367.00 |
| 369 | 1,060,921.4189m | 299,300.8705m | 0+368.00 |
| 370 | 1,060,922.4139m | 299,300.9700m | 0+369.00 |
| 371 | 1,060,923.4090m | 299,301.0694m | 0+370.00 |
| 372 | 1,060,924.4040m | 299,301.1688m | 0+371.00 |
| 373 | 1,060,925.3991m | 299,301.2682m | 0+372.00 |
| 374 | 1,060,926.3941m | 299,301.3677m | 0+373.00 |
| 375 | 1,060,927.3892m | 299,301.4671m | 0+374.00 |
| 376 | 1,060,928.3842m | 299,301.5665m | 0+375.00 |
| 377 | 1,060,929.3793m | 299,301.6659m | 0+376.00 |
| 378 | 1,060,930.3743m | 299,301.7654m | 0+377.00 |
| 379 | 1,060,931.3693m | 299,301.8648m | 0+378.00 |
| 380 | 1,060,932.3644m | 299,301.9642m | 0+379.00 |
| 381 | 1,060,933.3594m | 299,302.0636m | 0+380.00 |
| 382 | 1,060,934.3545m | 299,302.1631m | 0+381.00 |
| 383 | 1,060,935.3495m | 299,302.2625m | 0+382.00 |
| 384 | 1,060,936.3446m | 299,302.3619m | 0+383.00 |
| 385 | 1,060,937.3396m | 299,302.4613m | 0+384.00 |
| 386 | 1,060,938.3347m | 299,302.5608m | 0+385.00 |
| 387 | 1,060,939.3297m | 299,302.6602m | 0+386.00 |
| 388 | 1,060,940.3248m | 299,302.7596m | 0+387.00 |
| 389 | 1,060,941.3198m | 299,302.8590m | 0+388.00 |
| 390 | 1,060,942.3148m | 299,302.9585m | 0+389.00 |
| 391 | 1,060,943.3099m | 299,303.0579m | 0+390.00 |
| 392 | 1,060,944.3049m | 299,303.1573m | 0+391.00 |
| 393 | 1,060,945.3000m | 299,303.2567m | 0+392.00 |
| 394 | 1,060,946.2950m | 299,303.3562m | 0+393.00 |
| 395 | 1,060,947.2901m | 299,303.4556m | 0+394.00 |
| 396 | 1,060,948.2851m | 299,303.5550m | 0+395.00 |
| 397 | 1,060,949.2802m | 299,303.6544m | 0+396.00 |
| 398 | 1,060,950.2752m | 299,303.7539m | 0+397.00 |
| 399 | 1,060,951.2702m | 299,303.8533m | 0+398.00 |
| 400 | 1,060,952.2653m | 299,303.9527m | 0+399.00 |
| 401 | 1,060,953.2603m | 299,304.0521m | 0+400.00 |
| 402 | 1,060,954.2554m | 299,304.1516m | 0+401.00 |
| 403 | 1,060,955.2504m | 299,304.2510m | 0+402.00 |
| 404 | 1,060,956.2455m | 299,304.3504m | 0+403.00 |
| 405 | 1,060,957.2405m | 299,304.4498m | 0+404.00 |
| 406 | 1,060,958.2356m | 299,304.5493m | 0+405.00 |
| 407 | 1,060,959.2306m | 299,304.6487m | 0+406.00 |
| 408 | 1,060,960.2257m | 299,304.7481m | 0+407.00 |
| 409 | 1,060,961.2207m | 299,304.8475m | 0+408.00 |
| 410 | 1,060,962.2157m | 299,304.9470m | 0+409.00 |
| 411 | 1,060,963.2108m | 299,305.0464m | 0+410.00 |
| 412 | 1,060,964.2058m | 299,305.1458m | 0+411.00 |
| 413 | 1,060,965.2009m | 299,305.2452m | 0+412.00 |
| 414 | 1,060,966.1959m | 299,305.3447m | 0+413.00 |
| 415 | 1,060,967.1910m | 299,305.4441m | 0+414.00 |
| 416 | 1,060,968.1860m | 299,305.5435m | 0+415.00 |
| 417 | 1,060,969.1811m | 299,305.6429m | 0+416.00 |
| 418 | 1,060,970.1761m | 299,305.7424m | 0+417.00 |
| 419 | 1,060,971.1711m | 299,305.8418m | 0+418.00 |
| 420 | 1,060,972.1662m | 299,305.9412m | 0+419.00 |
| 421 | 1,060,973.1612m | 299,306.0407m | 0+420.00 |
| 422 | 1,060,974.1563m | 299,306.1401m | 0+421.00 |
| 423 | 1,060,975.1513m | 299,306.2395m | 0+422.00 |
| 424 | 1,060,976.1464m | 299,306.3389m | 0+423.00 |
| 425 | 1,060,977.1414m | 299,306.4384m | 0+424.00 |
| 426 | 1,060,978.1365m | 299,306.5378m | 0+425.00 |
| 427 | 1,060,979.1315m | 299,306.6372m | 0+426.00 |
| 428 | 1,060,980.1266m | 299,306.7366m | 0+427.00 |
| 429 | 1,060,981.1216m | 299,306.8361m | 0+428.00 |
| 430 | 1,060,982.1166m | 299,306.9355m | 0+429.00 |
| 431 | 1,060,983.1117m | 299,307.0349m | 0+430.00 |
| 432 | 1,060,984.1067m | 299,307.1343m | 0+431.00 |
| 433 | 1,060,985.1018m | 299,307.2338m | 0+432.00 |
| 434 | 1,060,986.0968m | 299,307.3332m | 0+433.00 |
| 435 | 1,060,987.0919m | 299,307.4326m | 0+434.00 |
| 436 | 1,060,988.0869m | 299,307.5320m | 0+435.00 |
| 437 | 1,060,989.0820m | 299,307.6315m | 0+436.00 |
| 438 | 1,060,990.0770m | 299,307.7309m | 0+437.00 |
| 439 | 1,060,991.0720m | 299,307.8303m | 0+438.00 |
| 440 | 1,060,992.0671m | 299,307.9297m | 0+439.00 |
| 441 | 1,060,993.0621m | 299,308.0292m | 0+440.00 |
| 442 | 1,060,994.0572m | 299,308.1286m | 0+441.00 |
| 443 | 1,060,995.0522m | 299,308.2280m | 0+442.00 |
| 444 | 1,060,996.0473m | 299,308.3274m | 0+443.00 |
| 445 | 1,060,997.0423m | 299,308.4269m | 0+444.00 |
| 446 | 1,060,998.0374m | 299,308.5263m | 0+445.00 |
| 447 | 1,060,999.0324m | 299,308.6257m | 0+446.00 |
| 448 | 1,061,000.0275m | 299,308.7251m | 0+447.00 |
| 449 | 1,061,001.0225m | 299,308.8246m | 0+448.00 |
| 450 | 1,061,002.0175m | 299,308.9240m | 0+449.00 |
| 451 | 1,061,003.0126m | 299,309.0234m | 0+450.00 |
| 452 | 1,061,004.0076m | 299,309.1228m | 0+451.00 |
| 453 | 1,061,005.0027m | 299,309.2223m | 0+452.00 |
| 454 | 1,061,005.9977m | 299,309.3217m | 0+453.00 |
| 455 | 1,061,006.9928m | 299,309.4211m | 0+454.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 456 | 1,061,007.9878m | 299,309.5205m | 0+455.00 |
| 457 | 1,061,008.9829m | 299,309.6200m | 0+456.00 |
| 458 | 1,061,009.9779m | 299,309.7194m | 0+457.00 |
| 459 | 1,061,010.9729m | 299,309.8188m | 0+458.00 |
| 460 | 1,061,011.9680m | 299,309.9182m | 0+459.00 |
| 461 | 1,061,012.9630m | 299,310.0177m | 0+460.00 |
| 462 | 1,061,013.9581m | 299,310.1171m | 0+461.00 |
| 463 | 1,061,014.8764m | 299,310.0395m | 0+462.00 |
| 464 | 1,061,015.4841m | 299,309.2453m | 0+463.00 |
| 465 | 1,061,016.3130m | 299,308.7943m | 0+464.00 |
| 466 | 1,061,017.2941m | 299,308.7808m | 0+465.00 |
| 467 | 1,061,018.2809m | 299,308.9431m | 0+466.00 |
| 468 | 1,061,019.2641m | 299,309.1240m | 0+467.00 |
| 469 | 1,061,020.2355m | 299,309.3605m | 0+468.00 |
| 470 | 1,061,021.1656m | 299,309.7140m | 0+469.00 |
| 471 | 1,061,022.0267m | 299,310.2165m | 0+470.00 |
| 472 | 1,061,022.8115m | 299,310.8313m | 0+471.00 |
| 473 | 1,061,023.7296m | 299,311.0935m | 0+472.00 |
| 474 | 1,061,024.7247m | 299,311.1929m | 0+473.00 |
| 475 | 1,061,025.7197m | 299,311.2923m | 0+474.00 |
| 476 | 1,061,026.7148m | 299,311.3917m | 0+475.00 |
| 477 | 1,061,027.7098m | 299,311.4912m | 0+476.00 |
| 478 | 1,061,028.7048m | 299,311.5906m | 0+477.00 |
| 479 | 1,061,029.6999m | 299,311.6900m | 0+478.00 |
| 480 | 1,061,030.6949m | 299,311.7894m | 0+479.00 |
| 481 | 1,061,031.6900m | 299,311.8889m | 0+480.00 |
| 482 | 1,061,032.6850m | 299,311.9883m | 0+481.00 |
| 483 | 1,061,033.6801m | 299,312.0877m | 0+482.00 |
| 484 | 1,061,034.6751m | 299,312.1871m | 0+483.00 |
| 485 | 1,061,035.6702m | 299,312.2866m | 0+484.00 |
| 486 | 1,061,036.6652m | 299,312.3860m | 0+485.00 |
| 487 | 1,061,037.6603m | 299,312.4854m | 0+486.00 |
| 488 | 1,061,038.6553m | 299,312.5848m | 0+487.00 |
| 489 | 1,061,039.6503m | 299,312.6843m | 0+488.00 |
| 490 | 1,061,040.6454m | 299,312.7837m | 0+489.00 |
| 491 | 1,061,041.6404m | 299,312.8831m | 0+490.00 |
| 492 | 1,061,042.6355m | 299,312.9826m | 0+491.00 |
| 493 | 1,061,043.6305m | 299,313.0820m | 0+492.00 |
| 494 | 1,061,044.6256m | 299,313.1814m | 0+493.00 |
| 495 | 1,061,045.6206m | 299,313.2808m | 0+494.00 |
| 496 | 1,061,046.6157m | 299,313.3803m | 0+495.00 |
| 497 | 1,061,047.6107m | 299,313.4797m | 0+496.00 |
| 498 | 1,061,048.6057m | 299,313.5791m | 0+497.00 |
| 499 | 1,061,049.6008m | 299,313.6785m | 0+498.00 |
| 500 | 1,061,050.5958m | 299,313.7780m | 0+499.00 |
| 501 | 1,061,051.5909m | 299,313.8774m | 0+500.00 |
| 502 | 1,061,052.5859m | 299,313.9768m | 0+501.00 |
| 503 | 1,061,053.5810m | 299,314.0762m | 0+502.00 |
| 504 | 1,061,054.5760m | 299,314.1757m | 0+503.00 |
| 505 | 1,061,055.5711m | 299,314.2751m | 0+504.00 |
| 506 | 1,061,056.5661m | 299,314.3745m | 0+505.00 |
| 507 | 1,061,057.5612m | 299,314.4739m | 0+506.00 |
| 508 | 1,061,058.5562m | 299,314.5734m | 0+507.00 |
| 509 | 1,061,059.5512m | 299,314.6728m | 0+508.00 |
| 510 | 1,061,060.5463m | 299,314.7722m | 0+509.00 |
| 511 | 1,061,061.5413m | 299,314.8716m | 0+510.00 |
| 512 | 1,061,062.5364m | 299,314.9711m | 0+511.00 |
| 513 | 1,061,063.5314m | 299,315.0705m | 0+512.00 |
| 514 | 1,061,064.5265m | 299,315.1699m | 0+513.00 |
| 515 | 1,061,065.5215m | 299,315.2693m | 0+514.00 |
| 516 | 1,061,066.5166m | 299,315.3688m | 0+515.00 |
| 517 | 1,061,067.5116m | 299,315.4682m | 0+516.00 |
| 518 | 1,061,068.5066m | 299,315.5676m | 0+517.00 |
| 519 | 1,061,069.5017m | 299,315.6670m | 0+518.00 |
| 520 | 1,061,070.4967m | 299,315.7665m | 0+519.00 |
| 521 | 1,061,071.4918m | 299,315.8659m | 0+520.00 |
| 522 | 1,061,072.4868m | 299,315.9653m | 0+521.00 |
| 523 | 1,061,073.4819m | 299,316.0647m | 0+522.00 |
| 524 | 1,061,074.4769m | 299,316.1642m | 0+523.00 |
| 525 | 1,061,075.4720m | 299,316.2636m | 0+524.00 |
| 526 | 1,061,076.4670m | 299,316.3630m | 0+525.00 |
| 527 | 1,061,077.4621m | 299,316.4624m | 0+526.00 |
| 528 | 1,061,078.4571m | 299,316.5619m | 0+527.00 |
| 529 | 1,061,079.4521m | 299,316.6613m | 0+528.00 |
| 530 | 1,061,080.4472m | 299,316.7607m | 0+529.00 |
| 531 | 1,061,081.4422m | 299,316.8601m | 0+530.00 |
| 532 | 1,061,082.4373m | 299,316.9596m | 0+531.00 |
| 533 | 1,061,083.4323m | 299,317.0590m | 0+532.00 |
| 534 | 1,061,084.4274m | 299,317.1584m | 0+533.00 |
| 535 | 1,061,085.4224m | 299,317.2578m | 0+534.00 |
| 536 | 1,061,086.4175m | 299,317.3573m | 0+535.00 |
| 537 | 1,061,087.4125m | 299,317.4567m | 0+536.00 |
| 538 | 1,061,088.4075m | 299,317.5561m | 0+537.00 |
| 539 | 1,061,089.4026m | 299,317.6555m | 0+538.00 |
| 540 | 1,061,090.3976m | 299,317.7550m | 0+539.00 |
| 541 | 1,061,091.3927m | 299,317.8544m | 0+540.00 |
| 542 | 1,061,092.3877m | 299,317.9538m | 0+541.00 |
| 543 | 1,061,093.3828m | 299,318.0532m | 0+542.00 |
| 544 | 1,061,094.3778m | 299,318.1527m | 0+543.00 |
| 545 | 1,061,095.3729m | 299,318.2521m | 0+544.00 |
| 546 | 1,061,096.3679m | 299,318.3515m | 0+545.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 547 | 1,061,097.3630m | 299,318.4509m | 0+546.00 |
| 548 | 1,061,098.3580m | 299,318.5504m | 0+547.00 |
| 549 | 1,061,099.3530m | 299,318.6498m | 0+548.00 |
| 550 | 1,061,100.3481m | 299,318.7492m | 0+549.00 |
| 551 | 1,061,101.3431m | 299,318.8486m | 0+550.00 |
| 552 | 1,061,102.3382m | 299,318.9481m | 0+551.00 |
| 553 | 1,061,103.3332m | 299,319.0475m | 0+552.00 |
| 554 | 1,061,104.3283m | 299,319.1469m | 0+553.00 |
| 555 | 1,061,105.3233m | 299,319.2464m | 0+554.00 |
| 556 | 1,061,106.3184m | 299,319.3458m | 0+555.00 |
| 557 | 1,061,107.3134m | 299,319.4452m | 0+556.00 |
| 558 | 1,061,108.3084m | 299,319.5446m | 0+557.00 |
| 559 | 1,061,109.3035m | 299,319.6441m | 0+558.00 |
| 560 | 1,061,110.2985m | 299,319.7435m | 0+559.00 |
| 561 | 1,061,111.2936m | 299,319.8429m | 0+560.00 |
| 562 | 1,061,112.2886m | 299,319.9423m | 0+561.00 |
| 563 | 1,061,113.2837m | 299,320.0418m | 0+562.00 |
| 564 | 1,061,114.2787m | 299,320.1412m | 0+563.00 |
| 565 | 1,061,115.2738m | 299,320.2406m | 0+564.00 |
| 566 | 1,061,116.2688m | 299,320.3400m | 0+565.00 |
| 567 | 1,061,117.2639m | 299,320.4395m | 0+566.00 |
| 568 | 1,061,118.2589m | 299,320.5389m | 0+567.00 |
| 569 | 1,061,119.2539m | 299,320.6383m | 0+568.00 |
| 570 | 1,061,120.2490m | 299,320.7377m | 0+569.00 |
| 571 | 1,061,121.2440m | 299,320.8372m | 0+570.00 |
| 572 | 1,061,122.2391m | 299,320.9366m | 0+571.00 |
| 573 | 1,061,123.1699m | 299,320.6666m | 0+572.00 |
| 574 | 1,061,124.1698m | 299,320.6633m | 0+573.00 |
| 575 | 1,061,125.1684m | 299,320.7157m | 0+574.00 |
| 576 | 1,061,126.1669m | 299,320.7704m | 0+575.00 |
| 577 | 1,061,127.1537m | 299,320.8841m | 0+576.00 |
| 578 | 1,061,128.0144m | 299,321.3931m | 0+577.00 |
| 579 | 1,061,128.9751m | 299,321.6671m | 0+578.00 |
| 580 | 1,061,129.9234m | 299,321.3744m | 0+579.00 |
| 581 | 1,061,130.8861m | 299,321.1046m | 0+580.00 |
| 582 | 1,061,131.6796m | 299,321.5720m | 0+581.00 |
| 583 | 1,061,132.5529m | 299,321.9671m | 0+582.00 |
| 584 | 1,061,133.5480m | 299,322.0666m | 0+583.00 |
| 585 | 1,061,134.5430m | 299,322.1660m | 0+584.00 |
| 586 | 1,061,135.5381m | 299,322.2654m | 0+585.00 |
| 587 | 1,061,136.5331m | 299,322.3648m | 0+586.00 |
| 588 | 1,061,137.5282m | 299,322.4643m | 0+587.00 |
| 589 | 1,061,138.5232m | 299,322.5637m | 0+588.00 |
| 590 | 1,061,139.5183m | 299,322.6631m | 0+589.00 |
| 591 | 1,061,140.5133m | 299,322.7626m | 0+590.00 |
| 592 | 1,061,141.5083m | 299,322.8620m | 0+591.00 |
| 593 | 1,061,142.5034m | 299,322.9614m | 0+592.00 |
| 594 | 1,061,143.4984m | 299,323.0608m | 0+593.00 |
| 595 | 1,061,144.4935m | 299,323.1603m | 0+594.00 |
| 596 | 1,061,145.4885m | 299,323.2597m | 0+595.00 |
| 597 | 1,061,146.4836m | 299,323.3591m | 0+596.00 |
| 598 | 1,061,147.4786m | 299,323.4585m | 0+597.00 |
| 599 | 1,061,148.4737m | 299,323.5580m | 0+598.00 |
| 600 | 1,061,149.4687m | 299,323.6574m | 0+599.00 |
| 601 | 1,061,150.4638m | 299,323.7568m | 0+600.00 |
| 602 | 1,061,151.4588m | 299,323.8562m | 0+601.00 |
| 603 | 1,061,152.4538m | 299,323.9557m | 0+602.00 |
| 604 | 1,061,153.4489m | 299,324.0551m | 0+603.00 |
| 605 | 1,061,154.4439m | 299,324.1545m | 0+604.00 |
| 606 | 1,061,155.4390m | 299,324.2539m | 0+605.00 |
| 607 | 1,061,156.4340m | 299,324.3534m | 0+606.00 |
| 608 | 1,061,157.4291m | 299,324.4528m | 0+607.00 |
| 609 | 1,061,158.4241m | 299,324.5522m | 0+608.00 |
| 610 | 1,061,159.4192m | 299,324.6516m | 0+609.00 |
| 611 | 1,061,160.4142m | 299,324.7511m | 0+610.00 |
| 612 | 1,061,161.4092m | 299,324.8505m | 0+611.00 |
| 613 | 1,061,162.4043m | 299,324.9499m | 0+612.00 |
| 614 | 1,061,163.3993m | 299,325.0493m | 0+613.00 |
| 615 | 1,061,164.3944m | 299,325.1488m | 0+614.00 |
| 616 | 1,061,165.3894m | 299,325.2482m | 0+615.00 |
| 617 | 1,061,166.3845m | 299,325.3476m | 0+616.00 |
| 618 | 1,061,167.3795m | 299,325.4470m | 0+617.00 |
| 619 | 1,061,168.3746m | 299,325.5465m | 0+618.00 |
| 620 | 1,061,169.3696m | 299,325.6459m | 0+619.00 |
| 621 | 1,061,170.3647m | 299,325.7453m | 0+620.00 |
| 622 | 1,061,171.3597m | 299,325.8447m | 0+621.00 |
| 623 | 1,061,172.3547m | 299,325.9442m | 0+622.00 |
| 624 | 1,061,173.3498m | 299,326.0436m | 0+623.00 |
| 625 | 1,061,174.3448m | 299,326.1430m | 0+624.00 |
| 626 | 1,061,175.3399m | 299,326.2424m | 0+625.00 |
| 627 | 1,061,176.3349m | 299,326.3419m | 0+626.00 |
| 628 | 1,061,177.3300m | 299,326.4413m | 0+627.00 |
| 629 | 1,061,178.3250m | 299,326.5407m | 0+628.00 |
| 630 | 1,061,179.3201m | 299,326.6401m | 0+629.00 |
| 631 | 1,061,180.3151m | 299,326.7396m | 0+630.00 |
| 632 | 1,061,181.3101m | 299,326.8390m | 0+631.00 |
| 633 | 1,061,182.3052m | 299,326.9384m | 0+632.00 |
| 634 | 1,061,183.3002m | 299,327.0378m | 0+633.00 |
| 635 | 1,061,184.2953m | 299,327.1373m | 0+634.00 |
| 636 | 1,061,185.2903m | 299,327.2367m | 0+635.00 |
| 637 | 1,061,186.2854m | 299,327.3361m | 0+636.00 |
| 638 | 1,061,187.2804m | 299,327.4355m | 0+637.00 |
| 639 | 1,061,188.2755m | 299,327.5350m | 0+638.00 |
| 640 | 1,061,189.2705m | 299,327.6344m | 0+639.00 |
| 641 | 1,061,190.2656m | 299,327.7338m | 0+640.00 |
| 642 | 1,061,191.2606m | 299,327.8332m | 0+641.00 |
| 643 | 1,061,192.2556m | 299,327.9327m | 0+642.00 |
| 644 | 1,061,193.2507m | 299,328.0321m | 0+643.00 |
| 645 | 1,061,194.2457m | 299,328.1315m | 0+644.00 |
| 646 | 1,061,195.2408m | 299,328.2309m | 0+645.00 |
| 647 | 1,061,196.2358m | 299,328.3304m | 0+646.00 |
| 648 | 1,061,197.2309m | 299,328.4298m | 0+647.00 |
| 649 | 1,061,198.2259m | 299,328.5292m | 0+648.00 |
| 650 | 1,061,199.2210m | 299,328.6286m | 0+649.00 |
| 651 | 1,061,200.2160m | 299,328.7281m | 0+650.00 |
| 652 | 1,061,201.2110m | 299,328.8275m | 0+651.00 |
| 653 | 1,061,202.2061m | 299,328.9269m | 0+652.00 |
| 654 | 1,061,203.2011m | 299,329.0264m | 0+653.00 |
| 655 | 1,061,204.1962m | 299,329.1258m | 0+654.00 |
| 656 | 1,061,205.1912m | 299,329.2252m | 0+655.00 |
| 657 | 1,061,206.1863m | 299,329.3246m | 0+656.00 |
| 658 | 1,061,207.1813m | 299,329.4241m | 0+657.00 |
| 659 | 1,061,208.1764m | 299,329.5235m | 0+658.00 |
| 660 | 1,061,209.1714m | 299,329.6229m | 0+659.00 |
| 661 | 1,061,210.1665m | 299,329.7223m | 0+660.00 |
| 662 | 1,061,211.1615m | 299,329.8218m | 0+661.00 |
| 663 | 1,061,212.1565m | 299,329.9212m | 0+662.00 |
| 664 | 1,061,213.1516m | 299,330.0206m | 0+663.00 |
| 665 | 1,061,214.1466m | 299,330.1200m | 0+664.00 |
| 666 | 1,061,215.1417m | 299,330.2195m | 0+665.00 |
| 667 | 1,061,216.1367m | 299,330.3189m | 0+666.00 |
| 668 | 1,061,217.1318m | 299,330.4183m | 0+667.00 |
| 669 | 1,061,218.1268m | 299,330.5177m | 0+668.00 |
| 670 | 1,061,219.1219m | 299,330.6172m | 0+669.00 |
| 671 | 1,061,220.1169m | 299,330.7166m | 0+670.00 |
| 672 | 1,061,221.1119m | 299,330.8160m | 0+671.00 |
| 673 | 1,061,222.1070m | 299,330.9154m | 0+672.00 |
| 674 | 1,061,223.1019m | 299,331.0160m | 0+673.00 |
| 675 | 1,061,224.0961m | 299,331.1237m | 0+674.00 |
| 676 | 1,061,225.0894m | 299,331.2391m | 0+675.00 |
| 677 | 1,061,226.0818m | 299,331.3624m | 0+676.00 |
| 678 | 1,061,227.0732m | 299,331.4934m | 0+677.00 |
| 679 | 1,061,228.0635m | 299,331.6322m | 0+678.00 |
| 680 | 1,061,229.0527m | 299,331.7788m | 0+679.00 |
| 681 | 1,061,230.0407m | 299,331.9332m | 0+680.00 |
| 682 | 1,061,231.0275m | 299,332.0953m | 0+681.00 |
| 683 | 1,061,232.0129m | 299,332.2652m | 0+682.00 |
| 684 | 1,061,232.9970m | 299,332.4428m | 0+683.00 |
| 685 | 1,061,233.9797m | 299,332.6281m | 0+684.00 |
| 686 | 1,061,234.9609m | 299,332.8211m | 0+685.00 |
| 687 | 1,061,235.9405m | 299,333.0219m | 0+686.00 |
| 688 | 1,061,236.9186m | 299,333.2303m | 0+687.00 |
| 689 | 1,061,237.8949m | 299,333.4464m | 0+688.00 |
| 690 | 1,061,238.8696m | 299,333.6702m | 0+689.00 |
| 691 | 1,061,239.8424m | 299,333.9016m | 0+690.00 |
| 692 | 1,061,240.8134m | 299,334.1406m | 0+691.00 |
| 693 | 1,061,241.7825m | 299,334.3873m | 0+692.00 |
| 694 | 1,061,242.7496m | 299,334.6416m | 0+693.00 |
| 695 | 1,061,243.7147m | 299,334.9035m | 0+694.00 |
| 696 | 1,061,244.6778m | 299,335.1729m | 0+695.00 |
| 697 | 1,061,245.6386m | 299,335.4499m | 0+696.00 |
| 698 | 1,061,246.5973m | 299,335.7344m | 0+697.00 |
| 699 | 1,061,247.5537m | 299,336.0265m | 0+698.00 |
| 700 | 1,061,248.5078m | 299,336.3261m | 0+699.00 |
| 701 | 1,061,249.4595m | 299,336.6331m | 0+700.00 |
| 702 | 1,061,250.4087m | 299,336.9476m | 0+701.00 |
| 703 | 1,061,251.3555m | 299,337.2696m | 0+702.00 |
| 704 | 1,061,252.2996m | 299,337.5990m | 0+703.00 |
| 705 | 1,061,253.2412m | 299,337.9358m | 0+704.00 |
| 706 | 1,061,254.1801m | 299,338.2800m | 0+705.00 |
| 707 | 1,061,255.1163m | 299,338.6315m | 0+706.00 |
| 708 | 1,061,256.0497m | 299,338.9904m | 0+707.00 |
| 709 | 1,061,256.9802m | 299,339.3566m | 0+708.00 |
| 710 | 1,061,257.9080m | 299,339.7296m | 0+709.00 |
| 711 | 1,061,258.8353m | 299,340.1040m | 0+710.00 |
| 712 | 1,061,259.7626m | 299,340.4784m | 0+711.00 |
| 713 | 1,061,260.6898m | 299,340.8528m | 0+712.00 |
| 714 | 1,061,261.6171m | 299,341.2272m | 0+713.00 |
| 715 | 1,061,262.5444m | 299,341.6016m | 0+714.00 |
| 716 | 1,061,263.4716m | 299,341.9760m | 0+715.00 |
| 717 | 1,061,264.3989m | 299,342.3504m | 0+716.00 |
| 718 | 1,061,265.3262m | 299,342.7248m | 0+717.00 |
| 719 | 1,061,266.2534m | 299,343.0992m | 0+718.00 |
| 720 | 1,061,267.1807m | 299,343.4736m | 0+719.00 |
| 721 | 1,061,268.1079m | 299,343.8480m | 0+720.00 |
| 722 | 1,061,269.0352m | 299,344.2224m | 0+721.00 |
| 723 | 1,061,269.9625m | 299,344.5968m | 0+722.00 |
| 724 | 1,061,270.8897m | 299,344.9712m | 0+723.00 |
| 725 | 1,061,271.8170m | 299,345.3457m | 0+724.00 |
| 726 | 1,061,272.7443m | 299,345.7201m | 0+725.00 |
| 727 | 1,061,273.6715m | 299,346.0945m | 0+726.00 |
| 728 | 1,061,274.5988m | 299,346.4689m | 0+727.00 |
| 729 | 1,061,275.5261m | 299,346.8433m | 0+728.00 |
| 730 | 1,061,276.4519m | 299,347.2213m | 0+729.00 |
| 731 | 1,061,277.3749m | 299,347.6061m | 0+730.00 |
| 732 | 1,061,278.2950m | 299,347.9978m | 0+731.00 |
| 733 | 1,061,279.2122m | 299,348.3962m | 0+732.00 |
| 734 | 1,061,280.1264m | 299,348.8014m | 0+733.00 |
| 735 | 1,061,281.0376m | 299,349.2134m | 0+734.00 |
| 736 | 1,061,281.9457m | 299,349.6321m | 0+735.00 |
| 737 | 1,061,282.8507m | 299,350.0575m | 0+736.00 |
| 738 | 1,061,283.7525m | 299,350.4896m | 0+737.00 |
| 739 | 1,061,284.6511m | 299,350.9284m | 0+738.00 |
| 740 | 1,061,285.5464m | 299,351.3738m | 0+739.00 |
| 741 | 1,061,286.4385m | 299,351.8258m | 0+740.00 |
| 742 | 1,061,287.3271m | 299,352.2844m | 0+741.00 |
| 743 | 1,061,288.2123m | 299,352.7495m | 0+742.00 |
| 744 | 1,061,289.0941m | 299,353.2212m | 0+743.00 |
| 745 | 1,061,289.9724m | 299,353.6994m | 0+744.00 |
| 746 | 1,061,290.8470m | 299,354.1841m | 0+745.00 |
| 747 | 1,061,291.7181m | 299,354.6752m | 0+746.00 |
| 748 | 1,061,292.5856m | 299,355.1727m | 0+747.00 |
| 749 | 1,061,293.4493m | 299,355.6767m | 0+748.00 |
| 750 | 1,061,294.3092m | 299,356.1871m | 0+749.00 |
| 751 | 1,061,295.1654m | 299,356.7037m | 0+750.00 |
| 752 | 1,061,296.0177m | 299,357.2267m | 0+751.00 |
| 753 | 1,061,296.8662m | 299,357.7560m | 0+752.00 |
| 754 | 1,061,297.7107m | 299,358.2916m | 0+753.00 |
| 755 | 1,061,298.5512m | 299,358.8334m | 0+754.00 |
| 756 | 1,061,299.3877m | 299,359.3814m | 0+755.00 |
| 757 | 1,061,300.2201m | 299,359.9355m | 0+756.00 |
| 758 | 1,061,301.0484m | 299,360.4959m | 0+757.00 |
| 759 | 1,061,301.8725m | 299,361.0623m | 0+758.00 |
| 760 | 1,061,302.6924m | 299,361.6348m | 0+759.00 |
| 761 | 1,061,303.5080m | 299,362.2133m | 0+760.00 |
| 762 | 1,061,304.3194m | 299,362.7979m | 0+761.00 |
| 763 | 1,061,305.1264m | 299,363.3884m | 0+762.00 |
| 764 | 1,061,305.9290m | 299,363.9849m | 0+763.00 |
| 765 | 1,061,306.7271m | 299,364.5874m | 0+764.00 |
| 766 | 1,061,307.5208m | 299,365.1957m | 0+765.00 |
| 767 | 1,061,308.3100m | 299,365.8098m | 0+766.00 |
| 768 | 1,061,309.0946m | 299,366.4298m | 0+767.00 |
| 769 | 1,061,309.8746m | 299,367.0556m | 0+768.00 |
| 770 | 1,061,310.6500m | 299,367.6871m | 0+769.00 |
| 771 | 1,061,311.4206m | 299,368.3244m | 0+770.00 |
| 772 | 1,061,312.1866m | 299,368.9673m | 0+771.00 |
| 773 | 1,061,312.9477m | 299,369.6159m | 0+772.00 |
| 774 | 1,061,313.7040m | 299,370.2701m | 0+773.00 |
| 775 | 1,061,314.4562m | 299,370.9290m | 0+774.00 |
| 776 | 1,061,315.2078m | 299,371.5887m | 0+775.00 |
| 777 | 1,061,315.9573m | 299,372.2506m | 0+776.00 |
| 778 | 1,061,316.7039m | 299,372.9160m | 0+777.00 |
| 779 | 1,061,317.4474m | 299,373.5847m | 0+778.00 |
| 780 | 1,061,318.1879m | 299,374.2567m | 0+779.00 |
| 781 | 1,061,318.9253m | 299,374.9321m | 0+780.00 |
| 782 | 1,061,319.6597m | 299,375.6109m | 0+781.00 |
| 783 | 1,061,320.3910m | 299,376.2929m | 0+782.00 |
| 784 | 1,061,321.1193m | 299,376.9782m | 0+783.00 |
| 785 | 1,061,321.8444m | 299,377.6669m | 0+784.00 |
| 786 | 1,061,322.5664m | 299,378.3587m | 0+785.00 |
| 787 | 1,061,323.2853m | 299,379.0539m | 0+786.00 |
| 788 | 1,061,324.0010m | 299,379.7523m | 0+787.00 |
| 789 | 1,061,324.7135m | 299,380.4539m | 0+788.00 |
| 790 | 1,061,325.4229m | 299,381.1587m | 0+789.00 |
| 791 | 1,061,326.1291m | 299,381.8668m | 0+790.00 |
| 792 | 1,061,326.8321m | 299,382.5780m | 0+791.00 |
| 793 | 1,061,327.5318m | 299,383.2924m | 0+792.00 |
| 794 | 1,061,328.2283m | 299,384.0099m | 0+793.00 |
| 795 | 1,061,328.9216m | 299,384.7306m | 0+794.00 |
| 796 | 1,061,329.6116m | 299,385.4544m | 0+795.00 |
| 797 | 1,061,330.2983m | 299,386.1813m | 0+796.00 |
| 798 | 1,061,330.9817m | 299,386.9113m | 0+797.00 |
| 799 | 1,061,331.6619m | 299,387.6444m | 0+798.00 |
| 800 | 1,061,332.3387m | 299,388.3806m | 0+799.00 |
| 801 | 1,061,333.0121m | 299,389.1198m | 0+800.00 |
| 802 | 1,061,333.6823m | 299,389.8621m | 0+801.00 |
| 803 | 1,061,334.3490m | 299,390.6073m | 0+802.00 |
| 804 | 1,061,335.0124m | 299,391.3556m | 0+803.00 |
| 805 | 1,061,335.6724m | 299,392.1069m | 0+804.00 |
| 806 | 1,061,336.3290m | 299,392.8611m | 0+805.00 |
| 807 | 1,061,336.9821m | 299,393.6183m | 0+806.00 |
| 808 | 1,061,337.6319m | 299,394.3785m | 0+807.00 |
| 809 | 1,061,338.2782m | 299,395.1416m | 0+808.00 |
| 810 | 1,061,338.9210m | 299,395.9076m | 0+809.00 |
| 811 | 1,061,339.5604m | 299,396.6764m | 0+810.00 |
| 812 | 1,061,340.1963m | 299,397.4482m | 0+811.00 |
| 813 | 1,061,340.8287m | 299,398.2229m | 0+812.00 |
| 814 | 1,061,341.4576m | 299,399.0003m | 0+813.00 |
| 815 | 1,061,342.0830m | 299,399.7807m | 0+814.00 |
| 816 | 1,061,342.7048m | 299,400.5638m | 0+815.00 |
| 817 | 1,061,343.3231m | 299,401.3498m | 0+816.00 |
| 818 | 1,061,343.9379m | 299,402.1385m | 0+817.00 |
| 819 | 1,061,344.5490m | 299,402.9300m | 0+818.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 820 | 1,061,345.1566m | 299,403.7242m | 0+819.00 |
| 821 | 1,061,345.7606m | 299,404.5212m | 0+820.00 |
| 822 | 1,061,346.3610m | 299,405.3210m | 0+821.00 |
| 823 | 1,061,346.9577m | 299,406.1234m | 0+822.00 |
| 824 | 1,061,347.5508m | 299,406.9285m | 0+823.00 |
| 825 | 1,061,348.1403m | 299,407.7363m | 0+824.00 |
| 826 | 1,061,348.7261m | 299,408.5467m | 0+825.00 |
| 827 | 1,061,349.3083m | 299,409.3598m | 0+826.00 |
| 828 | 1,061,349.8868m | 299,410.1755m | 0+827.00 |
| 829 | 1,061,350.4615m | 299,410.9938m | 0+828.00 |
| 830 | 1,061,351.0326m | 299,411.8147m | 0+829.00 |
| 831 | 1,061,351.6000m | 299,412.6382m | 0+830.00 |
| 832 | 1,061,352.1636m | 299,413.4642m | 0+831.00 |
| 833 | 1,061,352.7235m | 299,414.2928m | 0+832.00 |
| 834 | 1,061,353.2798m | 299,415.1238m | 0+833.00 |
| 835 | 1,061,353.8351m | 299,415.9554m | 0+834.00 |
| 836 | 1,061,354.3904m | 299,416.7871m | 0+835.00 |
| 837 | 1,061,354.9457m | 299,417.6187m | 0+836.00 |
| 838 | 1,061,355.5010m | 299,418.4503m | 0+837.00 |
| 839 | 1,061,356.0563m | 299,419.2820m | 0+838.00 |
| 840 | 1,061,356.6116m | 299,420.1136m | 0+839.00 |
| 841 | 1,061,357.1669m | 299,420.9453m | 0+840.00 |
| 842 | 1,061,357.7222m | 299,421.7769m | 0+841.00 |
| 843 | 1,061,358.2776m | 299,422.6086m | 0+842.00 |
| 844 | 1,061,358.8329m | 299,423.4402m | 0+843.00 |
| 845 | 1,061,359.3882m | 299,424.2718m | 0+844.00 |
| 846 | 1,061,359.9435m | 299,425.1035m | 0+845.00 |
| 847 | 1,061,360.4988m | 299,425.9351m | 0+846.00 |
| 848 | 1,061,361.0541m | 299,426.7668m | 0+847.00 |
| 849 | 1,061,361.6094m | 299,427.5984m | 0+848.00 |
| 850 | 1,061,362.1647m | 299,428.4301m | 0+849.00 |
| 851 | 1,061,362.7201m | 299,429.2617m | 0+850.00 |
| 852 | 1,061,363.2754m | 299,430.0933m | 0+851.00 |
| 853 | 1,061,363.8307m | 299,430.9250m | 0+852.00 |
| 854 | 1,061,364.3860m | 299,431.7566m | 0+853.00 |
| 855 | 1,061,364.9413m | 299,432.5883m | 0+854.00 |
| 856 | 1,061,365.4966m | 299,433.4199m | 0+855.00 |
| 857 | 1,061,366.0519m | 299,434.2516m | 0+856.00 |
| 858 | 1,061,366.6072m | 299,435.0832m | 0+857.00 |
| 859 | 1,061,367.1625m | 299,435.9148m | 0+858.00 |
| 860 | 1,061,367.7179m | 299,436.7465m | 0+859.00 |
| 861 | 1,061,368.2732m | 299,437.5781m | 0+860.00 |
| 862 | 1,061,368.8285m | 299,438.4098m | 0+861.00 |
| 863 | 1,061,369.3838m | 299,439.2414m | 0+862.00 |
| 864 | 1,061,369.9391m | 299,440.0730m | 0+863.00 |
| 865 | 1,061,370.4944m | 299,440.9047m | 0+864.00 |
| 866 | 1,061,371.0497m | 299,441.7363m | 0+865.00 |
| 867 | 1,061,371.6050m | 299,442.5680m | 0+866.00 |
| 868 | 1,061,372.1603m | 299,443.3996m | 0+867.00 |
| 869 | 1,061,372.7157m | 299,444.2313m | 0+868.00 |
| 870 | 1,061,373.2710m | 299,445.0629m | 0+869.00 |
| 871 | 1,061,373.8263m | 299,445.8945m | 0+870.00 |
| 872 | 1,061,374.3816m | 299,446.7262m | 0+871.00 |
| 873 | 1,061,374.9369m | 299,447.5578m | 0+872.00 |
| 874 | 1,061,375.4922m | 299,448.3895m | 0+873.00 |
| 875 | 1,061,376.0475m | 299,449.2211m | 0+874.00 |
| 876 | 1,061,376.6028m | 299,450.0528m | 0+875.00 |
| 877 | 1,061,377.1581m | 299,450.8844m | 0+876.00 |
| 878 | 1,061,377.7135m | 299,451.7160m | 0+877.00 |
| 879 | 1,061,378.2688m | 299,452.5477m | 0+878.00 |
| 880 | 1,061,378.8241m | 299,453.3793m | 0+879.00 |
| 881 | 1,061,379.3794m | 299,454.2110m | 0+880.00 |
| 882 | 1,061,379.9347m | 299,455.0426m | 0+881.00 |
| 883 | 1,061,380.4900m | 299,455.8743m | 0+882.00 |
| 884 | 1,061,381.0453m | 299,456.7059m | 0+883.00 |
| 885 | 1,061,381.6006m | 299,457.5375m | 0+884.00 |
| 886 | 1,061,382.1559m | 299,458.3692m | 0+885.00 |
| 887 | 1,061,382.7113m | 299,459.2008m | 0+886.00 |
| 888 | 1,061,383.2666m | 299,460.0325m | 0+887.00 |
| 889 | 1,061,383.8219m | 299,460.8641m | 0+888.00 |
| 890 | 1,061,384.3772m | 299,461.6958m | 0+889.00 |
| 891 | 1,061,384.9325m | 299,462.5274m | 0+890.00 |
| 892 | 1,061,385.4878m | 299,463.3590m | 0+891.00 |
| 893 | 1,061,386.0431m | 299,464.1907m | 0+892.00 |
| 894 | 1,061,386.5984m | 299,465.0223m | 0+893.00 |
| 895 | 1,061,387.1538m | 299,465.8540m | 0+894.00 |
| 896 | 1,061,387.7091m | 299,466.6856m | 0+895.00 |
| 897 | 1,061,388.2644m | 299,467.5173m | 0+896.00 |
| 898 | 1,061,388.8197m | 299,468.3489m | 0+897.00 |
| 899 | 1,061,389.3750m | 299,469.1805m | 0+898.00 |
| 900 | 1,061,389.9303m | 299,470.0122m | 0+899.00 |
| 901 | 1,061,390.4856m | 299,470.8438m | 0+900.00 |
| 902 | 1,061,391.0409m | 299,471.6755m | 0+901.00 |
| 903 | 1,061,391.5962m | 299,472.5071m | 0+902.00 |
| 904 | 1,061,392.1516m | 299,473.3388m | 0+903.00 |
| 905 | 1,061,392.7069m | 299,474.1704m | 0+904.00 |
| 906 | 1,061,393.2622m | 299,475.0020m | 0+905.00 |
| 907 | 1,061,393.8175m | 299,475.8337m | 0+906.00 |
| 908 | 1,061,394.3728m | 299,476.6653m | 0+907.00 |
| 909 | 1,061,394.9281m | 299,477.4970m | 0+908.00 |
| 910 | 1,061,395.4834m | 299,478.3286m | 0+909.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 911 | 1,061,396.0387m | 299,479.1602m | 0+910.00 |
| 912 | 1,061,396.5940m | 299,479.9919m | 0+911.00 |
| 913 | 1,061,397.1494m | 299,480.8235m | 0+912.00 |
| 914 | 1,061,397.7047m | 299,481.6552m | 0+913.00 |
| 915 | 1,061,398.2600m | 299,482.4868m | 0+914.00 |
| 916 | 1,061,398.8153m | 299,483.3185m | 0+915.00 |
| 917 | 1,061,399.3706m | 299,484.1501m | 0+916.00 |
| 918 | 1,061,399.9259m | 299,484.9817m | 0+917.00 |
| 919 | 1,061,400.4812m | 299,485.8134m | 0+918.00 |
| 920 | 1,061,401.0365m | 299,486.6450m | 0+919.00 |
| 921 | 1,061,401.5918m | 299,487.4767m | 0+920.00 |
| 922 | 1,061,402.1472m | 299,488.3083m | 0+921.00 |
| 923 | 1,061,402.7025m | 299,489.1400m | 0+922.00 |
| 924 | 1,061,403.2578m | 299,489.9716m | 0+923.00 |
| 925 | 1,061,403.8131m | 299,490.8032m | 0+924.00 |
| 926 | 1,061,404.3684m | 299,491.6349m | 0+925.00 |
| 927 | 1,061,404.9237m | 299,492.4665m | 0+926.00 |
| 928 | 1,061,405.4790m | 299,493.2982m | 0+927.00 |
| 929 | 1,061,406.0343m | 299,494.1298m | 0+928.00 |
| 930 | 1,061,406.5896m | 299,494.9615m | 0+929.00 |
| 931 | 1,061,407.1450m | 299,495.7931m | 0+930.00 |
| 932 | 1,061,407.7003m | 299,496.6247m | 0+931.00 |
| 933 | 1,061,408.2556m | 299,497.4564m | 0+932.00 |
| 934 | 1,061,408.8109m | 299,498.2880m | 0+933.00 |
| 935 | 1,061,409.3662m | 299,499.1197m | 0+934.00 |
| 936 | 1,061,409.9215m | 299,499.9513m | 0+935.00 |
| 937 | 1,061,410.4768m | 299,500.7830m | 0+936.00 |
| 938 | 1,061,411.0321m | 299,501.6146m | 0+937.00 |
| 939 | 1,061,411.5874m | 299,502.4462m | 0+938.00 |
| 940 | 1,061,412.1428m | 299,503.2779m | 0+939.00 |
| 941 | 1,061,412.6981m | 299,504.1095m | 0+940.00 |
| 942 | 1,061,413.2534m | 299,504.9412m | 0+941.00 |
| 943 | 1,061,413.8087m | 299,505.7728m | 0+942.00 |
| 944 | 1,061,414.3640m | 299,506.6045m | 0+943.00 |
| 945 | 1,061,414.9193m | 299,507.4361m | 0+944.00 |
| 946 | 1,061,415.4746m | 299,508.2677m | 0+945.00 |
| 947 | 1,061,416.0299m | 299,509.0994m | 0+946.00 |
| 948 | 1,061,416.5853m | 299,509.9310m | 0+947.00 |
| 949 | 1,061,417.1406m | 299,510.7627m | 0+948.00 |
| 950 | 1,061,417.6959m | 299,511.5943m | 0+949.00 |
| 951 | 1,061,418.2512m | 299,512.4259m | 0+950.00 |
| 952 | 1,061,418.8065m | 299,513.2576m | 0+951.00 |
| 953 | 1,061,419.3618m | 299,514.0892m | 0+952.00 |
| 954 | 1,061,419.9171m | 299,514.9209m | 0+953.00 |
| 955 | 1,061,420.4724m | 299,515.7525m | 0+954.00 |
| 956 | 1,061,421.0277m | 299,516.5842m | 0+955.00 |
| 957 | 1,061,421.5831m | 299,517.4158m | 0+956.00 |
| 958 | 1,061,422.1384m | 299,518.2474m | 0+957.00 |
| 959 | 1,061,422.6937m | 299,519.0791m | 0+958.00 |
| 960 | 1,061,423.2490m | 299,519.9107m | 0+959.00 |
| 961 | 1,061,423.8043m | 299,520.7424m | 0+960.00 |
| 962 | 1,061,424.3596m | 299,521.5740m | 0+961.00 |
| 963 | 1,061,424.9149m | 299,522.4057m | 0+962.00 |
| 964 | 1,061,425.4702m | 299,523.2373m | 0+963.00 |
| 965 | 1,061,426.0255m | 299,524.0689m | 0+964.00 |
| 966 | 1,061,426.5809m | 299,524.9006m | 0+965.00 |
| 967 | 1,061,427.1362m | 299,525.7322m | 0+966.00 |
| 968 | 1,061,427.6915m | 299,526.5639m | 0+967.00 |
| 969 | 1,061,428.2468m | 299,527.3955m | 0+968.00 |
| 970 | 1,061,428.8021m | 299,528.2272m | 0+969.00 |
| 971 | 1,061,429.3574m | 299,529.0588m | 0+970.00 |
| 972 | 1,061,429.9127m | 299,529.8904m | 0+971.00 |
| 973 | 1,061,430.4680m | 299,530.7221m | 0+972.00 |
| 974 | 1,061,431.0233m | 299,531.5537m | 0+973.00 |
| 975 | 1,061,431.5787m | 299,532.3854m | 0+974.00 |
| 976 | 1,061,432.1340m | 299,533.2170m | 0+975.00 |
| 977 | 1,061,432.6893m | 299,534.0487m | 0+976.00 |
| 978 | 1,061,433.2446m | 299,534.8803m | 0+977.00 |
| 979 | 1,061,433.7999m | 299,535.7119m | 0+978.00 |
| 980 | 1,061,434.3552m | 299,536.5436m | 0+979.00 |
| 981 | 1,061,434.9105m | 299,537.3752m | 0+980.00 |
| 982 | 1,061,435.4658m | 299,538.2069m | 0+981.00 |
| 983 | 1,061,436.0211m | 299,539.0385m | 0+982.00 |
| 984 | 1,061,436.5765m | 299,539.8702m | 0+983.00 |
| 985 | 1,061,437.1318m | 299,540.7018m | 0+984.00 |
| 986 | 1,061,437.6871m | 299,541.5334m | 0+985.00 |
| 987 | 1,061,438.2424m | 299,542.3651m | 0+986.00 |
| 988 | 1,061,438.7977m | 299,543.1967m | 0+987.00 |
| 989 | 1,061,439.3530m | 299,544.0284m | 0+988.00 |
| 990 | 1,061,439.9083m | 299,544.8600m | 0+989.00 |
| 991 | 1,061,440.4636m | 299,545.6917m | 0+990.00 |
| 992 | 1,061,441.0190m | 299,546.5233m | 0+991.00 |
| 993 | 1,061,441.5743m | 299,547.3549m | 0+992.00 |
| 994 | 1,061,442.1296m | 299,548.1866m | 0+993.00 |
| 995 | 1,061,442.6849m | 299,549.0182m | 0+994.00 |
| 996 | 1,061,443.2402m | 299,549.8499m | 0+995.00 |
| 997 | 1,061,443.7955m | 299,550.6815m | 0+996.00 |
| 998 | 1,061,444.3508m | 299,551.5131m | 0+997.00 |
| 999 | 1,061,444.9061m | 299,552.3448m | 0+998.00 |
| 1000 | 1,061,445.4614m | 299,553.1764m | 0+999.00 |
| 1001 | 1,061,446.0168m | 299,554.0081m | 1+000.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1002 | 1,061,446.5721m | 299,554.8397m | 1+001.00 |
| 1003 | 1,061,447.1274m | 299,555.6714m | 1+002.00 |
| 1004 | 1,061,447.6827m | 299,556.5030m | 1+003.00 |
| 1005 | 1,061,448.2380m | 299,557.3346m | 1+004.00 |
| 1006 | 1,061,448.7933m | 299,558.1663m | 1+005.00 |
| 1007 | 1,061,449.3486m | 299,558.9979m | 1+006.00 |
| 1008 | 1,061,449.9039m | 299,559.8296m | 1+007.00 |
| 1009 | 1,061,450.4592m | 299,560.6612m | 1+008.00 |
| 1010 | 1,061,451.0146m | 299,561.4929m | 1+009.00 |
| 1011 | 1,061,451.5699m | 299,562.3245m | 1+010.00 |
| 1012 | 1,061,452.1252m | 299,563.1561m | 1+011.00 |
| 1013 | 1,061,452.6805m | 299,563.9878m | 1+012.00 |
| 1014 | 1,061,453.2358m | 299,564.8194m | 1+013.00 |
| 1015 | 1,061,453.7911m | 299,565.6511m | 1+014.00 |
| 1016 | 1,061,454.3464m | 299,566.4827m | 1+015.00 |
| 1017 | 1,061,454.9017m | 299,567.3144m | 1+016.00 |
| 1018 | 1,061,455.4570m | 299,568.1460m | 1+017.00 |
| 1019 | 1,061,456.0124m | 299,568.9776m | 1+018.00 |
| 1020 | 1,061,456.5677m | 299,569.8093m | 1+019.00 |
| 1021 | 1,061,457.1230m | 299,570.6409m | 1+020.00 |
| 1022 | 1,061,457.6783m | 299,571.4726m | 1+021.00 |
| 1023 | 1,061,458.2336m | 299,572.3042m | 1+022.00 |
| 1024 | 1,061,458.7889m | 299,573.1359m | 1+023.00 |
| 1025 | 1,061,459.3442m | 299,573.9675m | 1+024.00 |
| 1026 | 1,061,459.8995m | 299,574.7991m | 1+025.00 |
| 1027 | 1,061,460.4548m | 299,575.6308m | 1+026.00 |
| 1028 | 1,061,461.0102m | 299,576.4624m | 1+027.00 |
| 1029 | 1,061,461.5655m | 299,577.2941m | 1+028.00 |
| 1030 | 1,061,462.1208m | 299,578.1257m | 1+029.00 |
| 1031 | 1,061,462.6761m | 299,578.9574m | 1+030.00 |
| 1032 | 1,061,463.2314m | 299,579.7890m | 1+031.00 |
| 1033 | 1,061,463.7867m | 299,580.6206m | 1+032.00 |
| 1034 | 1,061,464.3420m | 299,581.4523m | 1+033.00 |
| 1035 | 1,061,464.8973m | 299,582.2839m | 1+034.00 |
| 1036 | 1,061,465.4526m | 299,583.1156m | 1+035.00 |
| 1037 | 1,061,466.0080m | 299,583.9472m | 1+036.00 |
| 1038 | 1,061,466.5633m | 299,584.7789m | 1+037.00 |
| 1039 | 1,061,467.1186m | 299,585.6105m | 1+038.00 |
| 1040 | 1,061,467.6739m | 299,586.4421m | 1+039.00 |
| 1041 | 1,061,468.2292m | 299,587.2738m | 1+040.00 |
| 1042 | 1,061,468.7845m | 299,588.1054m | 1+041.00 |
| 1043 | 1,061,469.3398m | 299,588.9371m | 1+042.00 |
| 1044 | 1,061,469.8951m | 299,589.7687m | 1+043.00 |
| 1045 | 1,061,470.4505m | 299,590.6003m | 1+044.00 |
| 1046 | 1,061,471.0058m | 299,591.4320m | 1+045.00 |
| 1047 | 1,061,471.5611m | 299,592.2636m | 1+046.00 |
| 1048 | 1,061,472.1164m | 299,593.0953m | 1+047.00 |
| 1049 | 1,061,472.6717m | 299,593.9269m | 1+048.00 |
| 1050 | 1,061,473.2270m | 299,594.7586m | 1+049.00 |
| 1051 | 1,061,473.7823m | 299,595.5902m | 1+050.00 |
| 1052 | 1,061,474.3376m | 299,596.4218m | 1+051.00 |
| 1053 | 1,061,474.8929m | 299,597.2535m | 1+052.00 |
| 1054 | 1,061,475.4483m | 299,598.0851m | 1+053.00 |
| 1055 | 1,061,476.0036m | 299,598.9168m | 1+054.00 |
| 1056 | 1,061,476.5589m | 299,599.7484m | 1+055.00 |
| 1057 | 1,061,477.1142m | 299,600.5801m | 1+056.00 |
| 1058 | 1,061,477.6695m | 299,601.4117m | 1+057.00 |
| 1059 | 1,061,478.2248m | 299,602.2433m | 1+058.00 |
| 1060 | 1,061,478.7801m | 299,603.0750m | 1+059.00 |
| 1061 | 1,061,479.3354m | 299,603.9066m | 1+060.00 |
| 1062 | 1,061,479.8907m | 299,604.7383m | 1+061.00 |
| 1063 | 1,061,480.4461m | 299,605.5699m | 1+062.00 |
| 1064 | 1,061,481.0014m | 299,606.4016m | 1+063.00 |
| 1065 | 1,061,481.5567m | 299,607.2332m | 1+064.00 |
| 1066 | 1,061,482.1120m | 299,608.0648m | 1+065.00 |
| 1067 | 1,061,482.6673m | 299,608.8965m | 1+066.00 |
| 1068 | 1,061,483.2226m | 299,609.7281m | 1+067.00 |
| 1069 | 1,061,483.7779m | 299,610.5598m | 1+068.00 |
| 1070 | 1,061,484.3332m | 299,611.3914m | 1+069.00 |
| 1071 | 1,061,484.8885m | 299,612.2231m | 1+070.00 |
| 1072 | 1,061,485.4439m | 299,613.0547m | 1+071.00 |
| 1073 | 1,061,485.9992m | 299,613.8863m | 1+072.00 |
| 1074 | 1,061,486.5545m | 299,614.7180m | 1+073.00 |
| 1075 | 1,061,487.1098m | 299,615.5496m | 1+074.00 |
| 1076 | 1,061,487.6651m | 299,616.3813m | 1+075.00 |
| 1077 | 1,061,488.2204m | 299,617.2129m | 1+076.00 |
| 1078 | 1,061,488.7757m | 299,618.0446m | 1+077.00 |
| 1079 | 1,061,489.3310m | 299,618.8762m | 1+078.00 |
| 1080 | 1,061,489.8863m | 299,619.7078m | 1+079.00 |
| 1081 | 1,061,490.4417m | 299,620.5395m | 1+080.00 |
| 1082 | 1,061,490.9970m | 299,621.3711m | 1+081.00 |
| 1083 | 1,061,491.5523m | 299,622.2028m | 1+082.00 |
| 1084 | 1,061,492.1076m | 299,623.0344m | 1+083.00 |
| 1085 | 1,061,492.6629m | 299,623.8661m | 1+084.00 |
| 1086 | 1,061,493.2182m | 299,624.6977m | 1+085.00 |
| 1087 | 1,061,493.7735m | 299,625.5293m | 1+086.00 |
| 1088 | 1,061,494.3288m | 299,626.3610m | 1+087.00 |
| 1089 | 1,061,494.8841m | 299,627.1926m | 1+088.00 |
| 1090 | 1,061,495.4395m | 299,628.0243m | 1+089.00 |
| 1091 | 1,061,495.9948m | 299,628.8559m | 1+090.00 |
| 1092 | 1,061,496.5501m | 299,629.6875m | 1+091.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1093 | 1,061,497.1054m | 299,630.5192m | 1+092.00 |
| 1094 | 1,061,497.6607m | 299,631.3508m | 1+093.00 |
| 1095 | 1,061,498.2160m | 299,632.1825m | 1+094.00 |
| 1096 | 1,061,498.7713m | 299,633.0141m | 1+095.00 |
| 1097 | 1,061,499.3266m | 299,633.8458m | 1+096.00 |
| 1098 | 1,061,499.8820m | 299,634.6774m | 1+097.00 |
| 1099 | 1,061,500.4373m | 299,635.5090m | 1+098.00 |
| 1100 | 1,061,500.9926m | 299,636.3407m | 1+099.00 |
| 1101 | 1,061,501.5479m | 299,637.1723m | 1+100.00 |
| 1102 | 1,061,502.1032m | 299,638.0040m | 1+101.00 |
| 1103 | 1,061,502.6585m | 299,638.8356m | 1+102.00 |
| 1104 | 1,061,503.2138m | 299,639.6673m | 1+103.00 |
| 1105 | 1,061,503.7691m | 299,640.4989m | 1+104.00 |
| 1106 | 1,061,504.3244m | 299,641.3305m | 1+105.00 |
| 1107 | 1,061,504.8798m | 299,642.1622m | 1+106.00 |
| 1108 | 1,061,505.4351m | 299,642.9938m | 1+107.00 |
| 1109 | 1,061,505.9904m | 299,643.8255m | 1+108.00 |
| 1110 | 1,061,506.5457m | 299,644.6571m | 1+109.00 |
| 1111 | 1,061,507.1010m | 299,645.4888m | 1+110.00 |
| 1112 | 1,061,507.6563m | 299,646.3204m | 1+111.00 |
| 1113 | 1,061,508.2116m | 299,647.1520m | 1+112.00 |
| 1114 | 1,061,508.7669m | 299,647.9837m | 1+113.00 |
| 1115 | 1,061,509.3222m | 299,648.8153m | 1+114.00 |
| 1116 | 1,061,509.8776m | 299,649.6470m | 1+115.00 |
| 1117 | 1,061,510.4329m | 299,650.4786m | 1+116.00 |
| 1118 | 1,061,510.9882m | 299,651.3103m | 1+117.00 |
| 1119 | 1,061,511.5435m | 299,652.1419m | 1+118.00 |
| 1120 | 1,061,512.0988m | 299,652.9735m | 1+119.00 |
| 1121 | 1,061,512.6541m | 299,653.8052m | 1+120.00 |
| 1122 | 1,061,513.2094m | 299,654.6368m | 1+121.00 |
| 1123 | 1,061,513.7647m | 299,655.4685m | 1+122.00 |
| 1124 | 1,061,514.3200m | 299,656.3001m | 1+123.00 |
| 1125 | 1,061,514.8754m | 299,657.1318m | 1+124.00 |
| 1126 | 1,061,515.4307m | 299,657.9634m | 1+125.00 |
| 1127 | 1,061,515.9860m | 299,658.7950m | 1+126.00 |
| 1128 | 1,061,516.5413m | 299,659.6267m | 1+127.00 |
| 1129 | 1,061,517.0966m | 299,660.4583m | 1+128.00 |
| 1130 | 1,061,517.6519m | 299,661.2900m | 1+129.00 |
| 1131 | 1,061,518.2072m | 299,662.1216m | 1+130.00 |
| 1132 | 1,061,518.7625m | 299,662.9533m | 1+131.00 |
| 1133 | 1,061,519.3178m | 299,663.7849m | 1+132.00 |
| 1134 | 1,061,519.8732m | 299,664.6165m | 1+133.00 |
| 1135 | 1,061,520.4285m | 299,665.4482m | 1+134.00 |
| 1136 | 1,061,520.9838m | 299,666.2798m | 1+135.00 |
| 1137 | 1,061,521.5391m | 299,667.1115m | 1+136.00 |
| 1138 | 1,061,522.0944m | 299,667.9431m | 1+137.00 |
| 1139 | 1,061,522.6497m | 299,668.7747m | 1+138.00 |
| 1140 | 1,061,523.2050m | 299,669.6064m | 1+139.00 |
| 1141 | 1,061,523.7603m | 299,670.4380m | 1+140.00 |
| 1142 | 1,061,524.3157m | 299,671.2697m | 1+141.00 |
| 1143 | 1,061,524.8710m | 299,672.1013m | 1+142.00 |
| 1144 | 1,061,525.4263m | 299,672.9330m | 1+143.00 |
| 1145 | 1,061,525.9816m | 299,673.7646m | 1+144.00 |
| 1146 | 1,061,526.5369m | 299,674.5962m | 1+145.00 |
| 1147 | 1,061,527.0922m | 299,675.4279m | 1+146.00 |
| 1148 | 1,061,527.6475m | 299,676.2595m | 1+147.00 |
| 1149 | 1,061,528.2028m | 299,677.0912m | 1+148.00 |
| 1150 | 1,061,528.7581m | 299,677.9228m | 1+149.00 |
| 1151 | 1,061,529.3135m | 299,678.7545m | 1+150.00 |
| 1152 | 1,061,529.8688m | 299,679.5861m | 1+151.00 |
| 1153 | 1,061,530.4241m | 299,680.4177m | 1+152.00 |
| 1154 | 1,061,530.9794m | 299,681.2494m | 1+153.00 |
| 1155 | 1,061,531.5347m | 299,682.0810m | 1+154.00 |
| 1156 | 1,061,532.0900m | 299,682.9127m | 1+155.00 |
| 1157 | 1,061,532.6453m | 299,683.7443m | 1+156.00 |
| 1158 | 1,061,533.2006m | 299,684.5760m | 1+157.00 |
| 1159 | 1,061,533.7559m | 299,685.4076m | 1+158.00 |
| 1160 | 1,061,534.3113m | 299,686.2392m | 1+159.00 |
| 1161 | 1,061,534.8666m | 299,687.0709m | 1+160.00 |
| 1162 | 1,061,535.4219m | 299,687.9025m | 1+161.00 |
| 1163 | 1,061,535.9772m | 299,688.7342m | 1+162.00 |
| 1164 | 1,061,536.5325m | 299,689.5658m | 1+163.00 |
| 1165 | 1,061,537.0878m | 299,690.3975m | 1+164.00 |
| 1166 | 1,061,537.6431m | 299,691.2291m | 1+165.00 |
| 1167 | 1,061,538.1984m | 299,692.0607m | 1+166.00 |
| 1168 | 1,061,538.7537m | 299,692.8924m | 1+167.00 |
| 1169 | 1,061,539.3091m | 299,693.7240m | 1+168.00 |
| 1170 | 1,061,539.8644m | 299,694.5557m | 1+169.00 |
| 1171 | 1,061,540.4197m | 299,695.3873m | 1+170.00 |
| 1172 | 1,061,540.9750m | 299,696.2190m | 1+171.00 |
| 1173 | 1,061,541.5303m | 299,697.0506m | 1+172.00 |
| 1174 | 1,061,542.0856m | 299,697.8822m | 1+173.00 |
| 1175 | 1,061,542.6409m | 299,698.7139m | 1+174.00 |
| 1176 | 1,061,543.1962m | 299,699.5455m | 1+175.00 |
| 1177 | 1,061,543.7515m | 299,700.3772m | 1+176.00 |
| 1178 | 1,061,544.3069m | 299,701.2088m | 1+177.00 |
| 1179 | 1,061,544.8622m | 299,702.0404m | 1+178.00 |
| 1180 | 1,061,545.4175m | 299,702.8721m | 1+179.00 |
| 1181 | 1,061,545.9728m | 299,703.7037m | 1+180.00 |
| 1182 | 1,061,546.5281m | 299,704.5354m | 1+181.00 |
| 1183 | 1,061,547.0834m | 299,705.3670m | 1+182.00 |
| 1184 | 1,061,547.6387m | 299,706.1987m | 1+183.00 |
| 1185 | 1,061,548.1940m | 299,707.0303m | 1+184.00 |
| 1186 | 1,061,548.7493m | 299,707.8619m | 1+185.00 |
| 1187 | 1,061,549.3047m | 299,708.6936m | 1+186.00 |
| 1188 | 1,061,549.8600m | 299,709.5252m | 1+187.00 |
| 1189 | 1,061,550.4153m | 299,710.3569m | 1+188.00 |
| 1190 | 1,061,550.9706m | 299,711.1885m | 1+189.00 |
| 1191 | 1,061,551.5259m | 299,712.0202m | 1+190.00 |
| 1192 | 1,061,552.0812m | 299,712.8518m | 1+191.00 |
| 1193 | 1,061,552.6365m | 299,713.6834m | 1+192.00 |
| 1194 | 1,061,553.1918m | 299,714.5151m | 1+193.00 |
| 1195 | 1,061,553.7472m | 299,715.3467m | 1+194.00 |
| 1196 | 1,061,554.3025m | 299,716.1784m | 1+195.00 |
| 1197 | 1,061,554.8578m | 299,717.0100m | 1+196.00 |
| 1198 | 1,061,555.4131m | 299,717.8417m | 1+197.00 |
| 1199 | 1,061,555.9684m | 299,718.6733m | 1+198.00 |
| 1200 | 1,061,556.5237m | 299,719.5049m | 1+199.00 |
| 1201 | 1,061,557.0790m | 299,720.3366m | 1+200.00 |
| 1202 | 1,061,557.6343m | 299,721.1682m | 1+201.00 |
| 1203 | 1,061,558.1896m | 299,721.9999m | 1+202.00 |
| 1204 | 1,061,558.7450m | 299,722.8315m | 1+203.00 |
| 1205 | 1,061,559.3003m | 299,723.6632m | 1+204.00 |
| 1206 | 1,061,559.8556m | 299,724.4948m | 1+205.00 |
| 1207 | 1,061,560.4109m | 299,725.3264m | 1+206.00 |
| 1208 | 1,061,560.9662m | 299,726.1581m | 1+207.00 |
| 1209 | 1,061,561.5215m | 299,726.9897m | 1+208.00 |
| 1210 | 1,061,562.0768m | 299,727.8214m | 1+209.00 |
| 1211 | 1,061,562.6321m | 299,728.6530m | 1+210.00 |
| 1212 | 1,061,563.1874m | 299,729.4847m | 1+211.00 |
| 1213 | 1,061,563.7428m | 299,730.3163m | 1+212.00 |
| 1214 | 1,061,564.2981m | 299,731.1479m | 1+213.00 |
| 1215 | 1,061,564.8534m | 299,731.9796m | 1+214.00 |
| 1216 | 1,061,565.4087m | 299,732.8112m | 1+215.00 |
| 1217 | 1,061,565.9640m | 299,733.6429m | 1+216.00 |
| 1218 | 1,061,566.5193m | 299,734.4745m | 1+217.00 |
| 1219 | 1,061,567.0746m | 299,735.3062m | 1+218.00 |
| 1220 | 1,061,567.6299m | 299,736.1378m | 1+219.00 |
| 1221 | 1,061,568.1852m | 299,736.9694m | 1+220.00 |
| 1222 | 1,061,568.7406m | 299,737.8011m | 1+221.00 |
| 1223 | 1,061,569.2959m | 299,738.6327m | 1+222.00 |
| 1224 | 1,061,569.8512m | 299,739.4644m | 1+223.00 |
| 1225 | 1,061,570.4065m | 299,740.2960m | 1+224.00 |
| 1226 | 1,061,570.9618m | 299,741.1276m | 1+225.00 |
| 1227 | 1,061,571.5171m | 299,741.9593m | 1+226.00 |
| 1228 | 1,061,572.0724m | 299,742.7909m | 1+227.00 |
| 1229 | 1,061,572.6277m | 299,743.6226m | 1+228.00 |
| 1230 | 1,061,573.1830m | 299,744.4542m | 1+229.00 |
| 1231 | 1,061,573.7384m | 299,745.2859m | 1+230.00 |
| 1232 | 1,061,574.2937m | 299,746.1175m | 1+231.00 |
| 1233 | 1,061,574.8490m | 299,746.9491m | 1+232.00 |
| 1234 | 1,061,575.4043m | 299,747.7808m | 1+233.00 |
| 1235 | 1,061,575.9596m | 299,748.6124m | 1+234.00 |
| 1236 | 1,061,576.5149m | 299,749.4441m | 1+235.00 |
| 1237 | 1,061,577.0702m | 299,750.2757m | 1+236.00 |
| 1238 | 1,061,577.6255m | 299,751.1074m | 1+237.00 |
| 1239 | 1,061,578.1808m | 299,751.9390m | 1+238.00 |
| 1240 | 1,061,578.7362m | 299,752.7706m | 1+239.00 |
| 1241 | 1,061,579.2915m | 299,753.6023m | 1+240.00 |
| 1242 | 1,061,579.8468m | 299,754.4339m | 1+241.00 |
| 1243 | 1,061,580.4021m | 299,755.2656m | 1+242.00 |
| 1244 | 1,061,580.9574m | 299,756.0972m | 1+243.00 |
| 1245 | 1,061,581.5127m | 299,756.9289m | 1+244.00 |
| 1246 | 1,061,582.0680m | 299,757.7605m | 1+245.00 |
| 1247 | 1,061,582.6233m | 299,758.5921m | 1+246.00 |
| 1248 | 1,061,583.1787m | 299,759.4238m | 1+247.00 |
| 1249 | 1,061,583.7338m | 299,760.2555m | 1+248.00 |
| 1250 | 1,061,584.2844m | 299,761.0903m | 1+249.00 |
| 1251 | 1,061,584.8281m | 299,761.9296m | 1+250.00 |
| 1252 | 1,061,585.3649m | 299,762.7733m | 1+251.00 |
| 1253 | 1,061,585.8947m | 299,763.6214m | 1+252.00 |
| 1254 | 1,061,586.4175m | 299,764.4739m | 1+253.00 |
| 1255 | 1,061,586.9332m | 299,765.3306m | 1+254.00 |
| 1256 | 1,061,587.4419m | 299,766.1916m | 1+255.00 |
| 1257 | 1,061,587.9434m | 299,767.0567m | 1+256.00 |
| 1258 | 1,061,588.4379m | 299,767.9259m | 1+257.00 |
| 1259 | 1,061,588.9251m | 299,768.7992m | 1+258.00 |
| 1260 | 1,061,589.4051m | 299,769.6764m | 1+259.00 |
| 1261 | 1,061,589.8779m | 299,770.5576m | 1+260.00 |
| 1262 | 1,061,590.3435m | 299,771.4426m | 1+261.00 |
| 1263 | 1,061,590.8017m | 299,772.3315m | 1+262.00 |
| 1264 | 1,061,591.2525m | 299,773.2240m | 1+263.00 |
| 1265 | 1,061,591.6961m | 299,774.1203m | 1+264.00 |
| 1266 | 1,061,592.1322m | 299,775.0202m | 1+265.00 |
| 1267 | 1,061,592.5608m | 299,775.9237m | 1+266.00 |
| 1268 | 1,061,592.9821m | 299,776.8306m | 1+267.00 |
| 1269 | 1,061,593.3958m | 299,777.7410m | 1+268.00 |
| 1270 | 1,061,593.8020m | 299,778.6548m | 1+269.00 |
| 1271 | 1,061,594.2007m | 299,779.5719m | 1+270.00 |
| 1272 | 1,061,594.5918m | 299,780.4922m | 1+271.00 |
| 1273 | 1,061,594.9754m | 299,781.4157m | 1+272.00 |
| 1274 | 1,061,595.3513m | 299,782.3424m | 1+273.00 |
| 1275 | 1,061,595.7195m | 299,783.2721m | 1+274.00 |
| 1276 | 1,061,596.0801m | 299,784.2048m | 1+275.00 |
| 1277 | 1,061,596.4330m | 299,785.1405m | 1+276.00 |
| 1278 | 1,061,596.7782m | 299,786.0790m | 1+277.00 |
| 1279 | 1,061,597.1156m | 299,787.0204m | 1+278.00 |
| 1280 | 1,061,597.4453m | 299,787.9645m | 1+279.00 |
| 1281 | 1,061,597.7672m | 299,788.9112m | 1+280.00 |
| 1282 | 1,061,598.0812m | 299,789.8606m | 1+281.00 |
| 1283 | 1,061,598.3875m | 299,790.8126m | 1+282.00 |
| 1284 | 1,061,598.6859m | 299,791.7670m | 1+283.00 |
| 1285 | 1,061,598.9764m | 299,792.7239m | 1+284.00 |
| 1286 | 1,061,599.2590m | 299,793.6831m | 1+285.00 |
| 1287 | 1,061,599.5359m | 299,794.6440m | 1+286.00 |
| 1288 | 1,061,599.8125m | 299,795.6050m | 1+287.00 |
| 1289 | 1,061,600.0892m | 299,796.5660m | 1+288.00 |
| 1290 | 1,061,600.3658m | 299,797.5269m | 1+289.00 |
| 1291 | 1,061,600.6425m | 299,798.4879m | 1+290.00 |
| 1292 | 1,061,600.9191m | 299,799.4489m | 1+291.00 |
| 1293 | 1,061,601.1957m | 299,800.4099m | 1+292.00 |
| 1294 | 1,061,601.4724m | 299,801.3708m | 1+293.00 |
| 1295 | 1,061,601.7490m | 299,802.3318m | 1+294.00 |
| 1296 | 1,061,602.0257m | 299,803.2928m | 1+295.00 |
| 1297 | 1,061,602.3023m | 299,804.2538m | 1+296.00 |
| 1298 | 1,061,602.5789m | 299,805.2147m | 1+297.00 |
| 1299 | 1,061,602.8556m | 299,806.1757m | 1+298.00 |
| 1300 | 1,061,603.1322m | 299,807.1367m | 1+299.00 |
| 1301 | 1,061,603.4089m | 299,808.0976m | 1+300.00 |
| 1302 | 1,061,603.6855m | 299,809.0586m | 1+301.00 |
| 1303 | 1,061,603.9621m | 299,810.0196m | 1+302.00 |
| 1304 | 1,061,604.2388m | 299,810.9806m | 1+303.00 |
| 1305 | 1,061,604.5154m | 299,811.9415m | 1+304.00 |
| 1306 | 1,061,604.7921m | 299,812.9025m | 1+305.00 |
| 1307 | 1,061,605.0687m | 299,813.8635m | 1+306.00 |
| 1308 | 1,061,605.3453m | 299,814.8245m | 1+307.00 |
| 1309 | 1,061,605.6220m | 299,815.7854m | 1+308.00 |
| 1310 | 1,061,605.8986m | 299,816.7464m | 1+309.00 |
| 1311 | 1,061,606.1753m | 299,817.7074m | 1+310.00 |
| 1312 | 1,061,606.4519m | 299,818.6684m | 1+311.00 |
| 1313 | 1,061,606.7285m | 299,819.6293m | 1+312.00 |
| 1314 | 1,061,607.0052m | 299,820.5903m | 1+313.00 |
| 1315 | 1,061,607.2818m | 299,821.5513m | 1+314.00 |
| 1316 | 1,061,607.5585m | 299,822.5122m | 1+315.00 |
| 1317 | 1,061,607.8351m | 299,823.4732m | 1+316.00 |
| 1318 | 1,061,608.1117m | 299,824.4342m | 1+317.00 |
| 1319 | 1,061,608.3884m | 299,825.3952m | 1+318.00 |
| 1320 | 1,061,608.6650m | 299,826.3561m | 1+319.00 |
| 1321 | 1,061,608.9417m | 299,827.3171m | 1+320.00 |
| 1322 | 1,061,609.2183m | 299,828.2781m | 1+321.00 |
| 1323 | 1,061,609.4950m | 299,829.2391m | 1+322.00 |
| 1324 | 1,061,609.7716m | 299,830.2000m | 1+323.00 |
| 1325 | 1,061,610.0482m | 299,831.1610m | 1+324.00 |
| 1326 | 1,061,610.3249m | 299,832.1220m | 1+325.00 |
| 1327 | 1,061,610.6015m | 299,833.0830m | 1+326.00 |
| 1328 | 1,061,610.8782m | 299,834.0439m | 1+327.00 |
| 1329 | 1,061,611.1548m | 299,835.0049m | 1+328.00 |
| 1330 | 1,061,611.4314m | 299,835.9659m | 1+329.00 |
| 1331 | 1,061,611.7081m | 299,836.9269m | 1+330.00 |
| 1332 | 1,061,611.9847m | 299,837.8878m | 1+331.00 |
| 1333 | 1,061,612.2614m | 299,838.8488m | 1+332.00 |
| 1334 | 1,061,612.5380m | 299,839.8098m | 1+333.00 |
| 1335 | 1,061,612.8146m | 299,840.7707m | 1+334.00 |
| 1336 | 1,061,613.0913m | 299,841.7317m | 1+335.00 |
| 1337 | 1,061,613.3679m | 299,842.6927m | 1+336.00 |
| 1338 | 1,061,613.6446m | 299,843.6537m | 1+337.00 |
| 1339 | 1,061,613.9212m | 299,844.6146m | 1+338.00 |
| 1340 | 1,061,614.1978m | 299,845.5756m | 1+339.00 |
| 1341 | 1,061,614.4745m | 299,846.5366m | 1+340.00 |
| 1342 | 1,061,614.7511m | 299,847.4976m | 1+341.00 |
| 1343 | 1,061,615.0278m | 299,848.4585m | 1+342.00 |
| 1344 | 1,061,615.3044m | 299,849.4195m | 1+343.00 |
| 1345 | 1,061,615.5810m | 299,850.3805m | 1+344.00 |
| 1346 | 1,061,615.8577m | 299,851.3415m | 1+345.00 |
| 1347 | 1,061,616.1343m | 299,852.3024m | 1+346.00 |
| 1348 | 1,061,616.4110m | 299,853.2634m | 1+347.00 |
| 1349 | 1,061,616.6876m | 299,854.2244m | 1+348.00 |
| 1350 | 1,061,616.9642m | 299,855.1854m | 1+349.00 |
| 1351 | 1,061,617.2409m | 299,856.1463m | 1+350.00 |
| 1352 | 1,061,617.5175m | 299,857.1073m | 1+351.00 |
| 1353 | 1,061,617.7942m | 299,858.0683m | 1+352.00 |
| 1354 | 1,061,618.0708m | 299,859.0292m | 1+353.00 |
| 1355 | 1,061,618.3474m | 299,859.9902m | 1+354.00 |
| 1356 | 1,061,618.6241m | 299,860.9512m | 1+355.00 |
| 1357 | 1,061,618.9007m | 299,861.9122m | 1+356.00 |
| 1358 | 1,061,619.1774m | 299,862.8731m | 1+357.00 |
| 1359 | 1,061,619.4540m | 299,863.8341m | 1+358.00 |
| 1360 | 1,061,619.7306m | 299,864.7951m | 1+359.00 |
| 1361 | 1,061,620.0073m | 299,865.7561m | 1+360.00 |
| 1362 | 1,061,620.2839m | 299,866.7170m | 1+361.00 |
| 1363 | 1,061,620.5606m | 299,867.6780m | 1+362.00 |
| 1364 | 1,061,620.8372m | 299,868.6390m | 1+363.00 |
| 1365 | 1,061,621.1138m | 299,869.6000m | 1+364.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1366 | 1,061,621.3905m | 299,870.5609m | 1+365.00 |
| 1367 | 1,061,621.6671m | 299,871.5219m | 1+366.00 |
| 1368 | 1,061,621.9438m | 299,872.4829m | 1+367.00 |
| 1369 | 1,061,622.2205m | 299,873.4438m | 1+368.00 |
| 1370 | 1,061,622.5105m | 299,874.4008m | 1+369.00 |
| 1371 | 1,061,622.8224m | 299,875.3509m | 1+370.00 |
| 1372 | 1,061,623.1559m | 299,876.2936m | 1+371.00 |
| 1373 | 1,061,623.5110m | 299,877.2284m | 1+372.00 |
| 1374 | 1,061,623.8875m | 299,878.1549m | 1+373.00 |
| 1375 | 1,061,624.2850m | 299,879.0724m | 1+374.00 |
| 1376 | 1,061,624.7036m | 299,879.9806m | 1+375.00 |
| 1377 | 1,061,625.1428m | 299,880.8789m | 1+376.00 |
| 1378 | 1,061,625.6025m | 299,881.7670m | 1+377.00 |
| 1379 | 1,061,626.0825m | 299,882.6442m | 1+378.00 |
| 1380 | 1,061,626.5825m | 299,883.5102m | 1+379.00 |
| 1381 | 1,061,627.0958m | 299,884.3684m | 1+380.00 |
| 1382 | 1,061,627.6095m | 299,885.2264m | 1+381.00 |
| 1383 | 1,061,628.1232m | 299,886.0844m | 1+382.00 |
| 1384 | 1,061,628.6369m | 299,886.9424m | 1+383.00 |
| 1385 | 1,061,629.1506m | 299,887.8003m | 1+384.00 |
| 1386 | 1,061,629.6643m | 299,888.6583m | 1+385.00 |
| 1387 | 1,061,630.1779m | 299,889.5163m | 1+386.00 |
| 1388 | 1,061,630.6916m | 299,890.3743m | 1+387.00 |
| 1389 | 1,061,630.4068m | 299,891.0318m | 1+388.00 |
| 1390 | 1,061,629.5489m | 299,891.5455m | 1+389.00 |
| 1391 | 1,061,628.6909m | 299,892.0592m | 1+390.00 |
| 1392 | 1,061,627.8329m | 299,892.5729m | 1+391.00 |
| 1393 | 1,061,626.9749m | 299,893.0866m | 1+392.00 |
| 1394 | 1,061,626.1170m | 299,893.6003m | 1+393.00 |
| 1395 | 1,061,625.2590m | 299,894.1140m | 1+394.00 |
| 1396 | 1,061,624.4010m | 299,894.6277m | 1+395.00 |
| 1397 | 1,061,623.5430m | 299,895.1413m | 1+396.00 |
| 1398 | 1,061,622.6851m | 299,895.6550m | 1+397.00 |
| 1399 | 1,061,621.8271m | 299,896.1687m | 1+398.00 |
| 1400 | 1,061,620.9691m | 299,896.6824m | 1+399.00 |
| 1401 | 1,061,620.1111m | 299,897.1961m | 1+400.00 |
| 1402 | 1,061,619.5224m | 299,896.6370m | 1+401.00 |
| 1403 | 1,061,619.0087m | 299,895.7790m | 1+402.00 |
| 1404 | 1,061,618.4951m | 299,894.9210m | 1+403.00 |
| 1405 | 1,061,617.9814m | 299,894.0630m | 1+404.00 |
| 1406 | 1,061,617.4677m | 299,893.2051m | 1+405.00 |
| 1407 | 1,061,616.9540m | 299,892.3471m | 1+406.00 |
| 1408 | 1,061,616.4403m | 299,891.4891m | 1+407.00 |
| 1409 | 1,061,615.9266m | 299,890.6312m | 1+408.00 |
| 1410 | 1,061,615.4153m | 299,889.7718m | 1+409.00 |
| 1411 | 1,061,614.9178m | 299,888.9043m | 1+410.00 |
| 1412 | 1,061,614.4357m | 299,888.0282m | 1+411.00 |
| 1413 | 1,061,613.9693m | 299,887.1436m | 1+412.00 |
| 1414 | 1,061,613.5186m | 299,886.2510m | 1+413.00 |
| 1415 | 1,061,613.0838m | 299,885.3505m | 1+414.00 |
| 1416 | 1,061,612.6651m | 299,884.4424m | 1+415.00 |
| 1417 | 1,061,612.2625m | 299,883.5270m | 1+416.00 |
| 1418 | 1,061,611.8762m | 299,882.6046m | 1+417.00 |
| 1419 | 1,061,611.5063m | 299,881.6756m | 1+418.00 |
| 1420 | 1,061,611.1530m | 299,880.7401m | 1+419.00 |
| 1421 | 1,061,610.8163m | 299,879.7985m | 1+420.00 |
| 1422 | 1,061,610.4963m | 299,878.8511m | 1+421.00 |
| 1423 | 1,061,610.1932m | 299,877.8981m | 1+422.00 |
| 1424 | 1,061,609.9071m | 299,876.9400m | 1+423.00 |
| 1425 | 1,061,609.6304m | 299,875.9790m | 1+424.00 |
| 1426 | 1,061,609.3537m | 299,875.0180m | 1+425.00 |
| 1427 | 1,061,609.0771m | 299,874.0571m | 1+426.00 |
| 1428 | 1,061,608.8005m | 299,873.0961m | 1+427.00 |
| 1429 | 1,061,608.5238m | 299,872.1351m | 1+428.00 |
| 1430 | 1,061,608.2472m | 299,871.1741m | 1+429.00 |
| 1431 | 1,061,607.9705m | 299,870.2132m | 1+430.00 |
| 1432 | 1,061,607.6939m | 299,869.2522m | 1+431.00 |
| 1433 | 1,061,607.4173m | 299,868.2912m | 1+432.00 |
| 1434 | 1,061,607.1406m | 299,867.3302m | 1+433.00 |
| 1435 | 1,061,606.8640m | 299,866.3693m | 1+434.00 |
| 1436 | 1,061,606.5873m | 299,865.4083m | 1+435.00 |
| 1437 | 1,061,606.3107m | 299,864.4473m | 1+436.00 |
| 1438 | 1,061,606.0341m | 299,863.4863m | 1+437.00 |
| 1439 | 1,061,605.7574m | 299,862.5254m | 1+438.00 |
| 1440 | 1,061,605.4808m | 299,861.5644m | 1+439.00 |
| 1441 | 1,061,605.2041m | 299,860.6034m | 1+440.00 |
| 1442 | 1,061,604.9275m | 299,859.6424m | 1+441.00 |
| 1443 | 1,061,604.6509m | 299,858.6815m | 1+442.00 |
| 1444 | 1,061,604.3742m | 299,857.7205m | 1+443.00 |
| 1445 | 1,061,604.0976m | 299,856.7595m | 1+444.00 |
| 1446 | 1,061,603.8209m | 299,855.7986m | 1+445.00 |
| 1447 | 1,061,603.5443m | 299,854.8376m | 1+446.00 |
| 1448 | 1,061,603.2677m | 299,853.8766m | 1+447.00 |
| 1449 | 1,061,602.9910m | 299,852.9156m | 1+448.00 |
| 1450 | 1,061,602.7144m | 299,851.9547m | 1+449.00 |
| 1451 | 1,061,602.4377m | 299,850.9937m | 1+450.00 |
| 1452 | 1,061,602.1611m | 299,850.0327m | 1+451.00 |
| 1453 | 1,061,601.8845m | 299,849.0717m | 1+452.00 |
| 1454 | 1,061,601.6078m | 299,848.1108m | 1+453.00 |
| 1455 | 1,061,601.3312m | 299,847.1498m | 1+454.00 |
| 1456 | 1,061,601.0545m | 299,846.1888m | 1+455.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1457 | 1,061,600.7779m | 299,845.2278m | 1+456.00 |
| 1458 | 1,061,600.5013m | 299,844.2669m | 1+457.00 |
| 1459 | 1,061,600.2246m | 299,843.3059m | 1+458.00 |
| 1460 | 1,061,599.9480m | 299,842.3449m | 1+459.00 |
| 1461 | 1,061,599.6713m | 299,841.3839m | 1+460.00 |
| 1462 | 1,061,599.3947m | 299,840.4230m | 1+461.00 |
| 1463 | 1,061,599.1181m | 299,839.4620m | 1+462.00 |
| 1464 | 1,061,598.8414m | 299,838.5010m | 1+463.00 |
| 1465 | 1,061,598.5648m | 299,837.5401m | 1+464.00 |
| 1466 | 1,061,598.2881m | 299,836.5791m | 1+465.00 |
| 1467 | 1,061,598.0115m | 299,835.6181m | 1+466.00 |
| 1468 | 1,061,597.7349m | 299,834.6571m | 1+467.00 |
| 1469 | 1,061,597.4582m | 299,833.6962m | 1+468.00 |
| 1470 | 1,061,597.1816m | 299,832.7352m | 1+469.00 |
| 1471 | 1,061,596.9049m | 299,831.7742m | 1+470.00 |
| 1472 | 1,061,596.6283m | 299,830.8132m | 1+471.00 |
| 1473 | 1,061,596.3517m | 299,829.8523m | 1+472.00 |
| 1474 | 1,061,596.0750m | 299,828.8913m | 1+473.00 |
| 1475 | 1,061,595.7984m | 299,827.9303m | 1+474.00 |
| 1476 | 1,061,595.5217m | 299,826.9693m | 1+475.00 |
| 1477 | 1,061,595.2451m | 299,826.0084m | 1+476.00 |
| 1478 | 1,061,594.9684m | 299,825.0474m | 1+477.00 |
| 1479 | 1,061,594.6918m | 299,824.0864m | 1+478.00 |
| 1480 | 1,061,594.4152m | 299,823.1255m | 1+479.00 |
| 1481 | 1,061,594.1385m | 299,822.1645m | 1+480.00 |
| 1482 | 1,061,593.8619m | 299,821.2035m | 1+481.00 |
| 1483 | 1,061,593.5852m | 299,820.2425m | 1+482.00 |
| 1484 | 1,061,593.3086m | 299,819.2816m | 1+483.00 |
| 1485 | 1,061,593.0320m | 299,818.3206m | 1+484.00 |
| 1486 | 1,061,592.7553m | 299,817.3596m | 1+485.00 |
| 1487 | 1,061,592.4787m | 299,816.3986m | 1+486.00 |
| 1488 | 1,061,592.2020m | 299,815.4377m | 1+487.00 |
| 1489 | 1,061,591.9254m | 299,814.4767m | 1+488.00 |
| 1490 | 1,061,591.6488m | 299,813.5157m | 1+489.00 |
| 1491 | 1,061,591.3721m | 299,812.5547m | 1+490.00 |
| 1492 | 1,061,591.0955m | 299,811.5938m | 1+491.00 |
| 1493 | 1,061,590.8188m | 299,810.6328m | 1+492.00 |
| 1494 | 1,061,590.5422m | 299,809.6718m | 1+493.00 |
| 1495 | 1,061,590.2656m | 299,808.7108m | 1+494.00 |
| 1496 | 1,061,589.9889m | 299,807.7499m | 1+495.00 |
| 1497 | 1,061,589.7123m | 299,806.7889m | 1+496.00 |
| 1498 | 1,061,589.4356m | 299,805.8279m | 1+497.00 |
| 1499 | 1,061,589.1590m | 299,804.8670m | 1+498.00 |
| 1500 | 1,061,588.8824m | 299,803.9060m | 1+499.00 |
| 1501 | 1,061,588.6057m | 299,802.9450m | 1+500.00 |
| 1502 | 1,061,588.3291m | 299,801.9840m | 1+501.00 |
| 1503 | 1,061,588.0524m | 299,801.0231m | 1+502.00 |
| 1504 | 1,061,587.7758m | 299,800.0621m | 1+503.00 |
| 1505 | 1,061,587.4992m | 299,799.1011m | 1+504.00 |
| 1506 | 1,061,587.2225m | 299,798.1401m | 1+505.00 |
| 1507 | 1,061,586.9455m | 299,797.1793m | 1+506.00 |
| 1508 | 1,061,586.6617m | 299,796.2204m | 1+507.00 |
| 1509 | 1,061,586.3692m | 299,795.2641m | 1+508.00 |
| 1510 | 1,061,586.0678m | 299,794.3106m | 1+509.00 |
| 1511 | 1,061,585.7577m | 299,793.3599m | 1+510.00 |
| 1512 | 1,061,585.4389m | 299,792.4121m | 1+511.00 |
| 1513 | 1,061,585.1113m | 299,791.4673m | 1+512.00 |
| 1514 | 1,061,584.7750m | 299,790.5255m | 1+513.00 |
| 1515 | 1,061,584.4301m | 299,789.5869m | 1+514.00 |
| 1516 | 1,061,584.0766m | 299,788.6515m | 1+515.00 |
| 1517 | 1,061,583.7144m | 299,787.7194m | 1+516.00 |
| 1518 | 1,061,583.3437m | 299,786.7906m | 1+517.00 |
| 1519 | 1,061,582.9645m | 299,785.8653m | 1+518.00 |
| 1520 | 1,061,582.5767m | 299,784.9436m | 1+519.00 |
| 1521 | 1,061,582.1805m | 299,784.0254m | 1+520.00 |
| 1522 | 1,061,581.7758m | 299,783.1110m | 1+521.00 |
| 1523 | 1,061,581.3628m | 299,782.2003m | 1+522.00 |
| 1524 | 1,061,580.9414m | 299,781.2934m | 1+523.00 |
| 1525 | 1,061,580.5116m | 299,780.3905m | 1+524.00 |
| 1526 | 1,061,580.0735m | 299,779.4915m | 1+525.00 |
| 1527 | 1,061,579.6272m | 299,778.5967m | 1+526.00 |
| 1528 | 1,061,579.1727m | 299,777.7059m | 1+527.00 |
| 1529 | 1,061,578.7100m | 299,776.8194m | 1+528.00 |
| 1530 | 1,061,578.2391m | 299,775.9372m | 1+529.00 |
| 1531 | 1,061,577.7601m | 299,775.0594m | 1+530.00 |
| 1532 | 1,061,577.2731m | 299,774.1860m | 1+531.00 |
| 1533 | 1,061,576.7781m | 299,773.3172m | 1+532.00 |
| 1534 | 1,061,576.2750m | 299,772.4529m | 1+533.00 |
| 1535 | 1,061,575.7641m | 299,771.5933m | 1+534.00 |
| 1536 | 1,061,575.2452m | 299,770.7384m | 1+535.00 |
| 1537 | 1,061,574.7185m | 299,769.8884m | 1+536.00 |
| 1538 | 1,061,574.1840m | 299,769.0432m | 1+537.00 |
| 1539 | 1,061,573.6417m | 299,768.2031m | 1+538.00 |
| 1540 | 1,061,573.0917m | 299,767.3679m | 1+539.00 |
| 1541 | 1,061,572.5365m | 299,766.5361m | 1+540.00 |
| 1542 | 1,061,571.9812m | 299,765.7045m | 1+541.00 |
| 1543 | 1,061,571.4259m | 299,764.8729m | 1+542.00 |
| 1544 | 1,061,570.8706m | 299,764.0412m | 1+543.00 |
| 1545 | 1,061,570.3153m | 299,763.2096m | 1+544.00 |
| 1546 | 1,061,569.7600m | 299,762.3779m | 1+545.00 |
| 1547 | 1,061,569.2047m | 299,761.5463m | 1+546.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1548 | 1,061,568.6494m | 299,760.7146m | 1+547.00 |
| 1549 | 1,061,568.0941m | 299,759.8830m | 1+548.00 |
| 1550 | 1,061,567.5387m | 299,759.0514m | 1+549.00 |
| 1551 | 1,061,566.9834m | 299,758.2197m | 1+550.00 |
| 1552 | 1,061,566.4281m | 299,757.3881m | 1+551.00 |
| 1553 | 1,061,565.8728m | 299,756.5564m | 1+552.00 |
| 1554 | 1,061,565.3175m | 299,755.7248m | 1+553.00 |
| 1555 | 1,061,564.7622m | 299,754.8931m | 1+554.00 |
| 1556 | 1,061,564.2069m | 299,754.0615m | 1+555.00 |
| 1557 | 1,061,563.6516m | 299,753.2299m | 1+556.00 |
| 1558 | 1,061,563.0963m | 299,752.3982m | 1+557.00 |
| 1559 | 1,061,562.5409m | 299,751.5666m | 1+558.00 |
| 1560 | 1,061,561.9856m | 299,750.7349m | 1+559.00 |
| 1561 | 1,061,561.4303m | 299,749.9033m | 1+560.00 |
| 1562 | 1,061,560.8750m | 299,749.0717m | 1+561.00 |
| 1563 | 1,061,560.3197m | 299,748.2400m | 1+562.00 |
| 1564 | 1,061,559.7644m | 299,747.4084m | 1+563.00 |
| 1565 | 1,061,559.2091m | 299,746.5767m | 1+564.00 |
| 1566 | 1,061,558.6538m | 299,745.7451m | 1+565.00 |
| 1567 | 1,061,558.0985m | 299,744.9134m | 1+566.00 |
| 1568 | 1,061,557.5431m | 299,744.0818m | 1+567.00 |
| 1569 | 1,061,556.9878m | 299,743.2502m | 1+568.00 |
| 1570 | 1,061,556.4325m | 299,742.4185m | 1+569.00 |
| 1571 | 1,061,555.8772m | 299,741.5869m | 1+570.00 |
| 1572 | 1,061,555.3219m | 299,740.7552m | 1+571.00 |
| 1573 | 1,061,554.7666m | 299,739.9236m | 1+572.00 |
| 1574 | 1,061,554.2113m | 299,739.0919m | 1+573.00 |
| 1575 | 1,061,553.6560m | 299,738.2603m | 1+574.00 |
| 1576 | 1,061,553.1007m | 299,737.4287m | 1+575.00 |
| 1577 | 1,061,552.5453m | 299,736.5970m | 1+576.00 |
| 1578 | 1,061,551.9900m | 299,735.7654m | 1+577.00 |
| 1579 | 1,061,551.4347m | 299,734.9337m | 1+578.00 |
| 1580 | 1,061,550.8794m | 299,734.1021m | 1+579.00 |
| 1581 | 1,061,550.3241m | 299,733.2704m | 1+580.00 |
| 1582 | 1,061,549.7688m | 299,732.4388m | 1+581.00 |
| 1583 | 1,061,549.2135m | 299,731.6072m | 1+582.00 |
| 1584 | 1,061,548.6582m | 299,730.7755m | 1+583.00 |
| 1585 | 1,061,548.1028m | 299,729.9439m | 1+584.00 |
| 1586 | 1,061,547.5475m | 299,729.1122m | 1+585.00 |
| 1587 | 1,061,546.9922m | 299,728.2806m | 1+586.00 |
| 1588 | 1,061,546.4369m | 299,727.4489m | 1+587.00 |
| 1589 | 1,061,545.8816m | 299,726.6173m | 1+588.00 |
| 1590 | 1,061,545.3263m | 299,725.7857m | 1+589.00 |
| 1591 | 1,061,544.7710m | 299,724.9540m | 1+590.00 |
| 1592 | 1,061,544.2157m | 299,724.1224m | 1+591.00 |
| 1593 | 1,061,543.6604m | 299,723.2907m | 1+592.00 |
| 1594 | 1,061,543.1050m | 299,722.4591m | 1+593.00 |
| 1595 | 1,061,542.5497m | 299,721.6274m | 1+594.00 |
| 1596 | 1,061,541.9944m | 299,720.7958m | 1+595.00 |
| 1597 | 1,061,541.4391m | 299,719.9642m | 1+596.00 |
| 1598 | 1,061,540.8838m | 299,719.1325m | 1+597.00 |
| 1599 | 1,061,540.3285m | 299,718.3009m | 1+598.00 |
| 1600 | 1,061,539.7732m | 299,717.4692m | 1+599.00 |
| 1601 | 1,061,539.2179m | 299,716.6376m | 1+600.00 |
| 1602 | 1,061,538.6626m | 299,715.8059m | 1+601.00 |
| 1603 | 1,061,538.1072m | 299,714.9743m | 1+602.00 |
| 1604 | 1,061,537.5519m | 299,714.1427m | 1+603.00 |
| 1605 | 1,061,536.9966m | 299,713.3110m | 1+604.00 |
| 1606 | 1,061,536.4413m | 299,712.4794m | 1+605.00 |
| 1607 | 1,061,535.8860m | 299,711.6477m | 1+606.00 |
| 1608 | 1,061,535.3307m | 299,710.8161m | 1+607.00 |
| 1609 | 1,061,534.7754m | 299,709.9845m | 1+608.00 |
| 1610 | 1,061,534.2201m | 299,709.1528m | 1+609.00 |
| 1611 | 1,061,533.6648m | 299,708.3212m | 1+610.00 |
| 1612 | 1,061,533.1094m | 299,707.4895m | 1+611.00 |
| 1613 | 1,061,532.5541m | 299,706.6579m | 1+612.00 |
| 1614 | 1,061,531.9988m | 299,705.8262m | 1+613.00 |
| 1615 | 1,061,531.4435m | 299,704.9946m | 1+614.00 |
| 1616 | 1,061,530.8882m | 299,704.1630m | 1+615.00 |
| 1617 | 1,061,530.3329m | 299,703.3313m | 1+616.00 |
| 1618 | 1,061,529.7776m | 299,702.4997m | 1+617.00 |
| 1619 | 1,061,529.2223m | 299,701.6680m | 1+618.00 |
| 1620 | 1,061,528.6670m | 299,700.8364m | 1+619.00 |
| 1621 | 1,061,528.1116m | 299,700.0047m | 1+620.00 |
| 1622 | 1,061,527.5563m | 299,699.1731m | 1+621.00 |
| 1623 | 1,061,527.0010m | 299,698.3415m | 1+622.00 |
| 1624 | 1,061,526.4457m | 299,697.5098m | 1+623.00 |
| 1625 | 1,061,525.8904m | 299,696.6782m | 1+624.00 |
| 1626 | 1,061,525.3351m | 299,695.8465m | 1+625.00 |
| 1627 | 1,061,524.7798m | 299,695.0149m | 1+626.00 |
| 1628 | 1,061,524.2245m | 299,694.1832m | 1+627.00 |
| 1629 | 1,061,523.6691m | 299,693.3516m | 1+628.00 |
| 1630 | 1,061,523.1138m | 299,692.5200m | 1+629.00 |
| 1631 | 1,061,522.5585m | 299,691.6883m | 1+630.00 |
| 1632 | 1,061,522.0032m | 299,690.8567m | 1+631.00 |
| 1633 | 1,061,521.4479m | 299,690.0250m | 1+632.00 |
| 1634 | 1,061,520.8926m | 299,689.1934m | 1+633.00 |
| 1635 | 1,061,520.3373m | 299,688.3617m | 1+634.00 |
| 1636 | 1,061,519.7820m | 299,687.5301m | 1+635.00 |
| 1637 | 1,061,519.2267m | 299,686.6985m | 1+636.00 |
| 1638 | 1,061,518.6713m | 299,685.8668m | 1+637.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1639 | 1,061,518.1160m | 299,685.0352m | 1+638.00 |
| 1640 | 1,061,517.5607m | 299,684.2035m | 1+639.00 |
| 1641 | 1,061,517.0054m | 299,683.3719m | 1+640.00 |
| 1642 | 1,061,516.4501m | 299,682.5402m | 1+641.00 |
| 1643 | 1,061,515.8948m | 299,681.7086m | 1+642.00 |
| 1644 | 1,061,515.3395m | 299,680.8770m | 1+643.00 |
| 1645 | 1,061,514.7842m | 299,680.0453m | 1+644.00 |
| 1646 | 1,061,514.2289m | 299,679.2137m | 1+645.00 |
| 1647 | 1,061,513.6735m | 299,678.3820m | 1+646.00 |
| 1648 | 1,061,513.1182m | 299,677.5504m | 1+647.00 |
| 1649 | 1,061,512.5629m | 299,676.7187m | 1+648.00 |
| 1650 | 1,061,512.0076m | 299,675.8871m | 1+649.00 |
| 1651 | 1,061,511.4523m | 299,675.0555m | 1+650.00 |
| 1652 | 1,061,510.8970m | 299,674.2238m | 1+651.00 |
| 1653 | 1,061,510.3417m | 299,673.3922m | 1+652.00 |
| 1654 | 1,061,509.7864m | 299,672.5605m | 1+653.00 |
| 1655 | 1,061,509.2311m | 299,671.7289m | 1+654.00 |
| 1656 | 1,061,508.6757m | 299,670.8973m | 1+655.00 |
| 1657 | 1,061,508.1204m | 299,670.0656m | 1+656.00 |
| 1658 | 1,061,507.5651m | 299,669.2340m | 1+657.00 |
| 1659 | 1,061,507.0098m | 299,668.4023m | 1+658.00 |
| 1660 | 1,061,506.4545m | 299,667.5707m | 1+659.00 |
| 1661 | 1,061,505.8992m | 299,666.7390m | 1+660.00 |
| 1662 | 1,061,505.3439m | 299,665.9074m | 1+661.00 |
| 1663 | 1,061,504.7886m | 299,665.0758m | 1+662.00 |
| 1664 | 1,061,504.2333m | 299,664.2441m | 1+663.00 |
| 1665 | 1,061,503.6779m | 299,663.4125m | 1+664.00 |
| 1666 | 1,061,503.1226m | 299,662.5808m | 1+665.00 |
| 1667 | 1,061,502.5673m | 299,661.7492m | 1+666.00 |
| 1668 | 1,061,502.0120m | 299,660.9175m | 1+667.00 |
| 1669 | 1,061,501.4567m | 299,660.0859m | 1+668.00 |
| 1670 | 1,061,500.9014m | 299,659.2543m | 1+669.00 |
| 1671 | 1,061,500.3461m | 299,658.4226m | 1+670.00 |
| 1672 | 1,061,499.7908m | 299,657.5910m | 1+671.00 |
| 1673 | 1,061,499.2355m | 299,656.7593m | 1+672.00 |
| 1674 | 1,061,498.6801m | 299,655.9277m | 1+673.00 |
| 1675 | 1,061,498.1248m | 299,655.0960m | 1+674.00 |
| 1676 | 1,061,497.5695m | 299,654.2644m | 1+675.00 |
| 1677 | 1,061,497.0142m | 299,653.4328m | 1+676.00 |
| 1678 | 1,061,496.4589m | 299,652.6011m | 1+677.00 |
| 1679 | 1,061,495.9036m | 299,651.7695m | 1+678.00 |
| 1680 | 1,061,495.3483m | 299,650.9378m | 1+679.00 |
| 1681 | 1,061,494.7930m | 299,650.1062m | 1+680.00 |
| 1682 | 1,061,494.2376m | 299,649.2745m | 1+681.00 |
| 1683 | 1,061,493.6823m | 299,648.4429m | 1+682.00 |
| 1684 | 1,061,493.1270m | 299,647.6113m | 1+683.00 |
| 1685 | 1,061,492.5717m | 299,646.7796m | 1+684.00 |
| 1686 | 1,061,492.0164m | 299,645.9480m | 1+685.00 |
| 1687 | 1,061,491.4611m | 299,645.1163m | 1+686.00 |
| 1688 | 1,061,490.9058m | 299,644.2847m | 1+687.00 |
| 1689 | 1,061,490.3505m | 299,643.4530m | 1+688.00 |
| 1690 | 1,061,489.7952m | 299,642.6214m | 1+689.00 |
| 1691 | 1,061,489.2398m | 299,641.7898m | 1+690.00 |
| 1692 | 1,061,488.6845m | 299,640.9581m | 1+691.00 |
| 1693 | 1,061,488.1292m | 299,640.1265m | 1+692.00 |
| 1694 | 1,061,487.5739m | 299,639.2948m | 1+693.00 |
| 1695 | 1,061,487.0186m | 299,638.4632m | 1+694.00 |
| 1696 | 1,061,486.4633m | 299,637.6315m | 1+695.00 |
| 1697 | 1,061,485.9080m | 299,636.7999m | 1+696.00 |
| 1698 | 1,061,485.3527m | 299,635.9683m | 1+697.00 |
| 1699 | 1,061,484.7974m | 299,635.1366m | 1+698.00 |
| 1700 | 1,061,484.2420m | 299,634.3050m | 1+699.00 |
| 1701 | 1,061,483.6867m | 299,633.4733m | 1+700.00 |
| 1702 | 1,061,483.1314m | 299,632.6417m | 1+701.00 |
| 1703 | 1,061,482.5761m | 299,631.8101m | 1+702.00 |
| 1704 | 1,061,482.0208m | 299,630.9784m | 1+703.00 |
| 1705 | 1,061,481.4655m | 299,630.1468m | 1+704.00 |
| 1706 | 1,061,480.9102m | 299,629.3151m | 1+705.00 |
| 1707 | 1,061,480.3549m | 299,628.4835m | 1+706.00 |
| 1708 | 1,061,479.7996m | 299,627.6518m | 1+707.00 |
| 1709 | 1,061,479.2442m | 299,626.8202m | 1+708.00 |
| 1710 | 1,061,478.6889m | 299,625.9886m | 1+709.00 |
| 1711 | 1,061,478.1336m | 299,625.1569m | 1+710.00 |
| 1712 | 1,061,477.5783m | 299,624.3253m | 1+711.00 |
| 1713 | 1,061,477.0230m | 299,623.4936m | 1+712.00 |
| 1714 | 1,061,476.4677m | 299,622.6620m | 1+713.00 |
| 1715 | 1,061,475.9124m | 299,621.8303m | 1+714.00 |
| 1716 | 1,061,475.3571m | 299,620.9987m | 1+715.00 |
| 1717 | 1,061,474.8018m | 299,620.1671m | 1+716.00 |
| 1718 | 1,061,474.2464m | 299,619.3354m | 1+717.00 |
| 1719 | 1,061,473.6911m | 299,618.5038m | 1+718.00 |
| 1720 | 1,061,473.1358m | 299,617.6721m | 1+719.00 |
| 1721 | 1,061,472.5805m | 299,616.8405m | 1+720.00 |
| 1722 | 1,061,472.0252m | 299,616.0088m | 1+721.00 |
| 1723 | 1,061,471.4699m | 299,615.1772m | 1+722.00 |
| 1724 | 1,061,470.9146m | 299,614.3456m | 1+723.00 |
| 1725 | 1,061,470.3593m | 299,613.5139m | 1+724.00 |
| 1726 | 1,061,469.8040m | 299,612.6823m | 1+725.00 |
| 1727 | 1,061,469.2486m | 299,611.8506m | 1+726.00 |
| 1728 | 1,061,468.6933m | 299,611.0190m | 1+727.00 |
| 1729 | 1,061,468.1380m | 299,610.1873m | 1+728.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1730 | 1,061,467.5827m | 299,609.3557m | 1+729.00 |
| 1731 | 1,061,467.0274m | 299,608.5241m | 1+730.00 |
| 1732 | 1,061,466.4721m | 299,607.6924m | 1+731.00 |
| 1733 | 1,061,465.9168m | 299,606.8608m | 1+732.00 |
| 1734 | 1,061,465.3615m | 299,606.0291m | 1+733.00 |
| 1735 | 1,061,464.8061m | 299,605.1975m | 1+734.00 |
| 1736 | 1,061,464.2508m | 299,604.3658m | 1+735.00 |
| 1737 | 1,061,463.6955m | 299,603.5342m | 1+736.00 |
| 1738 | 1,061,463.1402m | 299,602.7026m | 1+737.00 |
| 1739 | 1,061,462.5849m | 299,601.8709m | 1+738.00 |
| 1740 | 1,061,462.0296m | 299,601.0393m | 1+739.00 |
| 1741 | 1,061,461.4743m | 299,600.2076m | 1+740.00 |
| 1742 | 1,061,460.9190m | 299,599.3760m | 1+741.00 |
| 1743 | 1,061,460.3637m | 299,598.5443m | 1+742.00 |
| 1744 | 1,061,459.8083m | 299,597.7127m | 1+743.00 |
| 1745 | 1,061,459.2530m | 299,596.8811m | 1+744.00 |
| 1746 | 1,061,458.6977m | 299,596.0494m | 1+745.00 |
| 1747 | 1,061,458.1424m | 299,595.2178m | 1+746.00 |
| 1748 | 1,061,457.5871m | 299,594.3861m | 1+747.00 |
| 1749 | 1,061,457.0318m | 299,593.5545m | 1+748.00 |
| 1750 | 1,061,456.4765m | 299,592.7229m | 1+749.00 |
| 1751 | 1,061,455.9212m | 299,591.8912m | 1+750.00 |
| 1752 | 1,061,455.3659m | 299,591.0596m | 1+751.00 |
| 1753 | 1,061,454.8105m | 299,590.2279m | 1+752.00 |
| 1754 | 1,061,454.2552m | 299,589.3963m | 1+753.00 |
| 1755 | 1,061,453.6999m | 299,588.5646m | 1+754.00 |
| 1756 | 1,061,453.1446m | 299,587.7330m | 1+755.00 |
| 1757 | 1,061,452.5893m | 299,586.9014m | 1+756.00 |
| 1758 | 1,061,452.0340m | 299,586.0697m | 1+757.00 |
| 1759 | 1,061,451.4787m | 299,585.2381m | 1+758.00 |
| 1760 | 1,061,450.9234m | 299,584.4064m | 1+759.00 |
| 1761 | 1,061,450.3681m | 299,583.5748m | 1+760.00 |
| 1762 | 1,061,449.8127m | 299,582.7431m | 1+761.00 |
| 1763 | 1,061,449.2574m | 299,581.9115m | 1+762.00 |
| 1764 | 1,061,448.7021m | 299,581.0799m | 1+763.00 |
| 1765 | 1,061,448.1468m | 299,580.2482m | 1+764.00 |
| 1766 | 1,061,447.5915m | 299,579.4166m | 1+765.00 |
| 1767 | 1,061,447.0362m | 299,578.5849m | 1+766.00 |
| 1768 | 1,061,446.4809m | 299,577.7533m | 1+767.00 |
| 1769 | 1,061,445.9256m | 299,576.9216m | 1+768.00 |
| 1770 | 1,061,445.3703m | 299,576.0900m | 1+769.00 |
| 1771 | 1,061,444.8149m | 299,575.2584m | 1+770.00 |
| 1772 | 1,061,444.2596m | 299,574.4267m | 1+771.00 |
| 1773 | 1,061,443.7043m | 299,573.5951m | 1+772.00 |
| 1774 | 1,061,443.1490m | 299,572.7634m | 1+773.00 |
| 1775 | 1,061,442.5937m | 299,571.9318m | 1+774.00 |
| 1776 | 1,061,442.0384m | 299,571.1001m | 1+775.00 |
| 1777 | 1,061,441.4831m | 299,570.2685m | 1+776.00 |
| 1778 | 1,061,440.9278m | 299,569.4369m | 1+777.00 |
| 1779 | 1,061,440.3724m | 299,568.6052m | 1+778.00 |
| 1780 | 1,061,439.8171m | 299,567.7736m | 1+779.00 |
| 1781 | 1,061,439.2618m | 299,566.9419m | 1+780.00 |
| 1782 | 1,061,438.7065m | 299,566.1103m | 1+781.00 |
| 1783 | 1,061,438.1512m | 299,565.2786m | 1+782.00 |
| 1784 | 1,061,437.5959m | 299,564.4470m | 1+783.00 |
| 1785 | 1,061,437.0406m | 299,563.6154m | 1+784.00 |
| 1786 | 1,061,436.4853m | 299,562.7837m | 1+785.00 |
| 1787 | 1,061,435.9300m | 299,561.9521m | 1+786.00 |
| 1788 | 1,061,435.3746m | 299,561.1204m | 1+787.00 |
| 1789 | 1,061,434.8193m | 299,560.2888m | 1+788.00 |
| 1790 | 1,061,434.2640m | 299,559.4572m | 1+789.00 |
| 1791 | 1,061,433.7087m | 299,558.6255m | 1+790.00 |
| 1792 | 1,061,433.1534m | 299,557.7939m | 1+791.00 |
| 1793 | 1,061,432.5981m | 299,556.9622m | 1+792.00 |
| 1794 | 1,061,432.0428m | 299,556.1306m | 1+793.00 |
| 1795 | 1,061,431.4875m | 299,555.2989m | 1+794.00 |
| 1796 | 1,061,430.9322m | 299,554.4673m | 1+795.00 |
| 1797 | 1,061,430.3768m | 299,553.6357m | 1+796.00 |
| 1798 | 1,061,429.8215m | 299,552.8040m | 1+797.00 |
| 1799 | 1,061,429.2662m | 299,551.9724m | 1+798.00 |
| 1800 | 1,061,428.7109m | 299,551.1407m | 1+799.00 |
| 1801 | 1,061,428.1556m | 299,550.3091m | 1+800.00 |
| 1802 | 1,061,427.6003m | 299,549.4774m | 1+801.00 |
| 1803 | 1,061,427.0450m | 299,548.6458m | 1+802.00 |
| 1804 | 1,061,426.4897m | 299,547.8142m | 1+803.00 |
| 1805 | 1,061,425.9344m | 299,546.9825m | 1+804.00 |
| 1806 | 1,061,425.3790m | 299,546.1509m | 1+805.00 |
| 1807 | 1,061,424.8237m | 299,545.3192m | 1+806.00 |
| 1808 | 1,061,424.2684m | 299,544.4876m | 1+807.00 |
| 1809 | 1,061,423.7131m | 299,543.6559m | 1+808.00 |
| 1810 | 1,061,423.1578m | 299,542.8243m | 1+809.00 |
| 1811 | 1,061,422.6025m | 299,541.9927m | 1+810.00 |
| 1812 | 1,061,422.0472m | 299,541.1610m | 1+811.00 |
| 1813 | 1,061,421.4919m | 299,540.3294m | 1+812.00 |
| 1814 | 1,061,420.9366m | 299,539.4977m | 1+813.00 |
| 1815 | 1,061,420.3812m | 299,538.6661m | 1+814.00 |
| 1816 | 1,061,419.8259m | 299,537.8344m | 1+815.00 |
| 1817 | 1,061,419.2706m | 299,537.0028m | 1+816.00 |
| 1818 | 1,061,418.7153m | 299,536.1712m | 1+817.00 |
| 1819 | 1,061,418.1600m | 299,535.3395m | 1+818.00 |
| 1820 | 1,061,417.6047m | 299,534.5079m | 1+819.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1821 | 1,061,417.0494m | 299,533.6762m | 1+820.00 |
| 1822 | 1,061,416.4941m | 299,532.8446m | 1+821.00 |
| 1823 | 1,061,415.9388m | 299,532.0129m | 1+822.00 |
| 1824 | 1,061,415.3834m | 299,531.1813m | 1+823.00 |
| 1825 | 1,061,414.8281m | 299,530.3497m | 1+824.00 |
| 1826 | 1,061,414.2728m | 299,529.5180m | 1+825.00 |
| 1827 | 1,061,413.7175m | 299,528.6864m | 1+826.00 |
| 1828 | 1,061,413.1622m | 299,527.8547m | 1+827.00 |
| 1829 | 1,061,412.6069m | 299,527.0231m | 1+828.00 |
| 1830 | 1,061,412.0516m | 299,526.1914m | 1+829.00 |
| 1831 | 1,061,411.4963m | 299,525.3598m | 1+830.00 |
| 1832 | 1,061,410.9409m | 299,524.5282m | 1+831.00 |
| 1833 | 1,061,410.3856m | 299,523.6965m | 1+832.00 |
| 1834 | 1,061,409.8303m | 299,522.8649m | 1+833.00 |
| 1835 | 1,061,409.2750m | 299,522.0332m | 1+834.00 |
| 1836 | 1,061,408.7197m | 299,521.2016m | 1+835.00 |
| 1837 | 1,061,408.1644m | 299,520.3700m | 1+836.00 |
| 1838 | 1,061,407.6091m | 299,519.5383m | 1+837.00 |
| 1839 | 1,061,407.0538m | 299,518.7067m | 1+838.00 |
| 1840 | 1,061,406.4985m | 299,517.8750m | 1+839.00 |
| 1841 | 1,061,405.9431m | 299,517.0434m | 1+840.00 |
| 1842 | 1,061,405.3878m | 299,516.2117m | 1+841.00 |
| 1843 | 1,061,404.8325m | 299,515.3801m | 1+842.00 |
| 1844 | 1,061,404.2772m | 299,514.5485m | 1+843.00 |
| 1845 | 1,061,403.7219m | 299,513.7168m | 1+844.00 |
| 1846 | 1,061,403.1666m | 299,512.8852m | 1+845.00 |
| 1847 | 1,061,402.6113m | 299,512.0535m | 1+846.00 |
| 1848 | 1,061,402.0560m | 299,511.2219m | 1+847.00 |
| 1849 | 1,061,401.5007m | 299,510.3902m | 1+848.00 |
| 1850 | 1,061,400.9453m | 299,509.5586m | 1+849.00 |
| 1851 | 1,061,400.3900m | 299,508.7270m | 1+850.00 |
| 1852 | 1,061,399.8347m | 299,507.8953m | 1+851.00 |
| 1853 | 1,061,399.2794m | 299,507.0637m | 1+852.00 |
| 1854 | 1,061,398.7241m | 299,506.2320m | 1+853.00 |
| 1855 | 1,061,398.1688m | 299,505.4004m | 1+854.00 |
| 1856 | 1,061,397.6135m | 299,504.5687m | 1+855.00 |
| 1857 | 1,061,397.0582m | 299,503.7371m | 1+856.00 |
| 1858 | 1,061,396.5029m | 299,502.9055m | 1+857.00 |
| 1859 | 1,061,395.9475m | 299,502.0738m | 1+858.00 |
| 1860 | 1,061,395.3922m | 299,501.2422m | 1+859.00 |
| 1861 | 1,061,394.8369m | 299,500.4105m | 1+860.00 |
| 1862 | 1,061,394.2816m | 299,499.5789m | 1+861.00 |
| 1863 | 1,061,393.7263m | 299,498.7472m | 1+862.00 |
| 1864 | 1,061,393.1710m | 299,497.9156m | 1+863.00 |
| 1865 | 1,061,392.6157m | 299,497.0840m | 1+864.00 |
| 1866 | 1,061,392.0604m | 299,496.2523m | 1+865.00 |
| 1867 | 1,061,391.5051m | 299,495.4207m | 1+866.00 |
| 1868 | 1,061,390.9497m | 299,494.5890m | 1+867.00 |
| 1869 | 1,061,390.3944m | 299,493.7574m | 1+868.00 |
| 1870 | 1,061,389.8391m | 299,492.9257m | 1+869.00 |
| 1871 | 1,061,389.2838m | 299,492.0941m | 1+870.00 |
| 1872 | 1,061,388.7285m | 299,491.2625m | 1+871.00 |
| 1873 | 1,061,388.1732m | 299,490.4308m | 1+872.00 |
| 1874 | 1,061,387.6179m | 299,489.5992m | 1+873.00 |
| 1875 | 1,061,387.0626m | 299,488.7675m | 1+874.00 |
| 1876 | 1,061,386.5073m | 299,487.9359m | 1+875.00 |
| 1877 | 1,061,385.9519m | 299,487.1042m | 1+876.00 |
| 1878 | 1,061,385.3966m | 299,486.2726m | 1+877.00 |
| 1879 | 1,061,384.8413m | 299,485.4410m | 1+878.00 |
| 1880 | 1,061,384.2860m | 299,484.6093m | 1+879.00 |
| 1881 | 1,061,383.7307m | 299,483.7777m | 1+880.00 |
| 1882 | 1,061,383.1754m | 299,482.9460m | 1+881.00 |
| 1883 | 1,061,382.6201m | 299,482.1144m | 1+882.00 |
| 1884 | 1,061,382.0648m | 299,481.2828m | 1+883.00 |
| 1885 | 1,061,381.5094m | 299,480.4511m | 1+884.00 |
| 1886 | 1,061,380.9541m | 299,479.6195m | 1+885.00 |
| 1887 | 1,061,380.3988m | 299,478.7878m | 1+886.00 |
| 1888 | 1,061,379.8435m | 299,477.9562m | 1+887.00 |
| 1889 | 1,061,379.2882m | 299,477.1245m | 1+888.00 |
| 1890 | 1,061,378.7329m | 299,476.2929m | 1+889.00 |
| 1891 | 1,061,378.1776m | 299,475.4613m | 1+890.00 |
| 1892 | 1,061,377.6223m | 299,474.6296m | 1+891.00 |
| 1893 | 1,061,377.0670m | 299,473.7980m | 1+892.00 |
| 1894 | 1,061,376.5116m | 299,472.9663m | 1+893.00 |
| 1895 | 1,061,375.9563m | 299,472.1347m | 1+894.00 |
| 1896 | 1,061,375.4010m | 299,471.3030m | 1+895.00 |
| 1897 | 1,061,374.8457m | 299,470.4714m | 1+896.00 |
| 1898 | 1,061,374.2904m | 299,469.6398m | 1+897.00 |
| 1899 | 1,061,373.7351m | 299,468.8081m | 1+898.00 |
| 1900 | 1,061,373.1798m | 299,467.9765m | 1+899.00 |
| 1901 | 1,061,372.6245m | 299,467.1448m | 1+900.00 |
| 1902 | 1,061,372.0692m | 299,466.3132m | 1+901.00 |
| 1903 | 1,061,371.5138m | 299,465.4815m | 1+902.00 |
| 1904 | 1,061,370.9585m | 299,464.6499m | 1+903.00 |
| 1905 | 1,061,370.4032m | 299,463.8183m | 1+904.00 |
| 1906 | 1,061,369.8479m | 299,462.9866m | 1+905.00 |
| 1907 | 1,061,369.2926m | 299,462.1550m | 1+906.00 |
| 1908 | 1,061,368.7373m | 299,461.3233m | 1+907.00 |
| 1909 | 1,061,368.1820m | 299,460.4917m | 1+908.00 |
| 1910 | 1,061,367.6267m | 299,459.6600m | 1+909.00 |
| 1911 | 1,061,367.0714m | 299,458.8284m | 1+910.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1912 | 1,061,366.5160m | 299,457.9968m | 1+911.00 |
| 1913 | 1,061,365.9607m | 299,457.1651m | 1+912.00 |
| 1914 | 1,061,365.4054m | 299,456.3335m | 1+913.00 |
| 1915 | 1,061,364.8501m | 299,455.5018m | 1+914.00 |
| 1916 | 1,061,364.2948m | 299,454.6702m | 1+915.00 |
| 1917 | 1,061,363.7395m | 299,453.8385m | 1+916.00 |
| 1918 | 1,061,363.1842m | 299,453.0069m | 1+917.00 |
| 1919 | 1,061,362.6289m | 299,452.1753m | 1+918.00 |
| 1920 | 1,061,362.0736m | 299,451.3436m | 1+919.00 |
| 1921 | 1,061,361.5182m | 299,450.5120m | 1+920.00 |
| 1922 | 1,061,360.9629m | 299,449.6803m | 1+921.00 |
| 1923 | 1,061,360.4076m | 299,448.8487m | 1+922.00 |
| 1924 | 1,061,359.8523m | 299,448.0170m | 1+923.00 |
| 1925 | 1,061,359.2970m | 299,447.1854m | 1+924.00 |
| 1926 | 1,061,358.7417m | 299,446.3538m | 1+925.00 |
| 1927 | 1,061,358.1864m | 299,445.5221m | 1+926.00 |
| 1928 | 1,061,357.6311m | 299,444.6905m | 1+927.00 |
| 1929 | 1,061,357.0757m | 299,443.8588m | 1+928.00 |
| 1930 | 1,061,356.5204m | 299,443.0272m | 1+929.00 |
| 1931 | 1,061,355.9651m | 299,442.1956m | 1+930.00 |
| 1932 | 1,061,355.4098m | 299,441.3639m | 1+931.00 |
| 1933 | 1,061,354.8545m | 299,440.5323m | 1+932.00 |
| 1934 | 1,061,354.2992m | 299,439.7006m | 1+933.00 |
| 1935 | 1,061,353.7439m | 299,438.8690m | 1+934.00 |
| 1936 | 1,061,353.1886m | 299,438.0373m | 1+935.00 |
| 1937 | 1,061,352.6333m | 299,437.2057m | 1+936.00 |
| 1938 | 1,061,352.0779m | 299,436.3741m | 1+937.00 |
| 1939 | 1,061,351.5226m | 299,435.5424m | 1+938.00 |
| 1940 | 1,061,350.9673m | 299,434.7108m | 1+939.00 |
| 1941 | 1,061,350.4120m | 299,433.8791m | 1+940.00 |
| 1942 | 1,061,349.8567m | 299,433.0475m | 1+941.00 |
| 1943 | 1,061,349.3014m | 299,432.2158m | 1+942.00 |
| 1944 | 1,061,348.7461m | 299,431.3842m | 1+943.00 |
| 1945 | 1,061,348.1908m | 299,430.5526m | 1+944.00 |
| 1946 | 1,061,347.6355m | 299,429.7209m | 1+945.00 |
| 1947 | 1,061,347.0801m | 299,428.8893m | 1+946.00 |
| 1948 | 1,061,346.5248m | 299,428.0576m | 1+947.00 |
| 1949 | 1,061,345.9695m | 299,427.2260m | 1+948.00 |
| 1950 | 1,061,345.4142m | 299,426.3943m | 1+949.00 |
| 1951 | 1,061,344.8589m | 299,425.5627m | 1+950.00 |
| 1952 | 1,061,344.3036m | 299,424.7311m | 1+951.00 |
| 1953 | 1,061,343.7483m | 299,423.8994m | 1+952.00 |
| 1954 | 1,061,343.1930m | 299,423.0678m | 1+953.00 |
| 1955 | 1,061,342.6377m | 299,422.2361m | 1+954.00 |
| 1956 | 1,061,342.0813m | 299,421.4052m | 1+955.00 |
| 1957 | 1,061,341.5212m | 299,420.5768m | 1+956.00 |
| 1958 | 1,061,340.9571m | 299,419.7511m | 1+957.00 |
| 1959 | 1,061,340.3890m | 299,418.9281m | 1+958.00 |
| 1960 | 1,061,339.8170m | 299,418.1079m | 1+959.00 |
| 1961 | 1,061,339.2410m | 299,417.2904m | 1+960.00 |
| 1962 | 1,061,338.6612m | 299,416.4757m | 1+961.00 |
| 1963 | 1,061,338.0774m | 299,415.6637m | 1+962.00 |
| 1964 | 1,061,337.4898m | 299,414.8546m | 1+963.00 |
| 1965 | 1,061,336.8983m | 299,414.0483m | 1+964.00 |
| 1966 | 1,061,336.3029m | 299,413.2449m | 1+965.00 |
| 1967 | 1,061,335.7036m | 299,412.4443m | 1+966.00 |
| 1968 | 1,061,335.1006m | 299,411.6466m | 1+967.00 |
| 1969 | 1,061,334.4937m | 299,410.8518m | 1+968.00 |
| 1970 | 1,061,333.8830m | 299,410.0600m | 1+969.00 |
| 1971 | 1,061,333.2685m | 299,409.2710m | 1+970.00 |
| 1972 | 1,061,332.6503m | 299,408.4851m | 1+971.00 |
| 1973 | 1,061,332.0282m | 299,407.7021m | 1+972.00 |
| 1974 | 1,061,331.4025m | 299,406.9221m | 1+973.00 |
| 1975 | 1,061,330.7730m | 299,406.1451m | 1+974.00 |
| 1976 | 1,061,330.1397m | 299,405.3711m | 1+975.00 |
| 1977 | 1,061,329.5028m | 299,404.6002m | 1+976.00 |
| 1978 | 1,061,328.8622m | 299,403.8323m | 1+977.00 |
| 1979 | 1,061,328.2179m | 299,403.0676m | 1+978.00 |
| 1980 | 1,061,327.5699m | 299,402.3059m | 1+979.00 |
| 1981 | 1,061,326.9183m | 299,401.5473m | 1+980.00 |
| 1982 | 1,061,326.2631m | 299,400.7919m | 1+981.00 |
| 1983 | 1,061,325.6042m | 299,400.0396m | 1+982.00 |
| 1984 | 1,061,324.9417m | 299,399.2906m | 1+983.00 |
| 1985 | 1,061,324.2757m | 299,398.5446m | 1+984.00 |
| 1986 | 1,061,323.6061m | 299,397.8019m | 1+985.00 |
| 1987 | 1,061,322.9329m | 299,397.0625m | 1+986.00 |
| 1988 | 1,061,322.2562m | 299,396.3262m | 1+987.00 |
| 1989 | 1,061,321.5760m | 299,395.5932m | 1+988.00 |
| 1990 | 1,061,320.8922m | 299,394.8635m | 1+989.00 |
| 1991 | 1,061,320.2050m | 299,394.1371m | 1+990.00 |
| 1992 | 1,061,319.5143m | 299,393.4139m | 1+991.00 |
| 1993 | 1,061,318.8201m | 299,392.6941m | 1+992.00 |
| 1994 | 1,061,318.1225m | 299,391.9777m | 1+993.00 |
| 1995 | 1,061,317.4214m | 299,391.2646m | 1+994.00 |
| 1996 | 1,061,316.7169m | 299,390.5548m | 1+995.00 |
| 1997 | 1,061,316.0091m | 299,389.8485m | 1+996.00 |
| 1998 | 1,061,315.2978m | 299,389.1455m | 1+997.00 |
| 1999 | 1,061,314.5832m | 299,388.4460m | 1+998.00 |
| 2000 | 1,061,313.8653m | 299,387.7499m | 1+999.00 |
| 2001 | 1,061,313.1440m | 299,387.0573m | 2+000.00 |
| 2002 | 1,061,312.4194m | 299,386.3681m | 2+001.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2003 | 1,061,311.6915m | 299,385.6824m | 2+002.00 |
| 2004 | 1,061,310.9603m | 299,385.0002m | 2+003.00 |
| 2005 | 1,061,310.2259m | 299,384.3216m | 2+004.00 |
| 2006 | 1,061,309.4882m | 299,383.6464m | 2+005.00 |
| 2007 | 1,061,308.7473m | 299,382.9748m | 2+006.00 |
| 2008 | 1,061,308.0031m | 299,382.3068m | 2+007.00 |
| 2009 | 1,061,307.2558m | 299,381.6424m | 2+008.00 |
| 2010 | 1,061,306.5053m | 299,380.9815m | 2+009.00 |
| 2011 | 1,061,305.7537m | 299,380.3219m | 2+010.00 |
| 2012 | 1,061,305.0003m | 299,379.6643m | 2+011.00 |
| 2013 | 1,061,304.2416m | 299,379.0129m | 2+012.00 |
| 2014 | 1,061,303.4777m | 299,378.3676m | 2+013.00 |
| 2015 | 1,061,302.7084m | 299,377.7286m | 2+014.00 |
| 2016 | 1,061,301.9340m | 299,377.0959m | 2+015.00 |
| 2017 | 1,061,301.1545m | 299,376.4696m | 2+016.00 |
| 2018 | 1,061,300.3699m | 299,375.8496m | 2+017.00 |
| 2019 | 1,061,299.5802m | 299,375.2361m | 2+018.00 |
| 2020 | 1,061,298.7855m | 299,374.6290m | 2+019.00 |
| 2021 | 1,061,297.9859m | 299,374.0285m | 2+020.00 |
| 2022 | 1,061,297.1815m | 299,373.4345m | 2+021.00 |
| 2023 | 1,061,296.3722m | 299,372.8471m | 2+022.00 |
| 2024 | 1,061,295.5581m | 299,372.2664m | 2+023.00 |
| 2025 | 1,061,294.7393m | 299,371.6923m | 2+024.00 |
| 2026 | 1,061,293.9158m | 299,371.1249m | 2+025.00 |
| 2027 | 1,061,293.0878m | 299,370.5643m | 2+026.00 |
| 2028 | 1,061,292.2552m | 299,370.0104m | 2+027.00 |
| 2029 | 1,061,291.4180m | 299,369.4634m | 2+028.00 |
| 2030 | 1,061,290.5765m | 299,368.9233m | 2+029.00 |
| 2031 | 1,061,289.7305m | 299,368.3900m | 2+030.00 |
| 2032 | 1,061,288.8803m | 299,367.8636m | 2+031.00 |
| 2033 | 1,061,288.0257m | 299,367.3443m | 2+032.00 |
| 2034 | 1,061,287.1670m | 299,366.8319m | 2+033.00 |
| 2035 | 1,061,286.3041m | 299,366.3265m | 2+034.00 |
| 2036 | 1,061,285.4371m | 299,365.8283m | 2+035.00 |
| 2037 | 1,061,284.5660m | 299,365.3371m | 2+036.00 |
| 2038 | 1,061,283.6910m | 299,364.8531m | 2+037.00 |
| 2039 | 1,061,282.8120m | 299,364.3762m | 2+038.00 |
| 2040 | 1,061,281.9292m | 299,363.9065m | 2+039.00 |
| 2041 | 1,061,281.0425m | 299,363.4440m | 2+040.00 |
| 2042 | 1,061,280.1521m | 299,362.9889m | 2+041.00 |
| 2043 | 1,061,279.2580m | 299,362.5410m | 2+042.00 |
| 2044 | 1,061,278.3603m | 299,362.1004m | 2+043.00 |
| 2045 | 1,061,277.4590m | 299,361.6671m | 2+044.00 |
| 2046 | 1,061,276.5543m | 299,361.2413m | 2+045.00 |
| 2047 | 1,061,275.6460m | 299,360.8228m | 2+046.00 |
| 2048 | 1,061,274.7344m | 299,360.4118m | 2+047.00 |
| 2049 | 1,061,273.8194m | 299,360.0083m | 2+048.00 |
| 2050 | 1,061,272.9012m | 299,359.6122m | 2+049.00 |
| 2051 | 1,061,271.9798m | 299,359.2237m | 2+050.00 |
| 2052 | 1,061,271.0552m | 299,358.8427m | 2+051.00 |
| 2053 | 1,061,270.1282m | 299,358.4678m | 2+052.00 |
| 2054 | 1,061,269.2009m | 299,358.0934m | 2+053.00 |
| 2055 | 1,061,268.2736m | 299,357.7190m | 2+054.00 |
| 2056 | 1,061,267.3464m | 299,357.3446m | 2+055.00 |
| 2057 | 1,061,266.4191m | 299,356.9702m | 2+056.00 |
| 2058 | 1,061,265.4918m | 299,356.5957m | 2+057.00 |
| 2059 | 1,061,264.5646m | 299,356.2213m | 2+058.00 |
| 2060 | 1,061,263.6373m | 299,355.8469m | 2+059.00 |
| 2061 | 1,061,262.7100m | 299,355.4725m | 2+060.00 |
| 2062 | 1,061,261.7828m | 299,355.0981m | 2+061.00 |
| 2063 | 1,061,260.8555m | 299,354.7237m | 2+062.00 |
| 2064 | 1,061,259.9282m | 299,354.3493m | 2+063.00 |
| 2065 | 1,061,259.0010m | 299,353.9749m | 2+064.00 |
| 2066 | 1,061,258.0737m | 299,353.6005m | 2+065.00 |
| 2067 | 1,061,257.1464m | 299,353.2261m | 2+066.00 |
| 2068 | 1,061,256.2192m | 299,352.8517m | 2+067.00 |
| 2069 | 1,061,255.2919m | 299,352.4773m | 2+068.00 |
| 2070 | 1,061,254.3646m | 299,352.1029m | 2+069.00 |
| 2071 | 1,061,253.4374m | 299,351.7285m | 2+070.00 |
| 2072 | 1,061,252.5100m | 299,351.3544m | 2+071.00 |
| 2073 | 1,061,251.5802m | 299,350.9863m | 2+072.00 |
| 2074 | 1,061,250.6472m | 299,350.6263m | 2+073.00 |
| 2075 | 1,061,249.7112m | 299,350.2745m | 2+074.00 |
| 2076 | 1,061,248.7721m | 299,349.9309m | 2+075.00 |
| 2077 | 1,061,247.8300m | 299,349.5955m | 2+076.00 |
| 2078 | 1,061,246.8851m | 299,349.2683m | 2+077.00 |
| 2079 | 1,061,245.9373m | 299,348.9494m | 2+078.00 |
| 2080 | 1,061,244.9867m | 299,348.6388m | 2+079.00 |
| 2081 | 1,061,244.0335m | 299,348.3364m | 2+080.00 |
| 2082 | 1,061,243.0777m | 299,348.0425m | 2+081.00 |
| 2083 | 1,061,242.1194m | 299,347.7569m | 2+082.00 |
| 2084 | 1,061,241.1586m | 299,347.4796m | 2+083.00 |
| 2085 | 1,061,240.1954m | 299,347.2108m | 2+084.00 |
| 2086 | 1,061,239.2299m | 299,346.9504m | 2+085.00 |
| 2087 | 1,061,238.2622m | 299,346.6984m | 2+086.00 |
| 2088 | 1,061,237.2923m | 299,346.4549m | 2+087.00 |
| 2089 | 1,061,236.3203m | 299,346.2199m | 2+088.00 |
| 2090 | 1,061,235.3463m | 299,345.9934m | 2+089.00 |
| 2091 | 1,061,234.3703m | 299,345.7754m | 2+090.00 |
| 2092 | 1,061,233.3925m | 299,345.5659m | 2+091.00 |
| 2093 | 1,061,232.4129m | 299,345.3650m | 2+092.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2094 | 1,061,231.4316m | 299,345.1726m | 2+093.00 |
| 2095 | 1,061,230.4486m | 299,344.9888m | 2+094.00 |
| 2096 | 1,061,229.4641m | 299,344.8136m | 2+095.00 |
| 2097 | 1,061,228.4781m | 299,344.6471m | 2+096.00 |
| 2098 | 1,061,227.4906m | 299,344.4891m | 2+097.00 |
| 2099 | 1,061,226.5019m | 299,344.3397m | 2+098.00 |
| 2100 | 1,061,225.5118m | 299,344.1990m | 2+099.00 |
| 2101 | 1,061,224.5206m | 299,344.0670m | 2+100.00 |
| 2102 | 1,061,223.5282m | 299,343.9436m | 2+101.00 |
| 2103 | 1,061,222.5348m | 299,343.8289m | 2+102.00 |
| 2104 | 1,061,221.5405m | 299,343.7229m | 2+103.00 |
| 2105 | 1,061,220.5454m | 299,343.6231m | 2+104.00 |
| 2106 | 1,061,219.5504m | 299,343.5237m | 2+105.00 |
| 2107 | 1,061,218.5554m | 299,343.4243m | 2+106.00 |
| 2108 | 1,061,217.5603m | 299,343.3249m | 2+107.00 |
| 2109 | 1,061,216.5653m | 299,343.2254m | 2+108.00 |
| 2110 | 1,061,215.5702m | 299,343.1260m | 2+109.00 |
| 2111 | 1,061,214.5752m | 299,343.0266m | 2+110.00 |
| 2112 | 1,061,213.5801m | 299,342.9272m | 2+111.00 |
| 2113 | 1,061,212.5851m | 299,342.8277m | 2+112.00 |
| 2114 | 1,061,211.5900m | 299,342.7283m | 2+113.00 |
| 2115 | 1,061,210.5950m | 299,342.6289m | 2+114.00 |
| 2116 | 1,061,209.5999m | 299,342.5295m | 2+115.00 |
| 2117 | 1,061,208.6049m | 299,342.4300m | 2+116.00 |
| 2118 | 1,061,207.6099m | 299,342.3306m | 2+117.00 |
| 2119 | 1,061,206.6148m | 299,342.2312m | 2+118.00 |
| 2120 | 1,061,205.6198m | 299,342.1318m | 2+119.00 |
| 2121 | 1,061,204.6247m | 299,342.0323m | 2+120.00 |
| 2122 | 1,061,203.6297m | 299,341.9329m | 2+121.00 |
| 2123 | 1,061,202.6346m | 299,341.8335m | 2+122.00 |
| 2124 | 1,061,201.6396m | 299,341.7341m | 2+123.00 |
| 2125 | 1,061,200.6445m | 299,341.6346m | 2+124.00 |
| 2126 | 1,061,199.6495m | 299,341.5352m | 2+125.00 |
| 2127 | 1,061,198.6545m | 299,341.4358m | 2+126.00 |
| 2128 | 1,061,197.6594m | 299,341.3364m | 2+127.00 |
| 2129 | 1,061,196.6644m | 299,341.2369m | 2+128.00 |
| 2130 | 1,061,195.6693m | 299,341.1375m | 2+129.00 |
| 2131 | 1,061,194.6743m | 299,341.0381m | 2+130.00 |
| 2132 | 1,061,193.6792m | 299,340.9387m | 2+131.00 |
| 2133 | 1,061,192.6842m | 299,340.8392m | 2+132.00 |
| 2134 | 1,061,191.6891m | 299,340.7398m | 2+133.00 |
| 2135 | 1,061,190.6941m | 299,340.6404m | 2+134.00 |
| 2136 | 1,061,189.6990m | 299,340.5410m | 2+135.00 |
| 2137 | 1,061,188.7040m | 299,340.4415m | 2+136.00 |
| 2138 | 1,061,187.7090m | 299,340.3421m | 2+137.00 |
| 2139 | 1,061,186.7139m | 299,340.2427m | 2+138.00 |
| 2140 | 1,061,185.7189m | 299,340.1433m | 2+139.00 |
| 2141 | 1,061,184.7238m | 299,340.0438m | 2+140.00 |
| 2142 | 1,061,183.7288m | 299,339.9444m | 2+141.00 |
| 2143 | 1,061,182.7337m | 299,339.8450m | 2+142.00 |
| 2144 | 1,061,181.7387m | 299,339.7456m | 2+143.00 |
| 2145 | 1,061,180.7436m | 299,339.6461m | 2+144.00 |
| 2146 | 1,061,179.7486m | 299,339.5467m | 2+145.00 |
| 2147 | 1,061,178.7536m | 299,339.4473m | 2+146.00 |
| 2148 | 1,061,177.7585m | 299,339.3478m | 2+147.00 |
| 2149 | 1,061,176.7635m | 299,339.2484m | 2+148.00 |
| 2150 | 1,061,175.7684m | 299,339.1490m | 2+149.00 |
| 2151 | 1,061,174.7734m | 299,339.0496m | 2+150.00 |
| 2152 | 1,061,173.7783m | 299,338.9501m | 2+151.00 |
| 2153 | 1,061,172.7833m | 299,338.8507m | 2+152.00 |
| 2154 | 1,061,171.7882m | 299,338.7513m | 2+153.00 |
| 2155 | 1,061,170.7932m | 299,338.6519m | 2+154.00 |
| 2156 | 1,061,169.7981m | 299,338.5524m | 2+155.00 |
| 2157 | 1,061,168.8031m | 299,338.4530m | 2+156.00 |
| 2158 | 1,061,167.8081m | 299,338.3536m | 2+157.00 |
| 2159 | 1,061,166.8130m | 299,338.2542m | 2+158.00 |
| 2160 | 1,061,165.8180m | 299,338.1547m | 2+159.00 |
| 2161 | 1,061,164.8229m | 299,338.0553m | 2+160.00 |
| 2162 | 1,061,163.8279m | 299,337.9559m | 2+161.00 |
| 2163 | 1,061,162.8328m | 299,337.8565m | 2+162.00 |
| 2164 | 1,061,161.8378m | 299,337.7570m | 2+163.00 |
| 2165 | 1,061,160.8427m | 299,337.6576m | 2+164.00 |
| 2166 | 1,061,159.8477m | 299,337.5582m | 2+165.00 |
| 2167 | 1,061,158.8527m | 299,337.4588m | 2+166.00 |
| 2168 | 1,061,157.8576m | 299,337.3593m | 2+167.00 |
| 2169 | 1,061,156.8626m | 299,337.2599m | 2+168.00 |
| 2170 | 1,061,155.8675m | 299,337.1605m | 2+169.00 |
| 2171 | 1,061,154.8725m | 299,337.0611m | 2+170.00 |
| 2172 | 1,061,153.8774m | 299,336.9616m | 2+171.00 |
| 2173 | 1,061,152.8824m | 299,336.8622m | 2+172.00 |
| 2174 | 1,061,151.8873m | 299,336.7628m | 2+173.00 |
| 2175 | 1,061,150.8923m | 299,336.6634m | 2+174.00 |
| 2176 | 1,061,149.8972m | 299,336.5639m | 2+175.00 |
| 2177 | 1,061,148.9022m | 299,336.4645m | 2+176.00 |
| 2178 | 1,061,147.9072m | 299,336.3651m | 2+177.00 |
| 2179 | 1,061,146.9121m | 299,336.2657m | 2+178.00 |
| 2180 | 1,061,145.9171m | 299,336.1662m | 2+179.00 |
| 2181 | 1,061,144.9220m | 299,336.0668m | 2+180.00 |
| 2182 | 1,061,143.9270m | 299,335.9674m | 2+181.00 |
| 2183 | 1,061,142.9319m | 299,335.8680m | 2+182.00 |
| 2184 | 1,061,141.9369m | 299,335.7685m | 2+183.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2185 | 1,061,140.9418m | 299,335.6691m | 2+184.00 |
| 2186 | 1,061,139.9468m | 299,335.5697m | 2+185.00 |
| 2187 | 1,061,138.9517m | 299,335.4703m | 2+186.00 |
| 2188 | 1,061,137.9567m | 299,335.3708m | 2+187.00 |
| 2189 | 1,061,136.9617m | 299,335.2714m | 2+188.00 |
| 2190 | 1,061,135.9666m | 299,335.1720m | 2+189.00 |
| 2191 | 1,061,134.9716m | 299,335.0726m | 2+190.00 |
| 2192 | 1,061,133.9765m | 299,334.9731m | 2+191.00 |
| 2193 | 1,061,132.9815m | 299,334.8737m | 2+192.00 |
| 2194 | 1,061,131.9864m | 299,334.7743m | 2+193.00 |
| 2195 | 1,061,130.9914m | 299,334.6749m | 2+194.00 |
| 2196 | 1,061,130.1288m | 299,335.0039m | 2+195.00 |
| 2197 | 1,061,129.2937m | 299,335.5241m | 2+196.00 |
| 2198 | 1,061,128.3472m | 299,335.8467m | 2+197.00 |
| 2199 | 1,061,127.4924m | 299,335.9430m | 2+198.00 |
| 2200 | 1,061,127.0383m | 299,335.0520m | 2+199.00 |
| 2201 | 1,061,126.4187m | 299,334.3523m | 2+200.00 |
| 2202 | 1,061,125.4506m | 299,334.1212m | 2+201.00 |
| 2203 | 1,061,124.4555m | 299,334.0218m | 2+202.00 |
| 2204 | 1,061,123.4605m | 299,333.9224m | 2+203.00 |
| 2205 | 1,061,122.4654m | 299,333.8229m | 2+204.00 |
| 2206 | 1,061,121.4704m | 299,333.7235m | 2+205.00 |
| 2207 | 1,061,120.4754m | 299,333.6241m | 2+206.00 |
| 2208 | 1,061,119.4803m | 299,333.5247m | 2+207.00 |
| 2209 | 1,061,118.4853m | 299,333.4252m | 2+208.00 |
| 2210 | 1,061,117.4902m | 299,333.3258m | 2+209.00 |
| 2211 | 1,061,116.4952m | 299,333.2264m | 2+210.00 |
| 2212 | 1,061,115.5001m | 299,333.1270m | 2+211.00 |
| 2213 | 1,061,114.5051m | 299,333.0275m | 2+212.00 |
| 2214 | 1,061,113.5100m | 299,332.9281m | 2+213.00 |
| 2215 | 1,061,112.5150m | 299,332.8287m | 2+214.00 |
| 2216 | 1,061,111.5199m | 299,332.7293m | 2+215.00 |
| 2217 | 1,061,110.5249m | 299,332.6298m | 2+216.00 |
| 2218 | 1,061,109.5299m | 299,332.5304m | 2+217.00 |
| 2219 | 1,061,108.5348m | 299,332.4310m | 2+218.00 |
| 2220 | 1,061,107.5398m | 299,332.3316m | 2+219.00 |
| 2221 | 1,061,106.5447m | 299,332.2321m | 2+220.00 |
| 2222 | 1,061,105.5497m | 299,332.1327m | 2+221.00 |
| 2223 | 1,061,104.5546m | 299,332.0333m | 2+222.00 |
| 2224 | 1,061,103.5596m | 299,331.9339m | 2+223.00 |
| 2225 | 1,061,102.5645m | 299,331.8344m | 2+224.00 |
| 2226 | 1,061,101.5695m | 299,331.7350m | 2+225.00 |
| 2227 | 1,061,100.5745m | 299,331.6356m | 2+226.00 |
| 2228 | 1,061,099.5794m | 299,331.5362m | 2+227.00 |
| 2229 | 1,061,098.5844m | 299,331.4367m | 2+228.00 |
| 2230 | 1,061,097.5893m | 299,331.3373m | 2+229.00 |
| 2231 | 1,061,096.5943m | 299,331.2379m | 2+230.00 |
| 2232 | 1,061,095.5992m | 299,331.1385m | 2+231.00 |
| 2233 | 1,061,094.6042m | 299,331.0390m | 2+232.00 |
| 2234 | 1,061,093.6091m | 299,330.9396m | 2+233.00 |
| 2235 | 1,061,092.6141m | 299,330.8402m | 2+234.00 |
| 2236 | 1,061,091.6190m | 299,330.7408m | 2+235.00 |
| 2237 | 1,061,090.6240m | 299,330.6413m | 2+236.00 |
| 2238 | 1,061,089.6290m | 299,330.5419m | 2+237.00 |
| 2239 | 1,061,088.6339m | 299,330.4425m | 2+238.00 |
| 2240 | 1,061,087.6389m | 299,330.3431m | 2+239.00 |
| 2241 | 1,061,086.6438m | 299,330.2436m | 2+240.00 |
| 2242 | 1,061,085.6488m | 299,330.1442m | 2+241.00 |
| 2243 | 1,061,084.6537m | 299,330.0448m | 2+242.00 |
| 2244 | 1,061,083.6587m | 299,329.9453m | 2+243.00 |
| 2245 | 1,061,082.6636m | 299,329.8459m | 2+244.00 |
| 2246 | 1,061,081.6686m | 299,329.7465m | 2+245.00 |
| 2247 | 1,061,080.6736m | 299,329.6471m | 2+246.00 |
| 2248 | 1,061,079.6785m | 299,329.5476m | 2+247.00 |
| 2249 | 1,061,078.6835m | 299,329.4482m | 2+248.00 |
| 2250 | 1,061,077.6884m | 299,329.3488m | 2+249.00 |
| 2251 | 1,061,076.6934m | 299,329.2494m | 2+250.00 |
| 2252 | 1,061,075.6983m | 299,329.1499m | 2+251.00 |
| 2253 | 1,061,074.7033m | 299,329.0505m | 2+252.00 |
| 2254 | 1,061,073.7082m | 299,328.9511m | 2+253.00 |
| 2255 | 1,061,072.7132m | 299,328.8517m | 2+254.00 |
| 2256 | 1,061,071.7181m | 299,328.7522m | 2+255.00 |
| 2257 | 1,061,070.7231m | 299,328.6528m | 2+256.00 |
| 2258 | 1,061,069.7281m | 299,328.5534m | 2+257.00 |
| 2259 | 1,061,068.7330m | 299,328.4540m | 2+258.00 |
| 2260 | 1,061,067.7380m | 299,328.3545m | 2+259.00 |
| 2261 | 1,061,066.7429m | 299,328.2551m | 2+260.00 |
| 2262 | 1,061,065.7479m | 299,328.1557m | 2+261.00 |
| 2263 | 1,061,064.7528m | 299,328.0563m | 2+262.00 |
| 2264 | 1,061,063.7578m | 299,327.9568m | 2+263.00 |
| 2265 | 1,061,062.7627m | 299,327.8574m | 2+264.00 |
| 2266 | 1,061,061.7677m | 299,327.7580m | 2+265.00 |
| 2267 | 1,061,060.7727m | 299,327.6586m | 2+266.00 |
| 2268 | 1,061,059.7776m | 299,327.5591m | 2+267.00 |
| 2269 | 1,061,058.7826m | 299,327.4597m | 2+268.00 |
| 2270 | 1,061,057.7875m | 299,327.3603m | 2+269.00 |
| 2271 | 1,061,056.7925m | 299,327.2609m | 2+270.00 |
| 2272 | 1,061,055.7974m | 299,327.1614m | 2+271.00 |
| 2273 | 1,061,054.8024m | 299,327.0620m | 2+272.00 |
| 2274 | 1,061,053.8073m | 299,326.9626m | 2+273.00 |
| 2275 | 1,061,052.8123m | 299,326.8632m | 2+274.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2276 | 1,061,051.8172m | 299,326.7637m | 2+275.00 |
| 2277 | 1,061,050.8222m | 299,326.6643m | 2+276.00 |
| 2278 | 1,061,049.8272m | 299,326.5649m | 2+277.00 |
| 2279 | 1,061,048.8321m | 299,326.4655m | 2+278.00 |
| 2280 | 1,061,047.8371m | 299,326.3660m | 2+279.00 |
| 2281 | 1,061,046.8420m | 299,326.2666m | 2+280.00 |
| 2282 | 1,061,045.8470m | 299,326.1672m | 2+281.00 |
| 2283 | 1,061,044.8519m | 299,326.0678m | 2+282.00 |
| 2284 | 1,061,043.8569m | 299,325.9683m | 2+283.00 |
| 2285 | 1,061,042.8618m | 299,325.8689m | 2+284.00 |
| 2286 | 1,061,041.8668m | 299,325.7695m | 2+285.00 |
| 2287 | 1,061,040.8718m | 299,325.6701m | 2+286.00 |
| 2288 | 1,061,039.8767m | 299,325.5706m | 2+287.00 |
| 2289 | 1,061,038.8817m | 299,325.4712m | 2+288.00 |
| 2290 | 1,061,037.8866m | 299,325.3718m | 2+289.00 |
| 2291 | 1,061,036.8916m | 299,325.2724m | 2+290.00 |
| 2292 | 1,061,035.8965m | 299,325.1729m | 2+291.00 |
| 2293 | 1,061,034.9015m | 299,325.0735m | 2+292.00 |
| 2294 | 1,061,033.9064m | 299,324.9741m | 2+293.00 |
| 2295 | 1,061,032.9114m | 299,324.8747m | 2+294.00 |
| 2296 | 1,061,031.9163m | 299,324.7752m | 2+295.00 |
| 2297 | 1,061,030.9213m | 299,324.6758m | 2+296.00 |
| 2298 | 1,061,029.9263m | 299,324.5764m | 2+297.00 |
| 2299 | 1,061,028.9312m | 299,324.4770m | 2+298.00 |
| 2300 | 1,061,028.0841m | 299,324.7902m | 2+299.00 |
| 2301 | 1,061,027.5551m | 299,325.6388m | 2+300.00 |
| 2302 | 1,061,027.0159m | 299,326.4694m | 2+301.00 |
| 2303 | 1,061,026.0159m | 299,326.4795m | 2+302.00 |
| 2304 | 1,061,025.0159m | 299,326.4811m | 2+303.00 |
| 2305 | 1,061,024.0211m | 299,326.4818m | 2+304.00 |
| 2306 | 1,061,023.0162m | 299,326.4815m | 2+305.00 |
| 2307 | 1,061,022.0159m | 299,326.4804m | 2+306.00 |
| 2308 | 1,061,021.0164m | 299,326.4510m | 2+307.00 |
| 2309 | 1,061,020.0287m | 299,326.2950m | 2+308.00 |
| 2310 | 1,061,019.1930m | 299,325.7472m | 2+309.00 |
| 2311 | 1,061,018.4006m | 299,325.1379m | 2+310.00 |
| 2312 | 1,061,017.6150m | 299,324.5191m | 2+311.00 |
| 2313 | 1,061,016.8298m | 299,323.8999m | 2+312.00 |
| 2314 | 1,061,016.0133m | 299,323.3293m | 2+313.00 |
| 2315 | 1,061,015.0594m | 299,323.0909m | 2+314.00 |
| 2316 | 1,061,014.0643m | 299,322.9914m | 2+315.00 |
| 2317 | 1,061,013.0693m | 299,322.8920m | 2+316.00 |
| 2318 | 1,061,012.0743m | 299,322.7926m | 2+317.00 |
| 2319 | 1,061,011.0792m | 299,322.6932m | 2+318.00 |
| 2320 | 1,061,010.0842m | 299,322.5937m | 2+319.00 |
| 2321 | 1,061,009.0891m | 299,322.4943m | 2+320.00 |
| 2322 | 1,061,008.0941m | 299,322.3949m | 2+321.00 |
| 2323 | 1,061,007.0990m | 299,322.2955m | 2+322.00 |
| 2324 | 1,061,006.1040m | 299,322.1960m | 2+323.00 |
| 2325 | 1,061,005.1089m | 299,322.0966m | 2+324.00 |
| 2326 | 1,061,004.1139m | 299,321.9972m | 2+325.00 |
| 2327 | 1,061,003.1188m | 299,321.8978m | 2+326.00 |
| 2328 | 1,061,002.1238m | 299,321.7983m | 2+327.00 |
| 2329 | 1,061,001.1288m | 299,321.6989m | 2+328.00 |
| 2330 | 1,061,000.1337m | 299,321.5995m | 2+329.00 |
| 2331 | 1,060,999.1387m | 299,321.5001m | 2+330.00 |
| 2332 | 1,060,998.1436m | 299,321.4006m | 2+331.00 |
| 2333 | 1,060,997.1486m | 299,321.3012m | 2+332.00 |
| 2334 | 1,060,996.1535m | 299,321.2018m | 2+333.00 |
| 2335 | 1,060,995.1585m | 299,321.1024m | 2+334.00 |
| 2336 | 1,060,994.1634m | 299,321.0029m | 2+335.00 |
| 2337 | 1,060,993.1684m | 299,320.9035m | 2+336.00 |
| 2338 | 1,060,992.1734m | 299,320.8041m | 2+337.00 |
| 2339 | 1,060,991.1783m | 299,320.7047m | 2+338.00 |
| 2340 | 1,060,990.1833m | 299,320.6052m | 2+339.00 |
| 2341 | 1,060,989.1882m | 299,320.5058m | 2+340.00 |
| 2342 | 1,060,988.1932m | 299,320.4064m | 2+341.00 |
| 2343 | 1,060,987.1981m | 299,320.3070m | 2+342.00 |
| 2344 | 1,060,986.2031m | 299,320.2075m | 2+343.00 |
| 2345 | 1,060,985.2080m | 299,320.1081m | 2+344.00 |
| 2346 | 1,060,984.2130m | 299,320.0087m | 2+345.00 |
| 2347 | 1,060,983.2179m | 299,319.9093m | 2+346.00 |
| 2348 | 1,060,982.2229m | 299,319.8098m | 2+347.00 |
| 2349 | 1,060,981.2279m | 299,319.7104m | 2+348.00 |
| 2350 | 1,060,980.2328m | 299,319.6110m | 2+349.00 |
| 2351 | 1,060,979.2378m | 299,319.5116m | 2+350.00 |
| 2352 | 1,060,978.2427m | 299,319.4121m | 2+351.00 |
| 2353 | 1,060,977.2477m | 299,319.3127m | 2+352.00 |
| 2354 | 1,060,976.2526m | 299,319.2133m | 2+353.00 |
| 2355 | 1,060,975.2576m | 299,319.1139m | 2+354.00 |
| 2356 | 1,060,974.2625m | 299,319.0144m | 2+355.00 |
| 2357 | 1,060,973.2675m | 299,318.9150m | 2+356.00 |
| 2358 | 1,060,972.2725m | 299,318.8156m | 2+357.00 |
| 2359 | 1,060,971.2774m | 299,318.7162m | 2+358.00 |
| 2360 | 1,060,970.2824m | 299,318.6167m | 2+359.00 |
| 2361 | 1,060,969.2873m | 299,318.5173m | 2+360.00 |
| 2362 | 1,060,968.2923m | 299,318.4179m | 2+361.00 |
| 2363 | 1,060,967.2972m | 299,318.3185m | 2+362.00 |
| 2364 | 1,060,966.3022m | 299,318.2190m | 2+363.00 |
| 2365 | 1,060,965.3071m | 299,318.1196m | 2+364.00 |
| 2366 | 1,060,964.3121m | 299,318.0202m | 2+365.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2367 | 1,060,963.3170m | 299,317.9208m | 2+366.00 |
| 2368 | 1,060,962.3220m | 299,317.8213m | 2+367.00 |
| 2369 | 1,060,961.3270m | 299,317.7219m | 2+368.00 |
| 2370 | 1,060,960.3319m | 299,317.6225m | 2+369.00 |
| 2371 | 1,060,959.3369m | 299,317.5231m | 2+370.00 |
| 2372 | 1,060,958.3418m | 299,317.4236m | 2+371.00 |
| 2373 | 1,060,957.3468m | 299,317.3242m | 2+372.00 |
| 2374 | 1,060,956.3517m | 299,317.2248m | 2+373.00 |
| 2375 | 1,060,955.3567m | 299,317.1254m | 2+374.00 |
| 2376 | 1,060,954.3616m | 299,317.0259m | 2+375.00 |
| 2377 | 1,060,953.3666m | 299,316.9265m | 2+376.00 |
| 2378 | 1,060,952.3716m | 299,316.8271m | 2+377.00 |
| 2379 | 1,060,951.3765m | 299,316.7276m | 2+378.00 |
| 2380 | 1,060,950.3815m | 299,316.6282m | 2+379.00 |
| 2381 | 1,060,949.3864m | 299,316.5288m | 2+380.00 |
| 2382 | 1,060,948.3914m | 299,316.4294m | 2+381.00 |
| 2383 | 1,060,947.3963m | 299,316.3299m | 2+382.00 |
| 2384 | 1,060,946.4013m | 299,316.2305m | 2+383.00 |
| 2385 | 1,060,945.4062m | 299,316.1311m | 2+384.00 |
| 2386 | 1,060,944.4112m | 299,316.0317m | 2+385.00 |
| 2387 | 1,060,943.4161m | 299,315.9322m | 2+386.00 |
| 2388 | 1,060,942.4211m | 299,315.8328m | 2+387.00 |
| 2389 | 1,060,941.4261m | 299,315.7334m | 2+388.00 |
| 2390 | 1,060,940.4310m | 299,315.6340m | 2+389.00 |
| 2391 | 1,060,939.4360m | 299,315.5345m | 2+390.00 |
| 2392 | 1,060,938.4409m | 299,315.4351m | 2+391.00 |
| 2393 | 1,060,937.4459m | 299,315.3357m | 2+392.00 |
| 2394 | 1,060,936.4508m | 299,315.2363m | 2+393.00 |
| 2395 | 1,060,935.4558m | 299,315.1368m | 2+394.00 |
| 2396 | 1,060,934.4607m | 299,315.0374m | 2+395.00 |
| 2397 | 1,060,933.4657m | 299,314.9380m | 2+396.00 |
| 2398 | 1,060,932.4707m | 299,314.8386m | 2+397.00 |
| 2399 | 1,060,931.4756m | 299,314.7391m | 2+398.00 |
| 2400 | 1,060,930.4806m | 299,314.6397m | 2+399.00 |
| 2401 | 1,060,929.4855m | 299,314.5403m | 2+400.00 |
| 2402 | 1,060,928.4905m | 299,314.4409m | 2+401.00 |
| 2403 | 1,060,927.4954m | 299,314.3414m | 2+402.00 |
| 2404 | 1,060,926.5004m | 299,314.2420m | 2+403.00 |
| 2405 | 1,060,925.5053m | 299,314.1426m | 2+404.00 |
| 2406 | 1,060,924.5103m | 299,314.0432m | 2+405.00 |
| 2407 | 1,060,923.5152m | 299,313.9437m | 2+406.00 |
| 2408 | 1,060,922.5202m | 299,313.8443m | 2+407.00 |
| 2409 | 1,060,921.5252m | 299,313.7449m | 2+408.00 |
| 2410 | 1,060,920.5301m | 299,313.6455m | 2+409.00 |
| 2411 | 1,060,919.5351m | 299,313.5460m | 2+410.00 |
| 2412 | 1,060,918.5400m | 299,313.4466m | 2+411.00 |
| 2413 | 1,060,917.5450m | 299,313.3472m | 2+412.00 |
| 2414 | 1,060,916.5499m | 299,313.2478m | 2+413.00 |
| 2415 | 1,060,915.5549m | 299,313.1483m | 2+414.00 |
| 2416 | 1,060,914.5598m | 299,313.0489m | 2+415.00 |
| 2417 | 1,060,913.5648m | 299,312.9495m | 2+416.00 |
| 2418 | 1,060,912.5698m | 299,312.8501m | 2+417.00 |
| 2419 | 1,060,911.5747m | 299,312.7506m | 2+418.00 |
| 2420 | 1,060,910.5797m | 299,312.6512m | 2+419.00 |
| 2421 | 1,060,909.5846m | 299,312.5518m | 2+420.00 |
| 2422 | 1,060,908.5896m | 299,312.4524m | 2+421.00 |
| 2423 | 1,060,907.5945m | 299,312.3529m | 2+422.00 |
| 2424 | 1,060,906.5995m | 299,312.2535m | 2+423.00 |
| 2425 | 1,060,905.6044m | 299,312.1541m | 2+424.00 |
| 2426 | 1,060,904.6094m | 299,312.0547m | 2+425.00 |
| 2427 | 1,060,903.6143m | 299,311.9552m | 2+426.00 |
| 2428 | 1,060,902.6193m | 299,311.8558m | 2+427.00 |
| 2429 | 1,060,901.6243m | 299,311.7564m | 2+428.00 |
| 2430 | 1,060,900.6292m | 299,311.6570m | 2+429.00 |
| 2431 | 1,060,899.6342m | 299,311.5575m | 2+430.00 |
| 2432 | 1,060,898.6391m | 299,311.4581m | 2+431.00 |
| 2433 | 1,060,897.6441m | 299,311.3587m | 2+432.00 |
| 2434 | 1,060,896.6490m | 299,311.2593m | 2+433.00 |
| 2435 | 1,060,895.6540m | 299,311.1598m | 2+434.00 |
| 2436 | 1,060,894.6589m | 299,311.0604m | 2+435.00 |
| 2437 | 1,060,893.6639m | 299,310.9610m | 2+436.00 |
| 2438 | 1,060,892.6689m | 299,310.8616m | 2+437.00 |
| 2439 | 1,060,891.6738m | 299,310.7621m | 2+438.00 |
| 2440 | 1,060,890.6788m | 299,310.6627m | 2+439.00 |
| 2441 | 1,060,889.6837m | 299,310.5633m | 2+440.00 |
| 2442 | 1,060,888.6887m | 299,310.4639m | 2+441.00 |
| 2443 | 1,060,887.6936m | 299,310.3644m | 2+442.00 |
| 2444 | 1,060,886.6986m | 299,310.2650m | 2+443.00 |
| 2445 | 1,060,885.7035m | 299,310.1656m | 2+444.00 |
| 2446 | 1,060,884.7085m | 299,310.0661m | 2+445.00 |
| 2447 | 1,060,883.7134m | 299,309.9667m | 2+446.00 |
| 2448 | 1,060,882.7184m | 299,309.8673m | 2+447.00 |
| 2449 | 1,060,881.7234m | 299,309.7679m | 2+448.00 |
| 2450 | 1,060,880.7283m | 299,309.6684m | 2+449.00 |
| 2451 | 1,060,879.7333m | 299,309.5690m | 2+450.00 |
| 2452 | 1,060,878.7382m | 299,309.4696m | 2+451.00 |
| 2453 | 1,060,877.7432m | 299,309.3702m | 2+452.00 |
| 2454 | 1,060,876.7481m | 299,309.2707m | 2+453.00 |
| 2455 | 1,060,875.7531m | 299,309.1713m | 2+454.00 |
| 2456 | 1,060,874.7580m | 299,309.0719m | 2+455.00 |
| 2457 | 1,060,873.7630m | 299,308.9725m | 2+456.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2458 | 1,060,872.7680m | 299,308.8730m | 2+457.00 |
| 2459 | 1,060,871.7729m | 299,308.7736m | 2+458.00 |
| 2460 | 1,060,870.7779m | 299,308.6742m | 2+459.00 |
| 2461 | 1,060,869.7828m | 299,308.5748m | 2+460.00 |
| 2462 | 1,060,868.7878m | 299,308.4753m | 2+461.00 |
| 2463 | 1,060,867.7927m | 299,308.3759m | 2+462.00 |
| 2464 | 1,060,866.7977m | 299,308.2765m | 2+463.00 |
| 2465 | 1,060,865.8026m | 299,308.1771m | 2+464.00 |
| 2466 | 1,060,864.8076m | 299,308.0776m | 2+465.00 |
| 2467 | 1,060,863.8125m | 299,307.9782m | 2+466.00 |
| 2468 | 1,060,862.8175m | 299,307.8788m | 2+467.00 |
| 2469 | 1,060,861.8225m | 299,307.7794m | 2+468.00 |
| 2470 | 1,060,860.8274m | 299,307.6799m | 2+469.00 |
| 2471 | 1,060,859.8324m | 299,307.5805m | 2+470.00 |
| 2472 | 1,060,858.8373m | 299,307.4811m | 2+471.00 |
| 2473 | 1,060,857.8423m | 299,307.3817m | 2+472.00 |
| 2474 | 1,060,856.8472m | 299,307.2822m | 2+473.00 |
| 2475 | 1,060,855.8522m | 299,307.1828m | 2+474.00 |
| 2476 | 1,060,854.8571m | 299,307.0834m | 2+475.00 |
| 2477 | 1,060,853.8621m | 299,306.9840m | 2+476.00 |
| 2478 | 1,060,852.8671m | 299,306.8845m | 2+477.00 |
| 2479 | 1,060,851.8720m | 299,306.7851m | 2+478.00 |
| 2480 | 1,060,850.8770m | 299,306.6857m | 2+479.00 |
| 2481 | 1,060,849.8819m | 299,306.5863m | 2+480.00 |
| 2482 | 1,060,848.8869m | 299,306.4868m | 2+481.00 |
| 2483 | 1,060,847.8918m | 299,306.3874m | 2+482.00 |
| 2484 | 1,060,846.8968m | 299,306.2880m | 2+483.00 |
| 2485 | 1,060,845.9017m | 299,306.1886m | 2+484.00 |
| 2486 | 1,060,844.9067m | 299,306.0891m | 2+485.00 |
| 2487 | 1,060,843.9116m | 299,305.9897m | 2+486.00 |
| 2488 | 1,060,842.9166m | 299,305.8903m | 2+487.00 |
| 2489 | 1,060,841.9216m | 299,305.7909m | 2+488.00 |
| 2490 | 1,060,840.9265m | 299,305.6914m | 2+489.00 |
| 2491 | 1,060,839.9315m | 299,305.5920m | 2+490.00 |
| 2492 | 1,060,838.9364m | 299,305.4926m | 2+491.00 |
| 2493 | 1,060,837.9414m | 299,305.3932m | 2+492.00 |
| 2494 | 1,060,836.9463m | 299,305.2937m | 2+493.00 |
| 2495 | 1,060,835.9513m | 299,305.1943m | 2+494.00 |
| 2496 | 1,060,834.9562m | 299,305.0949m | 2+495.00 |
| 2497 | 1,060,833.9612m | 299,304.9955m | 2+496.00 |
| 2498 | 1,060,832.9661m | 299,304.8960m | 2+497.00 |
| 2499 | 1,060,831.9711m | 299,304.7966m | 2+498.00 |
| 2500 | 1,060,830.9761m | 299,304.6972m | 2+499.00 |
| 2501 | 1,060,829.9810m | 299,304.5978m | 2+500.00 |
| 2502 | 1,060,828.9860m | 299,304.4983m | 2+501.00 |
| 2503 | 1,060,827.9909m | 299,304.3989m | 2+502.00 |
| 2504 | 1,060,826.9959m | 299,304.2995m | 2+503.00 |
| 2505 | 1,060,826.0008m | 299,304.2001m | 2+504.00 |
| 2506 | 1,060,825.0058m | 299,304.1006m | 2+505.00 |
| 2507 | 1,060,824.0107m | 299,304.0012m | 2+506.00 |
| 2508 | 1,060,823.0157m | 299,303.9018m | 2+507.00 |
| 2509 | 1,060,822.0207m | 299,303.8023m | 2+508.00 |
| 2510 | 1,060,821.0256m | 299,303.7029m | 2+509.00 |
| 2511 | 1,060,820.0306m | 299,303.6035m | 2+510.00 |
| 2512 | 1,060,819.0355m | 299,303.5041m | 2+511.00 |
| 2513 | 1,060,818.0405m | 299,303.4046m | 2+512.00 |
| 2514 | 1,060,817.0454m | 299,303.3052m | 2+513.00 |
| 2515 | 1,060,816.0504m | 299,303.2058m | 2+514.00 |
| 2516 | 1,060,815.0553m | 299,303.1064m | 2+515.00 |
| 2517 | 1,060,814.0603m | 299,303.0069m | 2+516.00 |
| 2518 | 1,060,813.0652m | 299,302.9075m | 2+517.00 |
| 2519 | 1,060,812.0702m | 299,302.8081m | 2+518.00 |
| 2520 | 1,060,811.0752m | 299,302.7087m | 2+519.00 |
| 2521 | 1,060,810.0801m | 299,302.6092m | 2+520.00 |
| 2522 | 1,060,809.0851m | 299,302.5098m | 2+521.00 |
| 2523 | 1,060,808.0900m | 299,302.4104m | 2+522.00 |
| 2524 | 1,060,807.0950m | 299,302.3110m | 2+523.00 |
| 2525 | 1,060,806.0999m | 299,302.2115m | 2+524.00 |
| 2526 | 1,060,805.1049m | 299,302.1121m | 2+525.00 |
| 2527 | 1,060,804.1098m | 299,302.0127m | 2+526.00 |
| 2528 | 1,060,803.1148m | 299,301.9133m | 2+527.00 |
| 2529 | 1,060,802.1198m | 299,301.8138m | 2+528.00 |
| 2530 | 1,060,801.1247m | 299,301.7144m | 2+529.00 |
| 2531 | 1,060,800.1297m | 299,301.6150m | 2+530.00 |
| 2532 | 1,060,799.1346m | 299,301.5156m | 2+531.00 |
| 2533 | 1,060,798.1396m | 299,301.4161m | 2+532.00 |
| 2534 | 1,060,797.1445m | 299,301.3167m | 2+533.00 |
| 2535 | 1,060,796.1495m | 299,301.2173m | 2+534.00 |
| 2536 | 1,060,795.1544m | 299,301.1179m | 2+535.00 |
| 2537 | 1,060,794.1594m | 299,301.0184m | 2+536.00 |
| 2538 | 1,060,793.1643m | 299,300.9190m | 2+537.00 |
| 2539 | 1,060,792.1693m | 299,300.8196m | 2+538.00 |
| 2540 | 1,060,791.1743m | 299,300.7202m | 2+539.00 |
| 2541 | 1,060,790.1792m | 299,300.6207m | 2+540.00 |
| 2542 | 1,060,789.1842m | 299,300.5213m | 2+541.00 |
| 2543 | 1,060,788.1891m | 299,300.4219m | 2+542.00 |
| 2544 | 1,060,787.1941m | 299,300.3225m | 2+543.00 |
| 2545 | 1,060,786.1990m | 299,300.2230m | 2+544.00 |
| 2546 | 1,060,785.2040m | 299,300.1236m | 2+545.00 |
| 2547 | 1,060,784.2089m | 299,300.0242m | 2+546.00 |
| 2548 | 1,060,783.2139m | 299,299.9248m | 2+547.00 |
| 2549 | 1,060,782.2189m | 299,299.8253m | 2+548.00 |
| 2550 | 1,060,781.2238m | 299,299.7259m | 2+549.00 |
| 2551 | 1,060,780.2288m | 299,299.6265m | 2+550.00 |
| 2552 | 1,060,779.2337m | 299,299.5271m | 2+551.00 |
| 2553 | 1,060,778.2387m | 299,299.4276m | 2+552.00 |
| 2554 | 1,060,777.2436m | 299,299.3282m | 2+553.00 |
| 2555 | 1,060,776.2486m | 299,299.2288m | 2+554.00 |
| 2556 | 1,060,775.2535m | 299,299.1294m | 2+555.00 |
| 2557 | 1,060,774.2585m | 299,299.0299m | 2+556.00 |
| 2558 | 1,060,773.2634m | 299,298.9305m | 2+557.00 |
| 2559 | 1,060,772.2684m | 299,298.8311m | 2+558.00 |
| 2560 | 1,060,771.2734m | 299,298.7317m | 2+559.00 |
| 2561 | 1,060,770.2783m | 299,298.6322m | 2+560.00 |
| 2562 | 1,060,769.2833m | 299,298.5328m | 2+561.00 |
| 2563 | 1,060,768.2882m | 299,298.4334m | 2+562.00 |
| 2564 | 1,060,767.2932m | 299,298.3340m | 2+563.00 |
| 2565 | 1,060,766.2981m | 299,298.2345m | 2+564.00 |
| 2566 | 1,060,765.3031m | 299,298.1351m | 2+565.00 |
| 2567 | 1,060,764.3080m | 299,298.0357m | 2+566.00 |
| 2568 | 1,060,763.3130m | 299,297.9363m | 2+567.00 |
| 2569 | 1,060,762.3180m | 299,297.8368m | 2+568.00 |
| 2570 | 1,060,761.3229m | 299,297.7374m | 2+569.00 |
| 2571 | 1,060,760.3279m | 299,297.6380m | 2+570.00 |
| 2572 | 1,060,759.3328m | 299,297.5386m | 2+571.00 |
| 2573 | 1,060,758.3378m | 299,297.4391m | 2+572.00 |
| 2574 | 1,060,757.3427m | 299,297.3397m | 2+573.00 |
| 2575 | 1,060,756.3477m | 299,297.2403m | 2+574.00 |
| 2576 | 1,060,755.3526m | 299,297.1408m | 2+575.00 |
| 2577 | 1,060,754.3576m | 299,297.0414m | 2+576.00 |
| 2578 | 1,060,753.3625m | 299,296.9420m | 2+577.00 |
| 2579 | 1,060,752.3675m | 299,296.8426m | 2+578.00 |
| 2580 | 1,060,751.3725m | 299,296.7431m | 2+579.00 |
| 2581 | 1,060,750.3774m | 299,296.6437m | 2+580.00 |
| 2582 | 1,060,749.3824m | 299,296.5443m | 2+581.00 |
| 2583 | 1,060,748.3873m | 299,296.4449m | 2+582.00 |
| 2584 | 1,060,747.3923m | 299,296.3454m | 2+583.00 |
| 2585 | 1,060,746.3972m | 299,296.2460m | 2+584.00 |
| 2586 | 1,060,745.4022m | 299,296.1466m | 2+585.00 |
| 2587 | 1,060,744.4071m | 299,296.0472m | 2+586.00 |
| 2588 | 1,060,743.4121m | 299,295.9477m | 2+587.00 |
| 2589 | 1,060,742.4171m | 299,295.8483m | 2+588.00 |
| 2590 | 1,060,741.4220m | 299,295.7489m | 2+589.00 |
| 2591 | 1,060,740.4270m | 299,295.6495m | 2+590.00 |
| 2592 | 1,060,739.4319m | 299,295.5500m | 2+591.00 |
| 2593 | 1,060,738.4369m | 299,295.4506m | 2+592.00 |
| 2594 | 1,060,737.4418m | 299,295.3512m | 2+593.00 |
| 2595 | 1,060,736.4468m | 299,295.2518m | 2+594.00 |
| 2596 | 1,060,735.4517m | 299,295.1523m | 2+595.00 |
| 2597 | 1,060,734.4567m | 299,295.0529m | 2+596.00 |
| 2598 | 1,060,733.4616m | 299,294.9535m | 2+597.00 |
| 2599 | 1,060,732.4666m | 299,294.8541m | 2+598.00 |
| 2600 | 1,060,731.4716m | 299,294.7546m | 2+599.00 |
| 2601 | 1,060,730.4765m | 299,294.6552m | 2+600.00 |
| 2602 | 1,060,729.4815m | 299,294.5558m | 2+601.00 |
| 2603 | 1,060,728.4864m | 299,294.4564m | 2+602.00 |
| 2604 | 1,060,727.4914m | 299,294.3569m | 2+603.00 |
| 2605 | 1,060,726.4963m | 299,294.2575m | 2+604.00 |
| 2606 | 1,060,725.5013m | 299,294.1581m | 2+605.00 |
| 2607 | 1,060,724.5062m | 299,294.0587m | 2+606.00 |
| 2608 | 1,060,723.5112m | 299,293.9592m | 2+607.00 |
| 2609 | 1,060,722.5162m | 299,293.8598m | 2+608.00 |
| 2610 | 1,060,721.5211m | 299,293.7604m | 2+609.00 |
| 2611 | 1,060,720.5261m | 299,293.6610m | 2+610.00 |
| 2612 | 1,060,719.5310m | 299,293.5615m | 2+611.00 |
| 2613 | 1,060,718.5360m | 299,293.4621m | 2+612.00 |
| 2614 | 1,060,717.5409m | 299,293.3627m | 2+613.00 |
| 2615 | 1,060,716.5459m | 299,293.2633m | 2+614.00 |
| 2616 | 1,060,715.5508m | 299,293.1638m | 2+615.00 |
| 2617 | 1,060,714.5558m | 299,293.0644m | 2+616.00 |
| 2618 | 1,060,713.5607m | 299,292.9650m | 2+617.00 |
| 2619 | 1,060,712.5657m | 299,292.8656m | 2+618.00 |
| 2620 | 1,060,711.5707m | 299,292.7661m | 2+619.00 |
| 2621 | 1,060,710.5756m | 299,292.6667m | 2+620.00 |
| 2622 | 1,060,709.5806m | 299,292.5673m | 2+621.00 |
| 2623 | 1,060,708.5855m | 299,292.4679m | 2+622.00 |
| 2624 | 1,060,707.5905m | 299,292.3684m | 2+623.00 |
| 2625 | 1,060,706.5954m | 299,292.2690m | 2+624.00 |
| 2626 | 1,060,705.6004m | 299,292.1696m | 2+625.00 |
| 2627 | 1,060,704.6053m | 299,292.0702m | 2+626.00 |
| 2628 | 1,060,703.6103m | 299,291.9707m | 2+627.00 |
| 2629 | 1,060,702.6153m | 299,291.8713m | 2+628.00 |
| 2630 | 1,060,701.6202m | 299,291.7719m | 2+629.00 |
| 2631 | 1,060,700.6252m | 299,291.6725m | 2+630.00 |
| 2632 | 1,060,699.6301m | 299,291.5727m | 2+631.00 |
| 2633 | 1,060,698.6352m | 299,291.4725m | 2+632.00 |
| 2634 | 1,060,697.6403m | 299,291.3718m | 2+633.00 |
| 2635 | 1,060,696.6454m | 299,291.2706m | 2+634.00 |
| 2636 | 1,060,695.6506m | 299,291.1689m | 2+635.00 |
| 2637 | 1,060,694.6558m | 299,291.0670m | 2+636.00 |
| 2638 | 1,060,693.6610m | 299,290.9651m | 2+637.00 |
| 2639 | 1,060,692.6662m | 299,290.8632m | 2+638.00 |
| 2640 | 1,060,691.6714m | 299,290.7613m | 2+639.00 |
| 2641 | 1,060,690.6766m | 299,290.6594m | 2+640.00 |
| 2642 | 1,060,689.6818m | 299,290.5575m | 2+641.00 |
| 2643 | 1,060,688.6870m | 299,290.4556m | 2+642.00 |
| 2644 | 1,060,687.6922m | 299,290.3537m | 2+643.00 |
| 2645 | 1,060,686.6974m | 299,290.2518m | 2+644.00 |
| 2646 | 1,060,685.7026m | 299,290.1499m | 2+645.00 |
| 2647 | 1,060,684.7078m | 299,290.0480m | 2+646.00 |
| 2648 | 1,060,683.7131m | 299,289.9461m | 2+647.00 |
| 2649 | 1,060,682.7183m | 299,289.8442m | 2+648.00 |
| 2650 | 1,060,681.7235m | 299,289.7423m | 2+649.00 |
| 2651 | 1,060,680.7287m | 299,289.6404m | 2+650.00 |
| 2652 | 1,060,679.7339m | 299,289.5385m | 2+651.00 |
| 2653 | 1,060,678.7391m | 299,289.4366m | 2+652.00 |
| 2654 | 1,060,677.7443m | 299,289.3347m | 2+653.00 |
| 2655 | 1,060,676.7495m | 299,289.2328m | 2+654.00 |
| 2656 | 1,060,675.7547m | 299,289.1309m | 2+655.00 |
| 2657 | 1,060,674.7599m | 299,289.0290m | 2+656.00 |
| 2658 | 1,060,673.7651m | 299,288.9271m | 2+657.00 |
| 2659 | 1,060,672.7703m | 299,288.8252m | 2+658.00 |
| 2660 | 1,060,671.7755m | 299,288.7233m | 2+659.00 |
| 2661 | 1,060,670.7807m | 299,288.6214m | 2+660.00 |
| 2662 | 1,060,669.7859m | 299,288.5195m | 2+661.00 |
| 2663 | 1,060,668.7911m | 299,288.4176m | 2+662.00 |
| 2664 | 1,060,667.7963m | 299,288.3157m | 2+663.00 |
| 2665 | 1,060,666.8015m | 299,288.2138m | 2+664.00 |
| 2666 | 1,060,665.8067m | 299,288.1119m | 2+665.00 |
| 2667 | 1,060,664.8120m | 299,288.0100m | 2+666.00 |
| 2668 | 1,060,663.8172m | 299,287.9081m | 2+667.00 |
| 2669 | 1,060,662.8224m | 299,287.8062m | 2+668.00 |
| 2670 | 1,060,661.8276m | 299,287.7043m | 2+669.00 |
| 2671 | 1,060,660.8328m | 299,287.6024m | 2+670.00 |
| 2672 | 1,060,659.8380m | 299,287.5005m | 2+671.00 |
| 2673 | 1,060,658.8432m | 299,287.3986m | 2+672.00 |
| 2674 | 1,060,657.8484m | 299,287.2967m | 2+673.00 |
| 2675 | 1,060,656.8536m | 299,287.1948m | 2+674.00 |
| 2676 | 1,060,655.8588m | 299,287.0929m | 2+675.00 |
| 2677 | 1,060,654.8640m | 299,286.9910m | 2+676.00 |
| 2678 | 1,060,653.8692m | 299,286.8891m | 2+677.00 |
| 2679 | 1,060,652.8744m | 299,286.7872m | 2+678.00 |
| 2680 | 1,060,651.8796m | 299,286.6853m | 2+679.00 |
| 2681 | 1,060,650.8848m | 299,286.5834m | 2+680.00 |
| 2682 | 1,060,649.8900m | 299,286.4815m | 2+681.00 |
| 2683 | 1,060,648.8952m | 299,286.3796m | 2+682.00 |
| 2684 | 1,060,647.9004m | 299,286.2777m | 2+683.00 |
| 2685 | 1,060,646.9056m | 299,286.1758m | 2+684.00 |
| 2686 | 1,060,645.9109m | 299,286.0739m | 2+685.00 |
| 2687 | 1,060,644.9161m | 299,285.9720m | 2+686.00 |
| 2688 | 1,060,643.9213m | 299,285.8701m | 2+687.00 |
| 2689 | 1,060,642.9265m | 299,285.7682m | 2+688.00 |
| 2690 | 1,060,641.9317m | 299,285.6663m | 2+689.00 |
| 2691 | 1,060,640.9369m | 299,285.5644m | 2+690.00 |
| 2692 | 1,060,639.9421m | 299,285.4625m | 2+691.00 |
| 2693 | 1,060,638.9473m | 299,285.3606m | 2+692.00 |
| 2694 | 1,060,637.9525m | 299,285.2587m | 2+693.00 |
| 2695 | 1,060,636.9577m | 299,285.1568m | 2+694.00 |
| 2696 | 1,060,635.9629m | 299,285.0549m | 2+695.00 |
| 2697 | 1,060,634.9681m | 299,284.9530m | 2+696.00 |
| 2698 | 1,060,633.9733m | 299,284.8511m | 2+697.00 |
| 2699 | 1,060,632.9785m | 299,284.7492m | 2+698.00 |
| 2700 | 1,060,631.9837m | 299,284.6473m | 2+699.00 |
| 2701 | 1,060,630.9889m | 299,284.5454m | 2+700.00 |
| 2702 | 1,060,629.9941m | 299,284.4435m | 2+701.00 |
| 2703 | 1,060,628.9993m | 299,284.3416m | 2+702.00 |
| 2704 | 1,060,628.0045m | 299,284.2397m | 2+703.00 |
| 2705 | 1,060,627.0098m | 299,284.1378m | 2+704.00 |
| 2706 | 1,060,626.0150m | 299,284.0359m | 2+705.00 |
| 2707 | 1,060,625.0202m | 299,283.9340m | 2+706.00 |
| 2708 | 1,060,624.0254m | 299,283.8321m | 2+707.00 |
| 2709 | 1,060,623.0306m | 299,283.7302m | 2+708.00 |
| 2710 | 1,060,622.0358m | 299,283.6283m | 2+709.00 |
| 2711 | 1,060,621.0410m | 299,283.5264m | 2+710.00 |
| 2712 | 1,060,620.0462m | 299,283.4245m | 2+711.00 |
| 2713 | 1,060,619.0514m | 299,283.3226m | 2+712.00 |
| 2714 | 1,060,618.0566m | 299,283.2207m | 2+713.00 |
| 2715 | 1,060,617.0618m | 299,283.1188m | 2+714.00 |
| 2716 | 1,060,616.0670m | 299,283.0169m | 2+715.00 |
| 2717 | 1,060,615.0722m | 299,282.9150m | 2+716.00 |
| 2718 | 1,060,614.0774m | 299,282.8131m | 2+717.00 |
| 2719 | 1,060,613.0826m | 299,282.7112m | 2+718.00 |
| 2720 | 1,060,612.0878m | 299,282.6093m | 2+719.00 |
| 2721 | 1,060,611.0930m | 299,282.5074m | 2+720.00 |
| 2722 | 1,060,610.0982m | 299,282.4055m | 2+721.00 |
| 2723 | 1,060,609.1035m | 299,282.3036m | 2+722.00 |
| 2724 | 1,060,608.1087m | 299,282.2017m | 2+723.00 |
| 2725 | 1,060,607.1139m | 299,282.0998m | 2+724.00 |
| 2726 | 1,060,606.1191m | 299,281.9979m | 2+725.00 |
| 2727 | 1,060,605.1243m | 299,281.8960m | 2+726.00 |
| 2728 | 1,060,604.1295m | 299,281.7941m | 2+727.00 |
| 2729 | 1,060,603.1347m | 299,281.6922m | 2+728.00 |
| 2730 | 1,060,602.1399m | 299,281.5903m | 2+729.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2731 | 1,060,601.1451m | 299,281.4884m | 2+730.00 |
| 2732 | 1,060,600.1503m | 299,281.3865m | 2+731.00 |
| 2733 | 1,060,599.1555m | 299,281.2846m | 2+732.00 |
| 2734 | 1,060,598.1607m | 299,281.1827m | 2+733.00 |
| 2735 | 1,060,597.1659m | 299,281.0808m | 2+734.00 |
| 2736 | 1,060,596.1711m | 299,280.9789m | 2+735.00 |
| 2737 | 1,060,595.1763m | 299,280.8770m | 2+736.00 |
| 2738 | 1,060,594.1815m | 299,280.7751m | 2+737.00 |
| 2739 | 1,060,593.1867m | 299,280.6732m | 2+738.00 |
| 2740 | 1,060,592.1919m | 299,280.5713m | 2+739.00 |
| 2741 | 1,060,591.1971m | 299,280.4694m | 2+740.00 |
| 2742 | 1,060,590.2024m | 299,280.3675m | 2+741.00 |
| 2743 | 1,060,589.2076m | 299,280.2656m | 2+742.00 |
| 2744 | 1,060,588.2128m | 299,280.1637m | 2+743.00 |
| 2745 | 1,060,587.2180m | 299,280.0618m | 2+744.00 |
| 2746 | 1,060,586.2232m | 299,279.9599m | 2+745.00 |
| 2747 | 1,060,585.2284m | 299,279.8580m | 2+746.00 |
| 2748 | 1,060,584.2336m | 299,279.7561m | 2+747.00 |
| 2749 | 1,060,583.2388m | 299,279.6542m | 2+748.00 |
| 2750 | 1,060,582.2440m | 299,279.5523m | 2+749.00 |
| 2751 | 1,060,581.2492m | 299,279.4504m | 2+750.00 |
| 2752 | 1,060,580.2544m | 299,279.3485m | 2+751.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2753 | 1,060,579.2596m | 299,279.2466m | 2+752.00 |
| 2754 | 1,060,578.2648m | 299,279.1447m | 2+753.00 |
| 2755 | 1,060,577.2700m | 299,279.0428m | 2+754.00 |
| 2756 | 1,060,576.2752m | 299,278.9409m | 2+755.00 |
| 2757 | 1,060,575.2804m | 299,278.8390m | 2+756.00 |
| 2758 | 1,060,574.2856m | 299,278.7371m | 2+757.00 |
| 2759 | 1,060,573.2908m | 299,278.6352m | 2+758.00 |
| 2760 | 1,060,572.2960m | 299,278.5333m | 2+759.00 |
| 2761 | 1,060,571.3013m | 299,278.4314m | 2+760.00 |
| 2762 | 1,060,570.3065m | 299,278.3295m | 2+761.00 |
| 2763 | 1,060,569.3117m | 299,278.2276m | 2+762.00 |
| 2764 | 1,060,568.3169m | 299,278.1257m | 2+763.00 |
| 2765 | 1,060,567.3221m | 299,278.0238m | 2+764.00 |
| 2766 | 1,060,566.3273m | 299,277.9219m | 2+765.00 |
| 2767 | 1,060,565.3325m | 299,277.8200m | 2+766.00 |
| 2768 | 1,060,564.3377m | 299,277.7181m | 2+767.00 |
| 2769 | 1,060,563.3429m | 299,277.6162m | 2+768.00 |
| 2770 | 1,060,562.3481m | 299,277.5143m | 2+769.00 |
| 2771 | 1,060,561.3533m | 299,277.4124m | 2+770.00 |
| 2772 | 1,060,560.3585m | 299,277.3105m | 2+771.00 |
| 2773 | 1,060,559.3637m | 299,277.2086m | 2+772.00 |
| 2774 | 1,060,558.3689m | 299,277.1067m | 2+773.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2775 | 1,060,557.3741m | 299,277.0048m | 2+774.00 |
| 2776 | 1,060,556.3793m | 299,276.9029m | 2+775.00 |
| 2777 | 1,060,555.3845m | 299,276.8010m | 2+776.00 |
| 2778 | 1,060,554.3897m | 299,276.6991m | 2+777.00 |
| 2779 | 1,060,554.0337m | 299,276.0772m | 2+778.00 |
| 2780 | 1,060,554.1356m | 299,275.0824m | 2+779.00 |
| 2781 | 1,060,554.2375m | 299,274.0876m | 2+780.00 |
| 2782 | 1,060,554.3394m | 299,273.0928m | 2+781.00 |
| 2783 | 1,060,554.4413m | 299,272.0980m | 2+782.00 |
| 2784 | 1,060,554.5432m | 299,271.1032m | 2+783.00 |
| 2785 | 1,060,554.6451m | 299,270.1084m | 2+784.00 |
| 2786 | 1,060,554.7470m | 299,269.1136m | 2+785.00 |
| 2787 | 1,060,554.8489m | 299,268.1188m | 2+786.00 |
| 2788 | 1,060,554.9508m | 299,267.1240m | 2+787.00 |
| 2789 | 1,060,555.0527m | 299,266.1292m | 2+788.00 |
| 2790 | 1,060,555.1546m | 299,265.1345m | 2+789.00 |
| 2791 | 1,060,555.2565m | 299,264.1397m | 2+790.00 |
| 2792 | 1,060,555.2786m | 299,263.9232m | 2+790.22 |

**Cuadro N°2. Coordenadas del Área de afectación Acceso tanque de almacenamiento SIBUBE (C2) = 2.7971929 Ha (coordenadas adjuntas)**

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1 | 1,060,555.2786m | 299,263.9232m | 0+000.00 |
| 2 | 1,060,556.2734m | 299,264.0251m | 0+001.00 |
| 3 | 1,060,557.2682m | 299,264.1270m | 0+002.00 |
| 4 | 1,060,558.2630m | 299,264.2289m | 0+003.00 |
| 5 | 1,060,559.2578m | 299,264.3308m | 0+004.00 |
| 6 | 1,060,560.2526m | 299,264.4327m | 0+005.00 |
| 7 | 1,060,561.2474m | 299,264.5346m | 0+006.00 |
| 8 | 1,060,562.2422m | 299,264.6365m | 0+007.00 |
| 9 | 1,060,563.2370m | 299,264.7384m | 0+008.00 |
| 10 | 1,060,564.2318m | 299,264.8403m | 0+009.00 |
| 11 | 1,060,565.2266m | 299,264.9422m | 0+010.00 |
| 12 | 1,060,566.2214m | 299,265.0441m | 0+011.00 |
| 13 | 1,060,567.2162m | 299,265.1460m | 0+012.00 |
| 14 | 1,060,568.1068m | 299,265.1055m | 0+013.00 |
| 15 | 1,060,568.3105m | 299,264.1265m | 0+014.00 |
| 16 | 1,060,568.5142m | 299,263.1475m | 0+015.00 |
| 17 | 1,060,568.7179m | 299,262.1684m | 0+016.00 |
| 18 | 1,060,568.9216m | 299,261.1894m | 0+017.00 |
| 19 | 1,060,569.1253m | 299,260.2104m | 0+018.00 |
| 20 | 1,060,569.3291m | 299,259.2313m | 0+019.00 |
| 21 | 1,060,569.5328m | 299,258.2523m | 0+020.00 |
| 22 | 1,060,569.7365m | 299,257.2733m | 0+021.00 |
| 23 | 1,060,569.9402m | 299,256.2942m | 0+022.00 |
| 24 | 1,060,570.1439m | 299,255.3152m | 0+023.00 |
| 25 | 1,060,570.3476m | 299,254.3362m | 0+024.00 |
| 26 | 1,060,570.5513m | 299,253.3572m | 0+025.00 |
| 27 | 1,060,570.7551m | 299,252.3781m | 0+026.00 |
| 28 | 1,060,570.9588m | 299,251.3991m | 0+027.00 |
| 29 | 1,060,571.1625m | 299,250.4201m | 0+028.00 |
| 30 | 1,060,571.3662m | 299,249.4410m | 0+029.00 |
| 31 | 1,060,571.5699m | 299,248.4620m | 0+030.00 |
| 32 | 1,060,571.7736m | 299,247.4830m | 0+031.00 |
| 33 | 1,060,571.9773m | 299,246.5039m | 0+032.00 |
| 34 | 1,060,572.1811m | 299,245.5249m | 0+033.00 |
| 35 | 1,060,572.3848m | 299,244.5459m | 0+034.00 |
| 36 | 1,060,572.5885m | 299,243.5669m | 0+035.00 |
| 37 | 1,060,572.7922m | 299,242.5878m | 0+036.00 |
| 38 | 1,060,572.9959m | 299,241.6088m | 0+037.00 |
| 39 | 1,060,573.1996m | 299,240.6298m | 0+038.00 |
| 40 | 1,060,573.4034m | 299,239.6507m | 0+039.00 |
| 41 | 1,060,573.6071m | 299,238.6717m | 0+040.00 |
| 42 | 1,060,573.8108m | 299,237.6927m | 0+041.00 |
| 43 | 1,060,574.0145m | 299,236.7136m | 0+042.00 |
| 44 | 1,060,574.2182m | 299,235.7346m | 0+043.00 |
| 45 | 1,060,574.4219m | 299,234.7556m | 0+044.00 |
| 46 | 1,060,574.6256m | 299,233.7765m | 0+045.00 |
| 47 | 1,060,574.8294m | 299,232.7975m | 0+046.00 |
| 48 | 1,060,575.0331m | 299,231.8185m | 0+047.00 |
| 49 | 1,060,575.2368m | 299,230.8395m | 0+048.00 |
| 50 | 1,060,575.4405m | 299,229.8604m | 0+049.00 |
| 51 | 1,060,575.6442m | 299,228.8814m | 0+050.00 |
| 52 | 1,060,575.8479m | 299,227.9024m | 0+051.00 |
| 53 | 1,060,576.0516m | 299,226.9233m | 0+052.00 |
| 54 | 1,060,576.2554m | 299,225.9443m | 0+053.00 |
| 55 | 1,060,576.4591m | 299,224.9653m | 0+054.00 |
| 56 | 1,060,576.6628m | 299,223.9862m | 0+055.00 |
| 57 | 1,060,576.8665m | 299,223.0072m | 0+056.00 |
| 58 | 1,060,577.0702m | 299,222.0282m | 0+057.00 |
| 59 | 1,060,577.2739m | 299,221.0492m | 0+058.00 |
| 60 | 1,060,577.4776m | 299,220.0701m | 0+059.00 |
| 61 | 1,060,577.6814m | 299,219.0911m | 0+060.00 |
| 62 | 1,060,577.8851m | 299,218.1121m | 0+061.00 |
| 63 | 1,060,578.0888m | 299,217.1330m | 0+062.00 |
| 64 | 1,060,578.2925m | 299,216.1540m | 0+063.00 |
| 65 | 1,060,578.4962m | 299,215.1750m | 0+064.00 |
| 66 | 1,060,578.6999m | 299,214.1959m | 0+065.00 |
| 67 | 1,060,578.9036m | 299,213.2169m | 0+066.00 |
| 68 | 1,060,579.1074m | 299,212.2379m | 0+067.00 |
| 69 | 1,060,579.3111m | 299,211.2589m | 0+068.00 |
| 70 | 1,060,579.5148m | 299,210.2798m | 0+069.00 |
| 71 | 1,060,579.7185m | 299,209.3008m | 0+070.00 |
| 72 | 1,060,579.9222m | 299,208.3218m | 0+071.00 |
| 73 | 1,060,580.1259m | 299,207.3427m | 0+072.00 |
| 74 | 1,060,580.3296m | 299,206.3637m | 0+073.00 |
| 75 | 1,060,580.5334m | 299,205.3847m | 0+074.00 |
| 76 | 1,060,580.7371m | 299,204.4056m | 0+075.00 |
| 77 | 1,060,580.9408m | 299,203.4266m | 0+076.00 |
| 78 | 1,060,581.1445m | 299,202.4476m | 0+077.00 |
| 79 | 1,060,581.3482m | 299,201.4685m | 0+078.00 |
| 80 | 1,060,581.5519m | 299,200.4895m | 0+079.00 |
| 81 | 1,060,581.7556m | 299,199.5105m | 0+080.00 |
| 82 | 1,060,581.9594m | 299,198.5315m | 0+081.00 |
| 83 | 1,060,582.1631m | 299,197.5524m | 0+082.00 |
| 84 | 1,060,582.3668m | 299,196.5734m | 0+083.00 |
| 85 | 1,060,582.5705m | 299,195.5944m | 0+084.00 |
| 86 | 1,060,582.7742m | 299,194.6153m | 0+085.00 |
| 87 | 1,060,582.9779m | 299,193.6363m | 0+086.00 |
| 88 | 1,060,583.1817m | 299,192.6573m | 0+087.00 |
| 89 | 1,060,583.3854m | 299,191.6782m | 0+088.00 |
| 90 | 1,060,583.5891m | 299,190.6992m | 0+089.00 |
| 91 | 1,060,583.7928m | 299,189.7202m | 0+090.00 |
| 92 | 1,060,583.9965m | 299,188.7412m | 0+091.00 |
| 93 | 1,060,584.2002m | 299,187.7621m | 0+092.00 |
| 94 | 1,060,584.4039m | 299,186.7831m | 0+093.00 |
| 95 | 1,060,584.6077m | 299,185.8041m | 0+094.00 |
| 96 | 1,060,584.8114m | 299,184.8250m | 0+095.00 |
| 97 | 1,060,585.0151m | 299,183.8460m | 0+096.00 |
| 98 | 1,060,585.2188m | 299,182.8670m | 0+097.00 |
| 99 | 1,060,585.4225m | 299,181.8879m | 0+098.00 |
| 100 | 1,060,585.6262m | 299,180.9089m | 0+099.00 |
| 101 | 1,060,585.8299m | 299,179.9299m | 0+100.00 |
| 102 | 1,060,586.0337m | 299,178.9509m | 0+101.00 |
| 103 | 1,060,586.2374m | 299,177.9718m | 0+102.00 |
| 104 | 1,060,586.4411m | 299,176.9928m | 0+103.00 |
| 105 | 1,060,586.6448m | 299,176.0138m | 0+104.00 |
| 106 | 1,060,586.8485m | 299,175.0347m | 0+105.00 |
| 107 | 1,060,587.0522m | 299,174.0557m | 0+106.00 |
| 108 | 1,060,587.2559m | 299,173.0767m | 0+107.00 |
| 109 | 1,060,587.4597m | 299,172.0976m | 0+108.00 |
| 110 | 1,060,587.6634m | 299,171.1186m | 0+109.00 |
| 111 | 1,060,587.8671m | 299,170.1396m | 0+110.00 |
| 112 | 1,060,588.0708m | 299,169.1605m | 0+111.00 |
| 113 | 1,060,588.2745m | 299,168.1815m | 0+112.00 |
| 114 | 1,060,588.4782m | 299,167.2025m | 0+113.00 |
| 115 | 1,060,588.6819m | 299,166.2235m | 0+114.00 |
| 116 | 1,060,588.8857m | 299,165.2444m | 0+115.00 |
| 117 | 1,060,589.0894m | 299,164.2654m | 0+116.00 |
| 118 | 1,060,589.2931m | 299,163.2864m | 0+117.00 |
| 119 | 1,060,589.4968m | 299,162.3073m | 0+118.00 |
| 120 | 1,060,589.7005m | 299,161.3283m | 0+119.00 |
| 121 | 1,060,589.9042m | 299,160.3493m | 0+120.00 |
| 122 | 1,060,590.1079m | 299,159.3702m | 0+121.00 |
| 123 | 1,060,590.3117m | 299,158.3912m | 0+122.00 |
| 124 | 1,060,590.5154m | 299,157.4122m | 0+123.00 |
| 125 | 1,060,590.7191m | 299,156.4332m | 0+124.00 |
| 126 | 1,060,590.9228m | 299,155.4541m | 0+125.00 |
| 127 | 1,060,591.1265m | 299,154.4751m | 0+126.00 |
| 128 | 1,060,591.3302m | 299,153.4961m | 0+127.00 |
| 129 | 1,060,591.5339m | 299,152.5170m | 0+128.00 |
| 130 | 1,060,591.7377m | 299,151.5380m | 0+129.00 |
| 131 | 1,060,591.9414m | 299,150.5590m | 0+130.00 |
| 132 | 1,060,592.1451m | 299,149.5799m | 0+131.00 |
| 133 | 1,060,592.3488m | 299,148.6009m | 0+132.00 |
| 134 | 1,060,592.5525m | 299,147.6219m | 0+133.00 |
| 135 | 1,060,592.7562m | 299,146.6428m | 0+134.00 |
| 136 | 1,060,592.9600m | 299,145.6638m | 0+135.00 |
| 137 | 1,060,593.1637m | 299,144.6848m | 0+136.00 |
| 138 | 1,060,593.3674m | 299,143.7058m | 0+137.00 |
| 139 | 1,060,593.5711m | 299,142.7267m | 0+138.00 |
| 140 | 1,060,593.7748m | 299,141.7477m | 0+139.00 |
| 141 | 1,060,593.9785m | 299,140.7687m | 0+140.00 |
| 142 | 1,060,594.1822m | 299,139.7896m | 0+141.00 |
| 143 | 1,060,594.3860m | 299,138.8106m | 0+142.00 |
| 144 | 1,060,594.5897m | 299,137.8316m | 0+143.00 |
| 145 | 1,060,594.7934m | 299,136.8525m | 0+144.00 |
| 146 | 1,060,594.9971m | 299,135.8735m | 0+145.00 |
| 147 | 1,060,595.2008m | 299,134.8945m | 0+146.00 |
| 148 | 1,060,595.4045m | 299,133.9155m | 0+147.00 |
| 149 | 1,060,595.6082m | 299,132.9364m | 0+148.00 |
| 150 | 1,060,595.8120m | 299,131.9574m | 0+149.00 |
| 151 | 1,060,596.0157m | 299,130.9784m | 0+150.00 |
| 152 | 1,060,596.2194m | 299,129.9993m | 0+151.00 |
| 153 | 1,060,596.4231m | 299,129.0203m | 0+152.00 |
| 154 | 1,060,596.6268m | 299,128.0413m | 0+153.00 |
| 155 | 1,060,596.8305m | 299,127.0622m | 0+154.00 |
| 156 | 1,060,597.0342m | 299,126.0832m | 0+155.00 |
| 157 | 1,060,597.2380m | 299,125.1042m | 0+156.00 |
| 158 | 1,060,597.4417m | 299,124.1252m | 0+157.00 |
| 159 | 1,060,597.6454m | 299,123.1461m | 0+158.00 |
| 160 | 1,060,597.8491m | 299,122.1671m | 0+159.00 |
| 161 | 1,060,598.0528m | 299,121.1881m | 0+160.00 |
| 162 | 1,060,598.2565m | 299,120.2090m | 0+161.00 |
| 163 | 1,060,598.4602m | 299,119.2300m | 0+162.00 |
| 164 | 1,060,598.6640m | 299,118.2510m | 0+163.00 |
| 165 | 1,060,598.8677m | 299,117.2719m | 0+164.00 |
| 166 | 1,060,599.0714m | 299,116.2929m | 0+165.00 |
| 167 | 1,060,599.2751m | 299,115.3139m | 0+166.00 |
| 168 | 1,060,599.4788m | 299,114.3348m | 0+167.00 |
| 169 | 1,060,599.6825m | 299,113.3558m | 0+168.00 |
| 170 | 1,060,599.8862m | 299,112.3768m | 0+169.00 |
| 171 | 1,060,600.0900m | 299,111.3978m | 0+170.00 |
| 172 | 1,060,600.2937m | 299,110.4187m | 0+171.00 |
| 173 | 1,060,600.4974m | 299,109.4397m | 0+172.00 |
| 174 | 1,060,600.7011m | 299,108.4607m | 0+173.00 |
| 175 | 1,060,600.9048m | 299,107.4816m | 0+174.00 |
| 176 | 1,060,601.1085m | 299,106.5026m | 0+175.00 |
| 177 | 1,060,601.3122m | 299,105.5236m | 0+176.00 |
| 178 | 1,060,601.5160m | 299,104.5445m | 0+177.00 |
| 179 | 1,060,601.7197m | 299,103.5655m | 0+178.00 |
| 180 | 1,060,601.9234m | 299,102.5865m | 0+179.00 |
| 181 | 1,060,602.1284m | 299,101.6077m | 0+180.00 |
| 182 | 1,060,602.3382m | 299,100.6300m | 0+181.00 |
| 183 | 1,060,602.5531m | 299,099.6533m | 0+182.00 |
| 184 | 1,060,602.7730m | 299,098.6778m | 0+183.00 |
| 185 | 1,060,602.9980m | 299,097.7035m | 0+184.00 |
| 186 | 1,060,603.2280m | 299,096.7303m | 0+185.00 |
| 187 | 1,060,603.4630m | 299,095.7583m | 0+186.00 |
| 188 | 1,060,603.7030m | 299,094.7875m | 0+187.00 |
| 189 | 1,060,603.9481m | 299,093.8180m | 0+188.00 |
| 190 | 1,060,604.1981m | 299,092.8498m | 0+189.00 |
| 191 | 1,060,604.4531m | 299,091.8828m | 0+190.00 |
| 192 | 1,060,604.7132m | 299,090.9172m | 0+191.00 |
| 193 | 1,060,604.9782m | 299,089.9530m | 0+192.00 |
| 194 | 1,060,605.2482m | 299,088.9901m | 0+193.00 |
| 195 | 1,060,605.5232m | 299,088.0287m | 0+194.00 |
| 196 | 1,060,605.8031m | 299,087.0687m | 0+195.00 |
| 197 | 1,060,606.0880m | 299,086.1101m | 0+196.00 |
| 198 | 1,060,606.3778m | 299,085.1530m | 0+197.00 |
| 199 | 1,060,606.6726m | 299,084.1975m | 0+198.00 |
| 200 | 1,060,606.9723m | 299,083.2434m | 0+199.00 |
| 201 | 1,060,607.2769m | 299,082.2910m | 0+200.00 |
| 202 | 1,060,607.5864m | 299,081.3401m | 0+201.00 |
| 203 | 1,060,607.9009m | 299,080.3908m | 0+202.00 |
| 204 | 1,060,608.2202m | 299,079.4432m | 0+203.00 |
| 205 | 1,060,608.5445m | 299,078.4972m | 0+204.00 |
| 206 | 1,060,608.8736m | 299,077.5529m | 0+205.00 |
| 207 | 1,060,609.2076m | 299,076.6103m | 0+206.00 |
| 208 | 1,060,609.5464m | 299,075.6695m | 0+207.00 |
| 209 | 1,060,609.8901m | 299,074.7304m | 0+208.00 |
| 210 | 1,060,610.2387m | 299,073.7931m | 0+209.00 |
| 211 | 1,060,610.5921m | 299,072.8577m | 0+210.00 |
| 212 | 1,060,610.9503m | 299,071.9240m | 0+211.00 |
| 213 | 1,060,611.3134m | 299,070.9923m | 0+212.00 |
| 214 | 1,060,611.6812m | 299,070.0624m | 0+213.00 |
| 215 | 1,060,612.0539m | 299,069.1344m | 0+214.00 |
| 216 | 1,060,612.4313m | 299,068.2084m | 0+215.00 |
| 217 | 1,060,612.8135m | 299,067.2843m | 0+216.00 |
| 218 | 1,060,613.2005m | 299,066.3622m | 0+217.00 |
| 219 | 1,060,613.5922m | 299,065.4421m | 0+218.00 |
| 220 | 1,060,613.9887m | 299,064.5241m | 0+219.00 |
| 221 | 1,060,614.3899m | 299,063.6081m | 0+220.00 |
| 222 | 1,060,614.7959m | 299,062.6942m | 0+221.00 |
| 223 | 1,060,615.2065m | 299,061.7824m | 0+222.00 |
| 224 | 1,060,615.6219m | 299,060.8728m | 0+223.00 |
| 225 | 1,060,616.0420m | 299,059.9653m | 0+224.00 |
| 226 | 1,060,616.4667m | 299,059.0600m | 0+225.00 |
| 227 | 1,060,616.8961m | 299,058.1569m | 0+226.00 |
| 228 | 1,060,617.3302m | 299,057.2560m | 0+227.00 |
| 229 | 1,060,617.7689m | 299,056.3574m | 0+228.00 |
| 230 | 1,060,618.2123m | 299,055.4610m | 0+229.00 |
| 231 | 1,060,618.6603m | 299,054.5670m | 0+230.00 |
| 232 | 1,060,619.1128m | 299,053.6753m | 0+231.00 |
| 233 | 1,060,619.5700m | 299,052.7859m | 0+232.00 |
| 234 | 1,060,620.0318m | 299,051.8989m | 0+233.00 |
| 235 | 1,060,620.4982m | 299,051.0143m | 0+234.00 |
| 236 | 1,060,620.9691m | 299,050.1321m | 0+235.00 |
| 237 | 1,060,621.4446m | 299,049.2524m | 0+236.00 |
| 238 | 1,060,621.9246m | 299,048.3751m | 0+237.00 |
| 239 | 1,060,622.4091m | 299,047.5004m | 0+238.00 |
| 240 | 1,060,622.8981m | 299,046.6281m | 0+239.00 |
| 241 | 1,060,623.3917m | 299,045.7584m | 0+240.00 |
| 242 | 1,060,623.8897m | 299,044.8912m | 0+241.00 |
| 243 | 1,060,624.3922m | 299,044.0266m | 0+242.00 |
| 244 | 1,060,624.8992m | 299,043.1647m | 0+243.00 |
| 245 | 1,060,625.4106m | 299,042.3053m | 0+244.00 |
| 246 | 1,060,625.9264m | 299,041.4486m | 0+245.00 |
| 247 | 1,060,626.4466m | 299,040.5946m | 0+246.00 |
| 248 | 1,060,626.9713m | 299,039.7433m | 0+247.00 |
| 249 | 1,060,627.5004m | 299,038.8947m | 0+248.00 |
| 250 | 1,060,628.0338m | 299,038.0489m | 0+249.00 |
| 251 | 1,060,628.5716m | 299,037.2058m | 0+250.00 |
| 252 | 1,060,629.1137m | 299,036.3655m | 0+251.00 |
| 253 | 1,060,629.6602m | 299,035.5280m | 0+252.00 |
| 254 | 1,060,630.2110m | 299,034.6934m | 0+253.00 |
| 255 | 1,060,630.7660m | 299,033.8616m | 0+254.00 |
| 256 | 1,060,631.3254m | 299,033.0327m | 0+255.00 |
| 257 | 1,060,631.8891m | 299,032.2067m | 0+256.00 |
| 258 | 1,060,632.4570m | 299,031.3836m | 0+257.00 |
| 259 | 1,060,633.0291m | 299,030.5634m | 0+258.00 |
| 260 | 1,060,633.6055m | 299,029.7463m | 0+259.00 |
| 261 | 1,060,634.1861m | 299,028.9321m | 0+260.00 |
| 262 | 1,060,634.7709m | 299,028.1209m | 0+261.00 |
| 263 | 1,060,635.3599m | 299,027.3127m | 0+262.00 |
| 264 | 1,060,635.9530m | 299,026.5077m | 0+263.00 |
| 265 | 1,060,636.5503m | 299,025.7056m | 0+264.00 |
| 266 | 1,060,637.1518m | 299,024.9067m | 0+265.00 |
| 267 | 1,060,637.7573m | 299,024.1109m | 0+266.00 |
| 268 | 1,060,638.3670m | 299,023.3182m | 0+267.00 |
| 269 | 1,060,638.9807m | 299,022.5287m | 0+268.00 |
| 270 | 1,060,639.5985m | 299,021.7424m | 0+269.00 |
| 271 | 1,060,640.2204m | 299,020.9593m | 0+270.00 |
| 272 | 1,060,640.8454m | 299,020.1787m | 0+271.00 |
| 273 | 1,060,641.4706m | 299,019.3982m | 0+272.00 |
| 274 | 1,060,642.0959m | 299,018.6178m | 0+273.00 |
| 275 | 1,060,642.7211m | 299,017.8374m | 0+274.00 |
| 276 | 1,060,643.3464m | 299,017.0570m | 0+275.00 |
| 277 | 1,060,643.9716m | 299,016.2765m | 0+276.00 |
| 278 | 1,060,644.5969m | 299,015.4961m | 0+277.00 |
| 279 | 1,060,645.2222m | 299,014.7157m | 0+278.00 |
| 280 | 1,060,645.8474m | 299,013.9353m | 0+279.00 |
| 281 | 1,060,646.4727m | 299,013.1549m | 0+280.00 |
| 282 | 1,060,647.0979m | 299,012.3744m | 0+281.00 |
| 283 | 1,060,647.7232m | 299,011.5940m | 0+282.00 |
| 284 | 1,060,648.3484m | 299,010.8136m | 0+283.00 |
| 285 | 1,060,648.9737m | 299,010.0332m | 0+284.00 |
| 286 | 1,060,649.5989m | 299,009.2528m | 0+285.00 |
| 287 | 1,060,650.2242m | 299,008.4723m | 0+286.00 |
| 288 | 1,060,650.8494m | 299,007.6919m | 0+287.00 |
| 289 | 1,060,651.4747m | 299,006.9115m | 0+288.00 |
| 290 | 1,060,652.1000m | 299,006.1311m | 0+289.00 |
| 291 | 1,060,652.7252m | 299,005.3506m | 0+290.00 |
| 292 | 1,060,653.3505m | 299,004.5702m | 0+291.00 |
| 293 | 1,060,653.9757m | 299,003.7898m | 0+292.00 |
| 294 | 1,060,654.6010m | 299,003.0094m | 0+293.00 |
| 295 | 1,060,655.2262m | 299,002.2290m | 0+294.00 |
| 296 | 1,060,655.8515m | 299,001.4485m | 0+295.00 |
| 297 | 1,060,656.4767m | 299,000.6681m | 0+296.00 |
| 298 | 1,060,657.1020m | 298,999.8877m | 0+297.00 |
| 299 | 1,060,657.7272m | 298,999.1073m | 0+298.00 |
| 300 | 1,060,658.3525m | 298,998.3269m | 0+299.00 |
| 301 | 1,060,658.9777m | 298,997.5464m | 0+300.00 |
| 302 | 1,060,659.6030m | 298,996.7660m | 0+301.00 |
| 303 | 1,060,660.2283m | 298,995.9856m | 0+302.00 |
| 304 | 1,060,660.8535m | 298,995.2052m | 0+303.00 |
| 305 | 1,060,661.4788m | 298,994.4247m | 0+304.00 |
| 306 | 1,060,662.1040m | 298,993.6443m | 0+305.00 |
| 307 | 1,060,662.7293m | 298,992.8639m | 0+306.00 |
| 308 | 1,060,663.3545m | 298,992.0835m | 0+307.00 |
| 309 | 1,060,663.9798m | 298,991.3031m | 0+308.00 |
| 310 | 1,060,664.6050m | 298,990.5226m | 0+309.00 |
| 311 | 1,060,665.2303m | 298,989.7422m | 0+310.00 |
| 312 | 1,060,665.8555m | 298,988.9618m | 0+311.00 |
| 313 | 1,060,666.4797m | 298,988.1805m | 0+312.00 |
| 314 | 1,060,667.1002m | 298,987.3963m | 0+313.00 |
| 315 | 1,060,667.7169m | 298,986.6091m | 0+314.00 |
| 316 | 1,060,668.3298m | 298,985.8189m | 0+315.00 |
| 317 | 1,060,668.9388m | 298,985.0258m | 0+316.00 |
| 318 | 1,060,669.5440m | 298,984.2297m | 0+317.00 |
| 319 | 1,060,670.1453m | 298,983.4307m | 0+318.00 |
| 320 | 1,060,670.7427m | 298,982.6288m | 0+319.00 |
| 321 | 1,060,671.3363m | 298,981.8240m | 0+320.00 |
| 322 | 1,060,671.9259m | 298,981.0163m | 0+321.00 |
| 323 | 1,060,672.5116m | 298,980.2058m | 0+322.00 |
| 324 | 1,060,673.0934m | 298,979.3924m | 0+323.00 |
| 325 | 1,060,673.6713m | 298,978.5763m | 0+324.00 |
| 326 | 1,060,674.2451m | 298,977.7574m | 0+325.00 |
| 327 | 1,060,674.8150m | 298,976.9356m | 0+326.00 |
| 328 | 1,060,675.3810m | 298,976.1112m | 0+327.00 |
| 329 | 1,060,675.9429m | 298,975.2840m | 0+328.00 |

| | | | |
|---|---|---|---|
| 330 | 1,060,676.5008m | 298,974.4541m | 0+329.00 |
| 331 | 1,060,677.0547m | 298,973.6215m | 0+330.00 |
| 332 | 1,060,677.6045m | 298,972.7862m | 0+331.00 |
| 333 | 1,060,678.1503m | 298,971.9483m | 0+332.00 |
| 334 | 1,060,678.6920m | 298,971.1077m | 0+333.00 |
| 335 | 1,060,679.2296m | 298,970.2645m | 0+334.00 |
| 336 | 1,060,679.7632m | 298,969.4188m | 0+335.00 |
| 337 | 1,060,680.2926m | 298,968.5704m | 0+336.00 |
| 338 | 1,060,680.8179m | 298,967.7195m | 0+337.00 |
| 339 | 1,060,681.3391m | 298,966.8661m | 0+338.00 |
| 340 | 1,060,681.8562m | 298,966.0101m | 0+339.00 |
| 341 | 1,060,682.3691m | 298,965.1517m | 0+340.00 |
| 342 | 1,060,682.8778m | 298,964.2908m | 0+341.00 |
| 343 | 1,060,683.3824m | 298,963.4274m | 0+342.00 |
| 344 | 1,060,683.8827m | 298,962.5616m | 0+343.00 |
| 345 | 1,060,684.3789m | 298,961.6934m | 0+344.00 |
| 346 | 1,060,684.8709m | 298,960.8227m | 0+345.00 |
| 347 | 1,060,685.3586m | 298,959.9497m | 0+346.00 |
| 348 | 1,060,685.8421m | 298,959.0744m | 0+347.00 |
| 349 | 1,060,686.3219m | 298,958.1970m | 0+348.00 |
| 350 | 1,060,686.8011m | 298,957.3193m | 0+349.00 |
| 351 | 1,060,687.2803m | 298,956.4416m | 0+350.00 |
| 352 | 1,060,687.7596m | 298,955.5640m | 0+351.00 |
| 353 | 1,060,688.2388m | 298,954.6863m | 0+352.00 |
| 354 | 1,060,688.7181m | 298,953.8086m | 0+353.00 |
| 355 | 1,060,689.1973m | 298,952.9309m | 0+354.00 |
| 356 | 1,060,689.6766m | 298,952.0532m | 0+355.00 |
| 357 | 1,060,690.1558m | 298,951.1756m | 0+356.00 |
| 358 | 1,060,690.6350m | 298,950.2979m | 0+357.00 |
| 359 | 1,060,691.1143m | 298,949.4202m | 0+358.00 |
| 360 | 1,060,691.5935m | 298,948.5425m | 0+359.00 |
| 361 | 1,060,692.0728m | 298,947.6648m | 0+360.00 |
| 362 | 1,060,692.5520m | 298,946.7871m | 0+361.00 |
| 363 | 1,060,693.0313m | 298,945.9095m | 0+362.00 |
| 364 | 1,060,693.5105m | 298,945.0318m | 0+363.00 |
| 365 | 1,060,693.9897m | 298,944.1541m | 0+364.00 |
| 366 | 1,060,694.4690m | 298,943.2764m | 0+365.00 |
| 367 | 1,060,694.9482m | 298,942.3987m | 0+366.00 |
| 368 | 1,060,695.4275m | 298,941.5210m | 0+367.00 |
| 369 | 1,060,695.9067m | 298,940.6434m | 0+368.00 |
| 370 | 1,060,696.3860m | 298,939.7657m | 0+369.00 |
| 371 | 1,060,696.8652m | 298,938.8880m | 0+370.00 |
| 372 | 1,060,697.3444m | 298,938.0103m | 0+371.00 |
| 373 | 1,060,697.8237m | 298,937.1326m | 0+372.00 |
| 374 | 1,060,698.3029m | 298,936.2549m | 0+373.00 |
| 375 | 1,060,698.7822m | 298,935.3773m | 0+374.00 |
| 376 | 1,060,699.2614m | 298,934.4996m | 0+375.00 |
| 377 | 1,060,699.7407m | 298,933.6219m | 0+376.00 |
| 378 | 1,060,700.2199m | 298,932.7442m | 0+377.00 |
| 379 | 1,060,700.6991m | 298,931.8665m | 0+378.00 |
| 380 | 1,060,701.1784m | 298,930.9889m | 0+379.00 |
| 381 | 1,060,701.6576m | 298,930.1112m | 0+380.00 |
| 382 | 1,060,702.1369m | 298,929.2335m | 0+381.00 |
| 383 | 1,060,702.6161m | 298,928.3558m | 0+382.00 |
| 384 | 1,060,703.0954m | 298,927.4781m | 0+383.00 |
| 385 | 1,060,703.5746m | 298,926.6005m | 0+384.00 |
| 386 | 1,060,704.0566m | 298,925.7243m | 0+385.00 |
| 387 | 1,060,704.5432m | 298,924.8506m | 0+386.00 |
| 388 | 1,060,705.0342m | 298,923.9795m | 0+387.00 |
| 389 | 1,060,705.5298m | 298,923.1109m | 0+388.00 |
| 390 | 1,060,706.0298m | 298,922.2449m | 0+389.00 |
| 391 | 1,060,706.5343m | 298,921.3815m | 0+390.00 |
| 392 | 1,060,707.0432m | 298,920.5207m | 0+391.00 |
| 393 | 1,060,707.5566m | 298,919.6625m | 0+392.00 |
| 394 | 1,060,708.0744m | 298,918.8070m | 0+393.00 |
| 395 | 1,060,708.5966m | 298,917.9542m | 0+394.00 |
| 396 | 1,060,709.1233m | 298,917.1041m | 0+395.00 |
| 397 | 1,060,709.6543m | 298,916.2568m | 0+396.00 |
| 398 | 1,060,710.1896m | 298,915.4121m | 0+397.00 |
| 399 | 1,060,710.7294m | 298,914.5703m | 0+398.00 |
| 400 | 1,060,711.2734m | 298,913.7313m | 0+399.00 |
| 401 | 1,060,711.8218m | 298,912.8950m | 0+400.00 |
| 402 | 1,060,712.3745m | 298,912.0617m | 0+401.00 |
| 403 | 1,060,712.9315m | 298,911.2312m | 0+402.00 |
| 404 | 1,060,713.4928m | 298,910.4035m | 0+403.00 |
| 405 | 1,060,714.0584m | 298,909.5788m | 0+404.00 |
| 406 | 1,060,714.6282m | 298,908.7571m | 0+405.00 |
| 407 | 1,060,715.2022m | 298,907.9382m | 0+406.00 |
| 408 | 1,060,715.7805m | 298,907.1224m | 0+407.00 |
| 409 | 1,060,716.3629m | 298,906.3095m | 0+408.00 |
| 410 | 1,060,716.9496m | 298,905.4997m | 0+409.00 |
| 411 | 1,060,717.5404m | 298,904.6929m | 0+410.00 |
| 412 | 1,060,718.1354m | 298,903.8892m | 0+411.00 |
| 413 | 1,060,718.7346m | 298,903.0885m | 0+412.00 |
| 414 | 1,060,719.3378m | 298,902.2910m | 0+413.00 |
| 415 | 1,060,719.9452m | 298,901.4966m | 0+414.00 |
| 416 | 1,060,720.5567m | 298,900.7053m | 0+415.00 |
| 417 | 1,060,721.1722m | 298,899.9172m | 0+416.00 |
| 418 | 1,060,721.7918m | 298,899.1323m | 0+417.00 |
| 419 | 1,060,722.4155m | 298,898.3506m | 0+418.00 |
| 420 | 1,060,723.0432m | 298,897.5722m | 0+419.00 |
| 421 | 1,060,723.6749m | 298,896.7970m | 0+420.00 |
| 422 | 1,060,724.3105m | 298,896.0250m | 0+421.00 |
| 423 | 1,060,724.9476m | 298,895.2541m | 0+422.00 |
| 424 | 1,060,725.5846m | 298,894.4833m | 0+423.00 |
| 425 | 1,060,726.2216m | 298,893.7124m | 0+424.00 |
| 426 | 1,060,726.8586m | 298,892.9416m | 0+425.00 |
| 427 | 1,060,727.4956m | 298,892.1707m | 0+426.00 |
| 428 | 1,060,728.1326m | 298,891.3999m | 0+427.00 |
| 429 | 1,060,728.7697m | 298,890.6290m | 0+428.00 |
| 430 | 1,060,729.4067m | 298,889.8582m | 0+429.00 |
| 431 | 1,060,730.0437m | 298,889.0873m | 0+430.00 |
| 432 | 1,060,730.6807m | 298,888.3165m | 0+431.00 |
| 433 | 1,060,731.3951m | 298,887.6301m | 0+432.00 |
| 434 | 1,060,732.2493m | 298,887.1177m | 0+433.00 |
| 435 | 1,060,733.1813m | 298,886.7685m | 0+434.00 |
| 436 | 1,060,734.1718m | 298,886.6316m | 0+435.00 |
| 437 | 1,060,735.1523m | 298,886.4372m | 0+436.00 |
| 438 | 1,060,736.0623m | 298,886.0597m | 0+437.00 |
| 439 | 1,060,736.8113m | 298,885.4169m | 0+438.00 |
| 440 | 1,060,737.2919m | 298,884.5605m | 0+439.00 |
| 441 | 1,060,737.3801m | 298,883.6013m | 0+440.00 |
| 442 | 1,060,737.1387m | 298,882.6309m | 0+441.00 |
| 443 | 1,060,737.4232m | 298,881.7322m | 0+442.00 |
| 444 | 1,060,737.6514m | 298,880.7758m | 0+443.00 |
| 445 | 1,060,737.7870m | 298,879.7852m | 0+444.00 |
| 446 | 1,060,738.3830m | 298,878.9959m | 0+445.00 |
| 447 | 1,060,739.0201m | 298,878.2250m | 0+446.00 |
| 448 | 1,060,739.6571m | 298,877.4542m | 0+447.00 |
| 449 | 1,060,740.2941m | 298,876.6833m | 0+448.00 |
| 450 | 1,060,740.9283m | 298,875.9102m | 0+449.00 |
| 451 | 1,060,741.5435m | 298,875.1218m | 0+450.00 |
| 452 | 1,060,742.1368m | 298,874.3169m | 0+451.00 |
| 453 | 1,060,742.7078m | 298,873.4960m | 0+452.00 |
| 454 | 1,060,743.2561m | 298,872.6597m | 0+453.00 |
| 455 | 1,060,743.7811m | 298,871.8087m | 0+454.00 |
| 456 | 1,060,744.2826m | 298,870.9436m | 0+455.00 |
| 457 | 1,060,744.7601m | 298,870.0650m | 0+456.00 |
| 458 | 1,060,745.2133m | 298,869.1736m | 0+457.00 |
| 459 | 1,060,745.6419m | 298,868.2701m | 0+458.00 |
| 460 | 1,060,746.0455m | 298,867.3552m | 0+459.00 |
| 461 | 1,060,746.4238m | 298,866.4296m | 0+460.00 |
| 462 | 1,060,746.7765m | 298,865.4939m | 0+461.00 |
| 463 | 1,060,747.1034m | 298,864.5488m | 0+462.00 |
| 464 | 1,060,747.4042m | 298,863.5952m | 0+463.00 |
| 465 | 1,060,747.6787m | 298,862.6336m | 0+464.00 |
| 466 | 1,060,747.9266m | 298,861.6649m | 0+465.00 |
| 467 | 1,060,748.1479m | 298,860.6897m | 0+466.00 |
| 468 | 1,060,748.3423m | 298,859.7088m | 0+467.00 |
| 469 | 1,060,748.5097m | 298,858.7230m | 0+468.00 |
| 470 | 1,060,748.6500m | 298,857.7329m | 0+469.00 |
| 471 | 1,060,748.7629m | 298,856.7393m | 0+470.00 |
| 472 | 1,060,748.8486m | 298,855.7430m | 0+471.00 |
| 473 | 1,060,748.9069m | 298,854.7448m | 0+472.00 |
| 474 | 1,060,748.9377m | 298,853.7453m | 0+473.00 |
| 475 | 1,060,748.9410m | 298,852.7453m | 0+474.00 |
| 476 | 1,060,748.9169m | 298,851.7456m | 0+475.00 |
| 477 | 1,060,748.8653m | 298,850.7470m | 0+476.00 |
| 478 | 1,060,748.7863m | 298,849.7501m | 0+477.00 |
| 479 | 1,060,748.6800m | 298,848.7558m | 0+478.00 |
| 480 | 1,060,748.5464m | 298,847.7648m | 0+479.00 |
| 481 | 1,060,748.3868m | 298,846.7777m | 0+480.00 |
| 482 | 1,060,748.2203m | 298,845.7916m | 0+481.00 |
| 483 | 1,060,748.0538m | 298,844.8056m | 0+482.00 |
| 484 | 1,060,747.8873m | 298,843.8196m | 0+483.00 |
| 485 | 1,060,747.7208m | 298,842.8335m | 0+484.00 |
| 486 | 1,060,747.5543m | 298,841.8475m | 0+485.00 |
| 487 | 1,060,747.3879m | 298,840.8614m | 0+486.00 |
| 488 | 1,060,747.2214m | 298,839.8754m | 0+487.00 |
| 489 | 1,060,747.0549m | 298,838.8893m | 0+488.00 |
| 490 | 1,060,746.8884m | 298,837.9033m | 0+489.00 |
| 491 | 1,060,746.7219m | 298,836.9172m | 0+490.00 |
| 492 | 1,060,746.5552m | 298,835.9312m | 0+491.00 |
| 493 | 1,060,746.3715m | 298,834.9483m | 0+492.00 |
| 494 | 1,060,746.1608m | 298,833.9708m | 0+493.00 |
| 495 | 1,060,745.9234m | 298,832.9994m | 0+494.00 |
| 496 | 1,060,745.6594m | 298,832.0349m | 0+495.00 |
| 497 | 1,060,745.3690m | 298,831.0780m | 0+496.00 |
| 498 | 1,060,745.0525m | 298,830.1295m | 0+497.00 |
| 499 | 1,060,744.7099m | 298,829.1900m | 0+498.00 |
| 500 | 1,060,744.3418m | 298,828.2603m | 0+499.00 |
| 501 | 1,060,743.9482m | 298,827.3410m | 0+500.00 |
| 502 | 1,060,743.5295m | 298,826.4329m | 0+501.00 |
| 503 | 1,060,743.0860m | 298,825.5367m | 0+502.00 |
| 504 | 1,060,742.6181m | 298,824.6530m | 0+503.00 |
| 505 | 1,060,742.1261m | 298,823.7824m | 0+504.00 |
| 506 | 1,060,741.6103m | 298,822.9257m | 0+505.00 |
| 507 | 1,060,741.0712m | 298,822.0835m | 0+506.00 |
| 508 | 1,060,740.5092m | 298,821.2564m | 0+507.00 |
| 509 | 1,060,739.9247m | 298,820.4451m | 0+508.00 |
| 510 | 1,060,739.3181m | 298,819.6501m | 0+509.00 |
| 511 | 1,060,738.6899m | 298,818.8721m | 0+510.00 |
| 512 | 1,060,738.0405m | 298,818.1116m | 0+511.00 |
| 513 | 1,060,737.3706m | 298,817.3693m | 0+512.00 |
| 514 | 1,060,736.6804m | 298,816.6457m | 0+513.00 |
| 515 | 1,060,735.9707m | 298,815.9412m | 0+514.00 |
| 516 | 1,060,735.2419m | 298,815.2566m | 0+515.00 |
| 517 | 1,060,734.4945m | 298,814.5922m | 0+516.00 |
| 518 | 1,060,733.7292m | 298,813.9486m | 0+517.00 |
| 519 | 1,060,732.9465m | 298,813.3262m | 0+518.00 |
| 520 | 1,060,732.1470m | 298,812.7256m | 0+519.00 |
| 521 | 1,060,731.3313m | 298,812.1472m | 0+520.00 |
| 522 | 1,060,730.5000m | 298,811.5914m | 0+521.00 |
| 523 | 1,060,729.6538m | 298,811.0587m | 0+522.00 |
| 524 | 1,060,728.7932m | 298,810.5494m | 0+523.00 |
| 525 | 1,060,727.9190m | 298,810.0639m | 0+524.00 |
| 526 | 1,060,727.0318m | 298,809.6027m | 0+525.00 |
| 527 | 1,060,726.1322m | 298,809.1659m | 0+526.00 |
| 528 | 1,060,725.2210m | 298,808.7541m | 0+527.00 |
| 529 | 1,060,724.2988m | 298,808.3674m | 0+528.00 |
| 530 | 1,060,723.3663m | 298,808.0062m | 0+529.00 |
| 531 | 1,060,722.4243m | 298,807.6708m | 0+530.00 |
| 532 | 1,060,721.4734m | 298,807.3614m | 0+531.00 |
| 533 | 1,060,720.5144m | 298,807.0782m | 0+532.00 |
| 534 | 1,060,719.5479m | 298,806.8214m | 0+533.00 |
| 535 | 1,060,718.5748m | 298,806.5913m | 0+534.00 |
| 536 | 1,060,717.5957m | 298,806.3881m | 0+535.00 |
| 537 | 1,060,716.6119m | 298,806.2089m | 0+536.00 |
| 538 | 1,060,715.6274m | 298,806.0337m | 0+537.00 |
| 539 | 1,060,714.6428m | 298,805.8585m | 0+538.00 |
| 540 | 1,060,713.6583m | 298,805.6833m | 0+539.00 |
| 541 | 1,060,712.6738m | 298,805.5081m | 0+540.00 |
| 542 | 1,060,711.6892m | 298,805.3329m | 0+541.00 |
| 543 | 1,060,710.7047m | 298,805.1577m | 0+542.00 |
| 544 | 1,060,709.7202m | 298,804.9825m | 0+543.00 |
| 545 | 1,060,708.7356m | 298,804.8073m | 0+544.00 |
| 546 | 1,060,707.7511m | 298,804.6321m | 0+545.00 |
| 547 | 1,060,706.7666m | 298,804.4569m | 0+546.00 |
| 548 | 1,060,705.7820m | 298,804.2817m | 0+547.00 |
| 549 | 1,060,704.7975m | 298,804.1066m | 0+548.00 |
| 550 | 1,060,703.8130m | 298,803.9314m | 0+549.00 |
| 551 | 1,060,702.8284m | 298,803.7562m | 0+550.00 |
| 552 | 1,060,701.8439m | 298,803.5810m | 0+551.00 |
| 553 | 1,060,700.8594m | 298,803.4058m | 0+552.00 |
| 554 | 1,060,699.8748m | 298,803.2306m | 0+553.00 |
| 555 | 1,060,698.8903m | 298,803.0554m | 0+554.00 |
| 556 | 1,060,697.9058m | 298,802.8802m | 0+555.00 |
| 557 | 1,060,696.9245m | 298,802.6880m | 0+556.00 |
| 558 | 1,060,695.9522m | 298,802.4546m | 0+557.00 |
| 559 | 1,060,694.9906m | 298,802.1803m | 0+558.00 |
| 560 | 1,060,694.0416m | 298,801.8654m | 0+559.00 |
| 561 | 1,060,693.1067m | 298,801.5107m | 0+560.00 |
| 562 | 1,060,692.5600m | 298,800.6794m | 0+561.00 |
| 563 | 1,060,691.9345m | 298,799.9130m | 0+562.00 |
| 564 | 1,060,691.1293m | 298,799.3240m | 0+563.00 |
| 565 | 1,060,690.3501m | 298,798.6977m | 0+564.00 |
| 566 | 1,060,689.5605m | 298,798.0874m | 0+565.00 |
| 567 | 1,060,688.8210m | 298,797.4202m | 0+566.00 |
| 568 | 1,060,688.2031m | 298,796.6343m | 0+567.00 |
| 569 | 1,060,687.5102m | 298,795.9198m | 0+568.00 |
| 570 | 1,060,686.6530m | 298,795.4139m | 0+569.00 |
| 571 | 1,060,685.7127m | 298,795.0762m | 0+570.00 |
| 572 | 1,060,684.7434m | 298,794.8312m | 0+571.00 |
| 573 | 1,060,683.7713m | 298,794.5976m | 0+572.00 |
| 574 | 1,060,683.1202m | 298,793.8612m | 0+573.00 |
| 575 | 1,060,682.5342m | 298,793.0510m | 0+574.00 |
| 576 | 1,060,681.9830m | 298,792.2167m | 0+575.00 |
| 577 | 1,060,681.4677m | 298,791.3598m | 0+576.00 |
| 578 | 1,060,680.9891m | 298,790.4818m | 0+577.00 |
| 579 | 1,060,680.5482m | 298,789.5843m | 0+578.00 |
| 580 | 1,060,680.1456m | 298,788.6690m | 0+579.00 |
| 581 | 1,060,679.7822m | 298,787.7375m | 0+580.00 |
| 582 | 1,060,679.4586m | 298,786.7914m | 0+581.00 |
| 583 | 1,060,679.1754m | 298,785.8324m | 0+582.00 |
| 584 | 1,060,678.9330m | 298,784.8623m | 0+583.00 |
| 585 | 1,060,678.7319m | 298,783.8828m | 0+584.00 |
| 586 | 1,060,678.5725m | 298,782.8956m | 0+585.00 |
| 587 | 1,060,678.4551m | 298,781.9026m | 0+586.00 |
| 588 | 1,060,678.3799m | 298,780.9055m | 0+587.00 |
| 589 | 1,060,678.3469m | 298,779.9062m | 0+588.00 |
| 590 | 1,060,678.3563m | 298,778.9063m | 0+589.00 |
| 591 | 1,060,678.4081m | 298,777.9077m | 0+590.00 |
| 592 | 1,060,678.5021m | 298,776.9122m | 0+591.00 |
| 593 | 1,060,678.6382m | 298,775.9216m | 0+592.00 |
| 594 | 1,060,678.8161m | 298,774.9376m | 0+593.00 |
| 595 | 1,060,679.0356m | 298,773.9621m | 0+594.00 |
| 596 | 1,060,679.2944m | 298,772.9962m | 0+595.00 |
| 597 | 1,060,679.5633m | 298,772.0330m | 0+596.00 |
| 598 | 1,060,679.8323m | 298,771.0699m | 0+597.00 |
| 599 | 1,060,680.1012m | 298,770.1067m | 0+598.00 |
| 600 | 1,060,680.3702m | 298,769.1436m | 0+599.00 |
| 601 | 1,060,680.6392m | 298,768.1804m | 0+600.00 |
| 602 | 1,060,680.9081m | 298,767.2173m | 0+601.00 |
| 603 | 1,060,681.1771m | 298,766.2541m | 0+602.00 |
| 604 | 1,060,681.4460m | 298,765.2910m | 0+603.00 |
| 605 | 1,060,681.7150m | 298,764.3278m | 0+604.00 |
| 606 | 1,060,681.9839m | 298,763.3647m | 0+605.00 |
| 607 | 1,060,682.2529m | 298,762.4015m | 0+606.00 |
| 608 | 1,060,682.5218m | 298,761.4384m | 0+607.00 |
| 609 | 1,060,682.7908m | 298,760.4752m | 0+608.00 |
| 610 | 1,060,683.0598m | 298,759.5121m | 0+609.00 |
| 611 | 1,060,683.3287m | 298,758.5489m | 0+610.00 |
| 612 | 1,060,683.5977m | 298,757.5858m | 0+611.00 |
| 613 | 1,060,683.8666m | 298,756.6226m | 0+612.00 |
| 614 | 1,060,684.1356m | 298,755.6594m | 0+613.00 |
| 615 | 1,060,684.4045m | 298,754.6963m | 0+614.00 |
| 616 | 1,060,684.6735m | 298,753.7331m | 0+615.00 |
| 617 | 1,060,684.9425m | 298,752.7700m | 0+616.00 |
| 618 | 1,060,685.2114m | 298,751.8068m | 0+617.00 |
| 619 | 1,060,685.4804m | 298,750.8437m | 0+618.00 |
| 620 | 1,060,685.7493m | 298,749.8805m | 0+619.00 |
| 621 | 1,060,686.0183m | 298,748.9174m | 0+620.00 |
| 622 | 1,060,686.2872m | 298,747.9542m | 0+621.00 |
| 623 | 1,060,686.5562m | 298,746.9911m | 0+622.00 |
| 624 | 1,060,686.8252m | 298,746.0279m | 0+623.00 |
| 625 | 1,060,687.0941m | 298,745.0648m | 0+624.00 |
| 626 | 1,060,687.3631m | 298,744.1016m | 0+625.00 |
| 627 | 1,060,687.6320m | 298,743.1385m | 0+626.00 |
| 628 | 1,060,687.9010m | 298,742.1753m | 0+627.00 |
| 629 | 1,060,688.1699m | 298,741.2122m | 0+628.00 |
| 630 | 1,060,688.4389m | 298,740.2490m | 0+629.00 |
| 631 | 1,060,688.7078m | 298,739.2859m | 0+630.00 |
| 632 | 1,060,688.9768m | 298,738.3227m | 0+631.00 |
| 633 | 1,060,689.2458m | 298,737.3596m | 0+632.00 |
| 634 | 1,060,689.5147m | 298,736.3964m | 0+633.00 |
| 635 | 1,060,689.7837m | 298,735.4332m | 0+634.00 |
| 636 | 1,060,690.0526m | 298,734.4701m | 0+635.00 |
| 637 | 1,060,690.3216m | 298,733.5069m | 0+636.00 |
| 638 | 1,060,690.5905m | 298,732.5438m | 0+637.00 |
| 639 | 1,060,690.8595m | 298,731.5806m | 0+638.00 |
| 640 | 1,060,691.1285m | 298,730.6175m | 0+639.00 |
| 641 | 1,060,691.3974m | 298,729.6543m | 0+640.00 |
| 642 | 1,060,691.6664m | 298,728.6912m | 0+641.00 |
| 643 | 1,060,691.9353m | 298,727.7280m | 0+642.00 |
| 644 | 1,060,692.2043m | 298,726.7649m | 0+643.00 |
| 645 | 1,060,692.4732m | 298,725.8017m | 0+644.00 |
| 646 | 1,060,692.7422m | 298,724.8386m | 0+645.00 |
| 647 | 1,060,693.0111m | 298,723.8754m | 0+646.00 |
| 648 | 1,060,693.2801m | 298,722.9123m | 0+647.00 |
| 649 | 1,060,693.5491m | 298,721.9491m | 0+648.00 |
| 650 | 1,060,693.8180m | 298,720.9860m | 0+649.00 |
| 651 | 1,060,694.0870m | 298,720.0228m | 0+650.00 |
| 652 | 1,060,694.3559m | 298,719.0597m | 0+651.00 |
| 653 | 1,060,694.6249m | 298,718.0965m | 0+652.00 |
| 654 | 1,060,694.8938m | 298,717.1334m | 0+653.00 |
| 655 | 1,060,695.1628m | 298,716.1702m | 0+654.00 |
| 656 | 1,060,695.4318m | 298,715.2070m | 0+655.00 |
| 657 | 1,060,695.7007m | 298,714.2439m | 0+656.00 |
| 658 | 1,060,695.9697m | 298,713.2807m | 0+657.00 |
| 659 | 1,060,696.2386m | 298,712.3176m | 0+658.00 |

| | | | |
|---|---|---|---|
| 660 | 1,060,696.5076m | 298,711.3544m | 0+659.00 |
| 661 | 1,060,696.7765m | 298,710.3913m | 0+660.00 |
| 662 | 1,060,697.0455m | 298,709.4281m | 0+661.00 |
| 663 | 1,060,697.3144m | 298,708.4650m | 0+662.00 |
| 664 | 1,060,697.5834m | 298,707.5018m | 0+663.00 |
| 665 | 1,060,698.0439m | 298,706.6213m | 0+664.00 |
| 666 | 1,060,698.5465m | 298,705.7591m | 0+665.00 |
| 667 | 1,060,698.9914m | 298,704.8636m | 0+666.00 |
| 668 | 1,060,699.4510m | 298,703.9755m | 0+667.00 |
| 669 | 1,060,699.9135m | 298,703.0889m | 0+668.00 |
| 670 | 1,060,700.3420m | 298,702.1861m | 0+669.00 |
| 671 | 1,060,700.7167m | 298,701.2591m | 0+670.00 |
| 672 | 1,060,701.1098m | 298,700.3412m | 0+671.00 |
| 673 | 1,060,701.6371m | 298,699.4992m | 0+672.00 |
| 674 | 1,060,702.2953m | 298,698.7466m | 0+673.00 |
| 675 | 1,060,702.9000m | 298,697.9541m | 0+674.00 |
| 676 | 1,060,703.3036m | 298,697.0395m | 0+675.00 |
| 677 | 1,060,703.6250m | 298,696.0935m | 0+676.00 |
| 678 | 1,060,703.8181m | 298,695.1124m | 0+677.00 |
| 679 | 1,060,703.9675m | 298,694.1240m | 0+678.00 |
| 680 | 1,060,704.2120m | 298,693.1549m | 0+679.00 |
| 681 | 1,060,704.5709m | 298,692.2224m | 0+680.00 |
| 682 | 1,060,705.0524m | 298,691.3460m | 0+681.00 |
| 683 | 1,060,705.5159m | 298,690.4599m | 0+682.00 |
| 684 | 1,060,706.1106m | 298,689.7170m | 0+683.00 |
| 685 | 1,060,707.0762m | 298,689.4785m | 0+684.00 |
| 686 | 1,060,708.0560m | 298,689.2785m | 0+685.00 |
| 687 | 1,060,708.8881m | 298,688.7760m | 0+686.00 |
| 688 | 1,060,709.5126m | 298,688.0174m | 0+687.00 |
| 689 | 1,060,709.9393m | 298,687.1145m | 0+688.00 |
| 690 | 1,060,710.3127m | 298,686.1869m | 0+689.00 |
| 691 | 1,060,710.7151m | 298,685.2721m | 0+690.00 |
| 692 | 1,060,711.1405m | 298,684.3673m | 0+691.00 |
| 693 | 1,060,711.5100m | 298,683.4393m | 0+692.00 |
| 694 | 1,060,711.8423m | 298,682.4963m | 0+693.00 |
| 695 | 1,060,712.1596m | 298,681.5481m | 0+694.00 |
| 696 | 1,060,712.5055m | 298,680.6100m | 0+695.00 |
| 697 | 1,060,712.9264m | 298,679.7056m | 0+696.00 |
| 698 | 1,060,713.3933m | 298,678.8226m | 0+697.00 |
| 699 | 1,060,713.8287m | 298,677.9233m | 0+698.00 |
| 700 | 1,060,714.3013m | 298,677.0422m | 0+699.00 |
| 701 | 1,060,714.7411m | 298,676.1442m | 0+700.00 |
| 702 | 1,060,715.1999m | 298,675.2588m | 0+701.00 |
| 703 | 1,060,715.7499m | 298,674.4239m | 0+702.00 |
| 704 | 1,060,716.2124m | 298,673.5390m | 0+703.00 |
| 705 | 1,060,716.7295m | 298,672.6834m | 0+704.00 |
| 706 | 1,060,717.2126m | 298,671.8084m | 0+705.00 |
| 707 | 1,060,717.7664m | 298,670.9762m | 0+706.00 |
| 708 | 1,060,718.3917m | 298,670.1961m | 0+707.00 |
| 709 | 1,060,718.8342m | 298,669.3003m | 0+708.00 |
| 710 | 1,060,719.2456m | 298,668.3888m | 0+709.00 |
| 711 | 1,060,719.6201m | 298,667.4616m | 0+710.00 |
| 712 | 1,060,720.0880m | 298,666.5779m | 0+711.00 |
| 713 | 1,060,720.5444m | 298,665.6882m | 0+712.00 |
| 714 | 1,060,720.9442m | 298,664.7717m | 0+713.00 |
| 715 | 1,060,721.3793m | 298,663.8714m | 0+714.00 |
| 716 | 1,060,722.3166m | 298,663.6612m | 0+715.00 |
| 717 | 1,060,723.3072m | 298,663.5244m | 0+716.00 |
| 718 | 1,060,724.1410m | 298,663.1318m | 0+717.00 |
| 719 | 1,060,724.6070m | 298,662.2556m | 0+718.00 |
| 720 | 1,060,725.2032m | 298,661.4532m | 0+719.00 |
| 721 | 1,060,725.7120m | 298,660.5994m | 0+720.00 |
| 722 | 1,060,726.0361m | 298,659.6534m | 0+721.00 |
| 723 | 1,060,726.3873m | 298,658.7186m | 0+722.00 |
| 724 | 1,060,726.8612m | 298,657.8410m | 0+723.00 |
| 725 | 1,060,727.4434m | 298,657.0293m | 0+724.00 |
| 726 | 1,060,727.9208m | 298,656.1507m | 0+725.00 |
| 727 | 1,060,728.3667m | 298,655.2557m | 0+726.00 |
| 728 | 1,060,728.7706m | 298,654.3409m | 0+727.00 |
| 729 | 1,060,729.1497m | 298,653.4161m | 0+728.00 |
| 730 | 1,060,729.6395m | 298,652.5445m | 0+729.00 |
| 731 | 1,060,730.2057m | 298,651.7202m | 0+730.00 |
| 732 | 1,060,730.7537m | 298,650.8837m | 0+731.00 |
| 733 | 1,060,731.1546m | 298,649.9687m | 0+732.00 |
| 734 | 1,060,731.6382m | 298,649.0940m | 0+733.00 |
| 735 | 1,060,732.0931m | 298,648.2035m | 0+734.00 |
| 736 | 1,060,732.5147m | 298,647.2968m | 0+735.00 |
| 737 | 1,060,732.9662m | 298,646.4047m | 0+736.00 |
| 738 | 1,060,733.4172m | 298,645.5122m | 0+737.00 |
| 739 | 1,060,733.8825m | 298,644.6270m | 0+738.00 |
| 740 | 1,060,734.3324m | 298,643.7340m | 0+739.00 |
| 741 | 1,060,734.8328m | 298,642.8688m | 0+740.00 |
| 742 | 1,060,735.4380m | 298,642.0754m | 0+741.00 |
| 743 | 1,060,736.3103m | 298,641.8164m | 0+742.00 |
| 744 | 1,060,737.3101m | 298,641.8344m | 0+743.00 |
| 745 | 1,060,738.3100m | 298,641.8524m | 0+744.00 |
| 746 | 1,060,739.3098m | 298,641.8704m | 0+745.00 |
| 747 | 1,060,739.9429m | 298,641.2760m | 0+746.00 |
| 748 | 1,060,740.4171m | 298,640.3957m | 0+747.00 |
| 749 | 1,060,740.8689m | 298,639.5040m | 0+748.00 |
| 750 | 1,060,741.2814m | 298,638.5932m | 0+749.00 |
| 751 | 1,060,741.7115m | 298,637.6909m | 0+750.00 |
| 752 | 1,060,742.1526m | 298,636.7935m | 0+751.00 |
| 753 | 1,060,742.6558m | 298,635.9321m | 0+752.00 |
| 754 | 1,060,743.1624m | 298,635.0718m | 0+753.00 |
| 755 | 1,060,743.6339m | 298,634.1900m | 0+754.00 |
| 756 | 1,060,744.0863m | 298,633.2990m | 0+755.00 |
| 757 | 1,060,744.5013m | 298,632.3891m | 0+756.00 |
| 758 | 1,060,744.9105m | 298,631.4767m | 0+757.00 |
| 759 | 1,060,745.2923m | 298,630.5529m | 0+758.00 |
| 760 | 1,060,745.6707m | 298,629.6279m | 0+759.00 |
| 761 | 1,060,746.1042m | 298,628.7271m | 0+760.00 |
| 762 | 1,060,746.5354m | 298,627.8257m | 0+761.00 |
| 763 | 1,060,746.9517m | 298,626.9175m | 0+762.00 |
| 764 | 1,060,747.3680m | 298,626.0113m | 0+763.00 |
| 765 | 1,060,747.7334m | 298,625.0821m | 0+764.00 |
| 766 | 1,060,748.1467m | 298,624.1720m | 0+765.00 |
| 767 | 1,060,748.5296m | 298,623.2484m | 0+766.00 |
| 768 | 1,060,748.9448m | 298,622.3389m | 0+767.00 |
| 769 | 1,060,749.3617m | 298,621.4310m | 0+768.00 |
| 770 | 1,060,749.7369m | 298,620.5045m | 0+769.00 |
| 771 | 1,060,750.1507m | 298,619.5942m | 0+770.00 |
| 772 | 1,060,750.5628m | 298,618.6831m | 0+771.00 |
| 773 | 1,060,751.1233m | 298,617.9165m | 0+772.00 |
| 774 | 1,060,752.0433m | 298,617.5247m | 0+773.00 |
| 775 | 1,060,752.9953m | 298,617.2265m | 0+774.00 |
| 776 | 1,060,753.9632m | 298,616.9752m | 0+775.00 |
| 777 | 1,060,754.5373m | 298,616.2702m | 0+776.00 |
| 778 | 1,060,754.9586m | 298,615.3637m | 0+777.00 |
| 779 | 1,060,755.3087m | 298,614.4296m | 0+778.00 |
| 780 | 1,060,755.6464m | 298,613.4888m | 0+779.00 |
| 781 | 1,060,756.0282m | 298,612.5647m | 0+780.00 |
| 782 | 1,060,756.3938m | 298,611.6343m | 0+781.00 |
| 783 | 1,060,756.6440m | 298,610.6692m | 0+782.00 |
| 784 | 1,060,756.8088m | 298,609.6831m | 0+783.00 |
| 785 | 1,060,756.3373m | 298,608.9891m | 0+784.00 |
| 786 | 1,060,755.4817m | 298,608.4714m | 0+785.00 |
| 787 | 1,060,754.6261m | 298,607.9538m | 0+786.00 |
| 788 | 1,060,753.7706m | 298,607.4361m | 0+787.00 |
| 789 | 1,060,753.6948m | 298,606.4850m | 0+788.00 |
| 790 | 1,060,753.6947m | 298,605.4850m | 0+789.00 |
| 791 | 1,060,753.6289m | 298,604.4876m | 0+790.00 |
| 792 | 1,060,753.5152m | 298,603.4943m | 0+791.00 |
| 793 | 1,060,753.4977m | 298,602.4972m | 0+792.00 |
| 794 | 1,060,753.4247m | 298,601.5030m | 0+793.00 |
| 795 | 1,060,753.3615m | 298,600.5069m | 0+794.00 |
| 796 | 1,060,753.2659m | 298,599.5150m | 0+795.00 |
| 797 | 1,060,753.0887m | 298,598.5308m | 0+796.00 |
| 798 | 1,060,752.8771m | 298,597.5549m | 0+797.00 |
| 799 | 1,060,752.5203m | 298,596.6534m | 0+798.00 |
| 800 | 1,060,751.6300m | 298,596.1981m | 0+799.00 |
| 801 | 1,060,750.7397m | 298,595.7428m | 0+800.00 |
| 802 | 1,060,749.8493m | 298,595.2875m | 0+801.00 |
| 803 | 1,060,748.9590m | 298,594.8322m | 0+802.00 |
| 804 | 1,060,748.1060m | 298,594.3393m | 0+803.00 |
| 805 | 1,060,747.6450m | 298,593.4519m | 0+804.00 |
| 806 | 1,060,747.3240m | 298,592.5095m | 0+805.00 |
| 807 | 1,060,746.9464m | 298,591.5899m | 0+806.00 |
| 808 | 1,060,746.4941m | 298,590.6988m | 0+807.00 |
| 809 | 1,060,746.1188m | 298,589.7719m | 0+808.00 |
| 810 | 1,060,745.7858m | 298,588.8311m | 0+809.00 |
| 811 | 1,060,745.1654m | 298,588.0860m | 0+810.00 |
| 812 | 1,060,744.3888m | 298,587.4560m | 0+811.00 |
| 813 | 1,060,743.6123m | 298,586.8259m | 0+812.00 |
| 814 | 1,060,743.1118m | 298,585.9630m | 0+813.00 |
| 815 | 1,060,742.8110m | 298,585.0321m | 0+814.00 |
| 816 | 1,060,742.7390m | 298,584.0352m | 0+815.00 |
| 817 | 1,060,742.7039m | 298,583.0358m | 0+816.00 |
| 818 | 1,060,742.6532m | 298,582.0371m | 0+817.00 |
| 819 | 1,060,742.5882m | 298,581.0394m | 0+818.00 |
| 820 | 1,060,742.6079m | 298,580.0396m | 0+819.00 |
| 821 | 1,060,742.6255m | 298,579.0397m | 0+820.00 |
| 822 | 1,060,742.5567m | 298,578.0426m | 0+821.00 |
| 823 | 1,060,742.4063m | 298,577.0547m | 0+822.00 |
| 824 | 1,060,742.3667m | 298,576.0608m | 0+823.00 |
| 825 | 1,060,742.4044m | 298,575.0615m | 0+824.00 |
| 826 | 1,060,742.4412m | 298,574.0622m | 0+825.00 |
| 827 | 1,060,742.4304m | 298,573.0638m | 0+826.00 |
| 828 | 1,060,742.2997m | 298,572.0755m | 0+827.00 |
| 829 | 1,060,741.9558m | 298,571.1860m | 0+828.00 |
| 830 | 1,060,741.0670m | 298,570.7277m | 0+829.00 |
| 831 | 1,060,740.1782m | 298,570.2694m | 0+830.00 |
| 832 | 1,060,739.2894m | 298,569.8111m | 0+831.00 |
| 833 | 1,060,738.4538m | 298,569.3075m | 0+832.00 |
| 834 | 1,060,738.1423m | 298,568.3572m | 0+833.00 |
| 835 | 1,060,737.7434m | 298,567.4408m | 0+834.00 |
| 836 | 1,060,737.5406m | 298,566.4756m | 0+835.00 |
| 837 | 1,060,737.4595m | 298,565.4789m | 0+836.00 |
| 838 | 1,060,737.2282m | 298,564.5187m | 0+837.00 |
| 839 | 1,060,736.9193m | 298,563.5845m | 0+838.00 |
| 840 | 1,060,737.1155m | 298,562.6039m | 0+839.00 |
| 841 | 1,060,737.3085m | 298,561.6227m | 0+840.00 |
| 842 | 1,060,737.4982m | 298,560.6409m | 0+841.00 |
| 843 | 1,060,737.6848m | 298,559.6584m | 0+842.00 |
| 844 | 1,060,737.8682m | 298,558.6754m | 0+843.00 |
| 845 | 1,060,738.0483m | 298,557.6918m | 0+844.00 |
| 846 | 1,060,738.2253m | 298,556.7075m | 0+845.00 |
| 847 | 1,060,738.3990m | 298,555.7227m | 0+846.00 |
| 848 | 1,060,738.5695m | 298,554.7374m | 0+847.00 |
| 849 | 1,060,738.7368m | 298,553.7515m | 0+848.00 |
| 850 | 1,060,738.9009m | 298,552.7650m | 0+849.00 |
| 851 | 1,060,739.0617m | 298,551.7781m | 0+850.00 |
| 852 | 1,060,739.2193m | 298,550.7906m | 0+851.00 |
| 853 | 1,060,739.3737m | 298,549.8026m | 0+852.00 |
| 854 | 1,060,739.7490m | 298,548.8944m | 0+853.00 |
| 855 | 1,060,740.1265m | 298,547.9703m | 0+854.00 |
| 856 | 1,060,740.3973m | 298,547.0087m | 0+855.00 |
| 857 | 1,060,740.6113m | 298,546.0320m | 0+856.00 |
| 858 | 1,060,740.8463m | 298,545.0602m | 0+857.00 |
| 859 | 1,060,741.0827m | 298,544.0886m | 0+858.00 |
| 860 | 1,060,741.4623m | 298,543.1692m | 0+859.00 |
| 861 | 1,060,741.8284m | 298,542.2410m | 0+860.00 |
| 862 | 1,060,742.1836m | 298,541.3071m | 0+861.00 |
| 863 | 1,060,742.6982m | 298,540.4620m | 0+862.00 |
| 864 | 1,060,743.2603m | 298,539.6473m | 0+863.00 |
| 865 | 1,060,743.6429m | 298,538.7242m | 0+864.00 |
| 866 | 1,060,744.0889m | 298,537.8293m | 0+865.00 |
| 867 | 1,060,744.4878m | 298,536.9166m | 0+866.00 |
| 868 | 1,060,744.3958m | 298,535.9208m | 0+867.00 |
| 869 | 1,060,744.3000m | 298,534.9254m | 0+868.00 |
| 870 | 1,060,744.0961m | 298,533.9469m | 0+869.00 |
| 871 | 1,060,743.7773m | 298,532.9999m | 0+870.00 |
| 872 | 1,060,743.7207m | 298,532.0182m | 0+871.00 |
| 873 | 1,060,743.7789m | 298,531.0199m | 0+872.00 |
| 874 | 1,060,743.6374m | 298,530.0414m | 0+873.00 |
| 875 | 1,060,743.3487m | 298,529.0840m | 0+874.00 |
| 876 | 1,060,742.9678m | 298,528.1663m | 0+875.00 |
| 877 | 1,060,742.5461m | 298,527.2737m | 0+876.00 |
| 878 | 1,060,742.4734m | 298,526.2817m | 0+877.00 |
| 879 | 1,060,742.6165m | 298,525.2937m | 0+878.00 |
| 880 | 1,060,742.5341m | 298,524.2995m | 0+879.00 |
| 881 | 1,060,742.3786m | 298,523.3117m | 0+880.00 |
| 882 | 1,060,742.3712m | 298,522.3190m | 0+881.00 |
| 883 | 1,060,742.4424m | 298,521.3216m | 0+882.00 |
| 884 | 1,060,742.5136m | 298,520.3241m | 0+883.00 |
| 885 | 1,060,742.5848m | 298,519.3266m | 0+884.00 |
| 886 | 1,060,742.6561m | 298,518.3292m | 0+885.00 |
| 887 | 1,060,742.7273m | 298,517.3317m | 0+886.00 |
| 888 | 1,060,742.7985m | 298,516.3343m | 0+887.00 |
| 889 | 1,060,742.8697m | 298,515.3368m | 0+888.00 |
| 890 | 1,060,742.9409m | 298,514.3393m | 0+889.00 |
| 891 | 1,060,743.0122m | 298,513.3419m | 0+890.00 |
| 892 | 1,060,743.1324m | 298,512.3515m | 0+891.00 |
| 893 | 1,060,743.2922m | 298,511.3650m | 0+892.00 |
| 894 | 1,060,743.3226m | 298,510.3670m | 0+893.00 |
| 895 | 1,060,743.5865m | 298,509.4033m | 0+894.00 |
| 896 | 1,060,744.0461m | 298,508.5152m | 0+895.00 |
| 897 | 1,060,744.4982m | 298,507.6233m | 0+896.00 |
| 898 | 1,060,744.9478m | 298,506.7300m | 0+897.00 |
| 899 | 1,060,745.3951m | 298,505.8356m | 0+898.00 |
| 900 | 1,060,745.8400m | 298,504.9401m | 0+899.00 |
| 901 | 1,060,746.2826m | 298,504.0433m | 0+900.00 |
| 902 | 1,060,746.7229m | 298,503.1455m | 0+901.00 |
| 903 | 1,060,747.4111m | 298,502.5683m | 0+902.00 |
| 904 | 1,060,748.3906m | 298,502.3666m | 0+903.00 |
| 905 | 1,060,749.3700m | 298,502.1650m | 0+904.00 |
| 906 | 1,060,750.3495m | 298,501.9633m | 0+905.00 |
| 907 | 1,060,750.8862m | 298,501.2129m | 0+906.00 |
| 908 | 1,060,751.3467m | 298,500.3261m | 0+907.00 |
| 909 | 1,060,751.8052m | 298,499.4377m | 0+908.00 |
| 910 | 1,060,752.2460m | 298,498.5401m | 0+909.00 |
| 911 | 1,060,752.6167m | 298,497.6150m | 0+910.00 |
| 912 | 1,060,752.9233m | 298,496.6635m | 0+911.00 |
| 913 | 1,060,753.2459m | 298,495.7172m | 0+912.00 |
| 914 | 1,060,753.5701m | 298,494.7717m | 0+913.00 |
| 915 | 1,060,753.9361m | 298,493.8411m | 0+914.00 |
| 916 | 1,060,754.3132m | 298,492.9150m | 0+915.00 |
| 917 | 1,060,754.6993m | 298,491.9927m | 0+916.00 |
| 918 | 1,060,755.0587m | 298,491.0596m | 0+917.00 |
| 919 | 1,060,755.4380m | 298,490.1346m | 0+918.00 |
| 920 | 1,060,755.7781m | 298,489.1993m | 0+919.00 |
| 921 | 1,060,756.4291m | 298,488.4402m | 0+920.00 |
| 922 | 1,060,757.3375m | 298,488.0852m | 0+921.00 |
| 923 | 1,060,758.3006m | 298,487.8159m | 0+922.00 |
| 924 | 1,060,759.2636m | 298,487.5465m | 0+923.00 |
| 925 | 1,060,759.7393m | 298,486.7195m | 0+924.00 |
| 926 | 1,060,760.0063m | 298,485.7582m | 0+925.00 |
| 927 | 1,060,760.1795m | 298,484.7738m | 0+926.00 |
| 928 | 1,060,760.3745m | 298,483.7933m | 0+927.00 |
| 929 | 1,060,760.5718m | 298,482.8129m | 0+928.00 |
| 930 | 1,060,760.7285m | 298,481.8255m | 0+929.00 |
| 931 | 1,060,760.8719m | 298,480.8358m | 0+930.00 |
| 932 | 1,060,761.0133m | 298,479.8459m | 0+931.00 |
| 933 | 1,060,761.1434m | 298,478.8544m | 0+932.00 |
| 934 | 1,060,761.2462m | 298,477.8598m | 0+933.00 |
| 935 | 1,060,761.3259m | 298,476.8630m | 0+934.00 |
| 936 | 1,060,761.4330m | 298,475.8690m | 0+935.00 |
| 937 | 1,060,761.7656m | 298,474.9288m | 0+936.00 |
| 938 | 1,060,762.2156m | 298,474.0358m | 0+937.00 |
| 939 | 1,060,762.5871m | 298,473.1240m | 0+938.00 |
| 940 | 1,060,762.7366m | 298,472.1532m | 0+939.00 |
| 941 | 1,060,763.2269m | 298,471.2884m | 0+940.00 |
| 942 | 1,060,763.6480m | 298,470.4035m | 0+941.00 |
| 943 | 1,060,763.8810m | 298,469.4311m | 0+942.00 |
| 944 | 1,060,764.0079m | 298,468.4408m | 0+943.00 |
| 945 | 1,060,764.2327m | 298,467.4688m | 0+944.00 |
| 946 | 1,060,764.5549m | 298,466.5348m | 0+945.00 |
| 947 | 1,060,764.6625m | 298,465.5437m | 0+946.00 |
| 948 | 1,060,764.8388m | 298,464.5598m | 0+947.00 |
| 949 | 1,060,765.1966m | 298,463.6365m | 0+948.00 |
| 950 | 1,060,765.4778m | 298,462.6802m | 0+949.00 |
| 951 | 1,060,765.7500m | 298,461.7526m | 0+950.00 |
| 952 | 1,060,766.4953m | 298,461.1136m | 0+951.00 |
| 953 | 1,060,766.5687m | 298,460.1197m | 0+952.00 |
| 954 | 1,060,766.9807m | 298,459.2492m | 0+953.00 |
| 955 | 1,060,767.7289m | 298,458.5889m | 0+954.00 |
| 956 | 1,060,768.5791m | 298,458.0917m | 0+955.00 |
| 957 | 1,060,769.5468m | 298,457.8395m | 0+956.00 |
| 958 | 1,060,770.3643m | 298,457.3363m | 0+957.00 |
| 959 | 1,060,771.0209m | 298,456.5825m | 0+958.00 |
| 960 | 1,060,771.5487m | 298,455.7382m | 0+959.00 |
| 961 | 1,060,771.8856m | 298,454.8048m | 0+960.00 |
| 962 | 1,060,772.5973m | 298,454.1059m | 0+961.00 |
| 963 | 1,060,772.6336m | 298,453.1527m | 0+962.00 |
| 964 | 1,060,772.3482m | 298,452.3000m | 0+963.00 |
| 965 | 1,060,771.5682m | 298,451.6742m | 0+964.00 |
| 966 | 1,060,771.0068m | 298,450.9433m | 0+965.00 |
| 967 | 1,060,771.4274m | 298,450.3121m | 0+966.00 |
| 968 | 1,060,772.4185m | 298,450.1795m | 0+967.00 |
| 969 | 1,060,772.5652m | 298,449.8629m | 0+968.00 |
| 970 | 1,060,771.7190m | 298,449.3300m | 0+969.00 |
| 971 | 1,060,770.8728m | 298,448.7972m | 0+970.00 |
| 972 | 1,060,770.2585m | 298,448.1324m | 0+971.00 |
| 973 | 1,060,770.5153m | 298,447.2378m | 0+972.00 |
| 974 | 1,060,770.7501m | 298,446.3815m | 0+973.00 |
| 975 | 1,060,770.7988m | 298,445.4148m | 0+974.00 |
| 976 | 1,060,771.1469m | 298,444.4784m | 0+975.00 |
| 977 | 1,060,771.5451m | 298,443.5621m | 0+976.00 |
| 978 | 1,060,771.7159m | 298,442.5775m | 0+977.00 |
| 979 | 1,060,772.1196m | 298,441.6948m | 0+978.00 |
| 980 | 1,060,772.8035m | 298,441.0289m | 0+979.00 |
| 981 | 1,060,773.0303m | 298,440.0761m | 0+980.00 |
| 982 | 1,060,773.0706m | 298,439.0769m | 0+981.00 |
| 983 | 1,060,773.2858m | 298,438.1055m | 0+982.00 |
| 984 | 1,060,773.4451m | 298,437.1190m | 0+983.00 |
| 985 | 1,060,773.5639m | 298,436.1261m | 0+984.00 |
| 986 | 1,060,773.6322m | 298,435.1306m | 0+985.00 |
| 987 | 1,060,773.6546m | 298,434.1334m | 0+986.00 |
| 988 | 1,060,773.2982m | 298,433.3627m | 0+987.00 |
| 989 | 1,060,772.4568m | 298,432.8222m | 0+988.00 |

| 990 | 1,060,771.6154m | 298,432.2818m | 0+989.00 |
|---|---|---|---|
| 991 | 1,060,770.7741m | 298,431.7413m | 0+990.00 |
| 992 | 1,060,769.9327m | 298,431.2008m | 0+991.00 |
| 993 | 1,060,769.0914m | 298,430.6603m | 0+992.00 |
| 994 | 1,060,768.6537m | 298,429.9177m | 0+993.00 |
| 995 | 1,060,768.8841m | 298,428.9587m | 0+994.00 |
| 996 | 1,060,769.2868m | 298,428.0434m | 0+995.00 |
| 997 | 1,060,769.6964m | 298,427.1311m | 0+996.00 |
| 998 | 1,060,770.1264m | 298,426.2299m | 0+997.00 |
| 999 | 1,060,770.6111m | 298,425.3554m | 0+998.00 |
| 1000 | 1,060,771.0696m | 298,424.4667m | 0+999.00 |
| 1001 | 1,060,771.5645m | 298,423.5979m | 1+000.00 |
| 1002 | 1,060,771.5488m | 298,422.6099m | 1+001.00 |
| 1003 | 1,060,771.6744m | 298,421.6230m | 1+002.00 |
| 1004 | 1,060,771.9252m | 298,420.6560m | 1+003.00 |
| 1005 | 1,060,772.2782m | 298,419.7218m | 1+004.00 |
| 1006 | 1,060,772.6550m | 298,418.7955m | 1+005.00 |
| 1007 | 1,060,772.1902m | 298,418.1141m | 1+006.00 |
| 1008 | 1,060,771.3744m | 298,417.5357m | 1+007.00 |
| 1009 | 1,060,770.5586m | 298,416.9574m | 1+008.00 |
| 1010 | 1,060,769.7429m | 298,416.3791m | 1+009.00 |
| 1011 | 1,060,768.9271m | 298,415.8007m | 1+010.00 |
| 1012 | 1,060,768.1113m | 298,415.2224m | 1+011.00 |
| 1013 | 1,060,767.4610m | 298,414.5728m | 1+012.00 |
| 1014 | 1,060,767.5537m | 298,413.5858m | 1+013.00 |
| 1015 | 1,060,767.2891m | 298,412.6214m | 1+014.00 |
| 1016 | 1,060,767.1855m | 298,411.6307m | 1+015.00 |
| 1017 | 1,060,767.0978m | 298,410.6348m | 1+016.00 |
| 1018 | 1,060,767.1970m | 298,409.6680m | 1+017.00 |
| 1019 | 1,060,767.4709m | 298,408.7122m | 1+018.00 |
| 1020 | 1,060,767.5721m | 298,407.7197m | 1+019.00 |
| 1021 | 1,060,767.8550m | 298,406.7851m | 1+020.00 |
| 1022 | 1,060,768.3016m | 298,405.8904m | 1+021.00 |
| 1023 | 1,060,768.7482m | 298,404.9957m | 1+022.00 |
| 1024 | 1,060,769.1948m | 298,404.1010m | 1+023.00 |
| 1025 | 1,060,769.6415m | 298,403.2063m | 1+024.00 |
| 1026 | 1,060,770.0881m | 298,402.3115m | 1+025.00 |
| 1027 | 1,060,770.5347m | 298,401.4168m | 1+026.00 |
| 1028 | 1,060,770.9813m | 298,400.5221m | 1+027.00 |
| 1029 | 1,060,771.4280m | 298,399.6274m | 1+028.00 |
| 1030 | 1,060,771.8746m | 298,398.7327m | 1+029.00 |
| 1031 | 1,060,772.3212m | 298,397.8379m | 1+030.00 |
| 1032 | 1,060,772.7679m | 298,396.9432m | 1+031.00 |
| 1033 | 1,060,773.2145m | 298,396.0485m | 1+032.00 |
| 1034 | 1,060,773.6611m | 298,395.1538m | 1+033.00 |
| 1035 | 1,060,774.1077m | 298,394.2591m | 1+034.00 |
| 1036 | 1,060,774.5544m | 298,393.3643m | 1+035.00 |
| 1037 | 1,060,775.0010m | 298,392.4696m | 1+036.00 |
| 1038 | 1,060,775.4476m | 298,391.5749m | 1+037.00 |
| 1039 | 1,060,775.8942m | 298,390.6802m | 1+038.00 |
| 1040 | 1,060,776.3409m | 298,389.7855m | 1+039.00 |
| 1041 | 1,060,776.7875m | 298,388.8907m | 1+040.00 |
| 1042 | 1,060,777.2341m | 298,387.9960m | 1+041.00 |
| 1043 | 1,060,777.6808m | 298,387.1013m | 1+042.00 |
| 1044 | 1,060,778.1274m | 298,386.2066m | 1+043.00 |
| 1045 | 1,060,778.5740m | 298,385.3119m | 1+044.00 |
| 1046 | 1,060,779.0206m | 298,384.4171m | 1+045.00 |
| 1047 | 1,060,779.4673m | 298,383.5224m | 1+046.00 |
| 1048 | 1,060,779.9139m | 298,382.6277m | 1+047.00 |
| 1049 | 1,060,780.3605m | 298,381.7330m | 1+048.00 |
| 1050 | 1,060,780.8071m | 298,380.8383m | 1+049.00 |
| 1051 | 1,060,781.2538m | 298,379.9435m | 1+050.00 |
| 1052 | 1,060,781.7004m | 298,379.0488m | 1+051.00 |
| 1053 | 1,060,782.1470m | 298,378.1541m | 1+052.00 |
| 1054 | 1,060,782.5936m | 298,377.2594m | 1+053.00 |
| 1055 | 1,060,783.0403m | 298,376.3647m | 1+054.00 |
| 1056 | 1,060,783.4869m | 298,375.4699m | 1+055.00 |
| 1057 | 1,060,783.9335m | 298,374.5752m | 1+056.00 |
| 1058 | 1,060,784.3802m | 298,373.6805m | 1+057.00 |
| 1059 | 1,060,784.8268m | 298,372.7858m | 1+058.00 |
| 1060 | 1,060,785.2734m | 298,371.8911m | 1+059.00 |
| 1061 | 1,060,785.7200m | 298,370.9963m | 1+060.00 |
| 1062 | 1,060,786.1667m | 298,370.1016m | 1+061.00 |
| 1063 | 1,060,786.6133m | 298,369.2069m | 1+062.00 |
| 1064 | 1,060,787.0599m | 298,368.3122m | 1+063.00 |
| 1065 | 1,060,787.5065m | 298,367.4175m | 1+064.00 |
| 1066 | 1,060,787.9532m | 298,366.5227m | 1+065.00 |
| 1067 | 1,060,788.5815m | 298,365.7812m | 1+066.00 |
| 1068 | 1,060,789.3943m | 298,365.2003m | 1+067.00 |
| 1069 | 1,060,790.1424m | 298,364.5367m | 1+068.00 |
| 1070 | 1,060,790.8907m | 298,363.8733m | 1+069.00 |
| 1071 | 1,060,791.6204m | 298,363.1895m | 1+070.00 |
| 1072 | 1,060,792.1886m | 298,362.3689m | 1+071.00 |
| 1073 | 1,060,792.7582m | 298,361.5470m | 1+072.00 |
| 1074 | 1,060,793.3293m | 298,360.7261m | 1+073.00 |
| 1075 | 1,060,793.7937m | 298,359.8415m | 1+074.00 |
| 1076 | 1,060,793.9561m | 298,358.8603m | 1+075.00 |
| 1077 | 1,060,794.1834m | 298,357.8875m | 1+076.00 |
| 1078 | 1,060,794.5292m | 298,356.9505m | 1+077.00 |
| 1079 | 1,060,795.0027m | 298,356.0715m | 1+078.00 |
| 1080 | 1,060,795.5516m | 298,355.2362m | 1+079.00 |
| 1081 | 1,060,796.0493m | 298,354.3696m | 1+080.00 |
| 1082 | 1,060,796.5242m | 298,353.4896m | 1+081.00 |
| 1083 | 1,060,796.8895m | 298,352.5606m | 1+082.00 |
| 1084 | 1,060,797.2879m | 298,351.6440m | 1+083.00 |
| 1085 | 1,060,797.7678m | 298,350.7674m | 1+084.00 |
| 1086 | 1,060,798.1353m | 298,349.8402m | 1+085.00 |
| 1087 | 1,060,798.4162m | 298,348.8807m | 1+086.00 |
| 1088 | 1,060,798.7026m | 298,347.9226m | 1+087.00 |
| 1089 | 1,060,799.0860m | 298,347.0003m | 1+088.00 |
| 1090 | 1,060,799.4924m | 298,346.0866m | 1+089.00 |
| 1091 | 1,060,799.8997m | 298,345.1733m | 1+090.00 |
| 1092 | 1,060,800.3078m | 298,344.2604m | 1+091.00 |
| 1093 | 1,060,800.7169m | 298,343.3478m | 1+092.00 |
| 1094 | 1,060,801.0803m | 298,342.4165m | 1+093.00 |
| 1095 | 1,060,801.4434m | 298,341.4847m | 1+094.00 |
| 1096 | 1,060,801.8300m | 298,340.5625m | 1+095.00 |
| 1097 | 1,060,802.4234m | 298,339.7630m | 1+096.00 |
| 1098 | 1,060,802.8959m | 298,338.8849m | 1+097.00 |
| 1099 | 1,060,803.3433m | 298,337.9905m | 1+098.00 |
| 1100 | 1,060,803.7916m | 298,337.0966m | 1+099.00 |
| 1101 | 1,060,804.2410m | 298,336.2033m | 1+100.00 |
| 1102 | 1,060,804.7480m | 298,335.3417m | 1+101.00 |
| 1103 | 1,060,805.2816m | 298,334.4960m | 1+102.00 |
| 1104 | 1,060,805.6211m | 298,333.5579m | 1+103.00 |
| 1105 | 1,060,806.1009m | 298,332.6824m | 1+104.00 |
| 1106 | 1,060,806.7109m | 298,331.8911m | 1+105.00 |
| 1107 | 1,060,807.2057m | 298,331.0234m | 1+106.00 |
| 1108 | 1,060,807.5876m | 298,330.0998m | 1+107.00 |
| 1109 | 1,060,807.9604m | 298,329.1719m | 1+108.00 |
| 1110 | 1,060,808.2774m | 298,328.2236m | 1+109.00 |
| 1111 | 1,060,808.6272m | 298,327.2869m | 1+110.00 |
| 1112 | 1,060,809.0101m | 298,326.3631m | 1+111.00 |
| 1113 | 1,060,809.5068m | 298,325.4960m | 1+112.00 |
| 1114 | 1,060,810.0431m | 298,324.6520m | 1+113.00 |
| 1115 | 1,060,810.5848m | 298,323.8115m | 1+114.00 |
| 1116 | 1,060,811.1298m | 298,322.9730m | 1+115.00 |
| 1117 | 1,060,811.6843m | 298,322.1408m | 1+116.00 |
| 1118 | 1,060,812.2775m | 298,321.3359m | 1+117.00 |
| 1119 | 1,060,812.9789m | 298,320.6237m | 1+118.00 |
| 1120 | 1,060,813.6141m | 298,319.8519m | 1+119.00 |
| 1121 | 1,060,813.9477m | 298,318.9141m | 1+120.00 |
| 1122 | 1,060,814.3645m | 298,318.0059m | 1+121.00 |
| 1123 | 1,060,814.8006m | 298,317.1059m | 1+122.00 |
| 1124 | 1,060,815.0057m | 298,316.1296m | 1+123.00 |
| 1125 | 1,060,815.1760m | 298,315.1442m | 1+124.00 |
| 1126 | 1,060,815.4822m | 298,314.2025m | 1+125.00 |
| 1127 | 1,060,815.9808m | 298,313.3357m | 1+126.00 |
| 1128 | 1,060,816.4805m | 298,312.4695m | 1+127.00 |
| 1129 | 1,060,816.9815m | 298,311.6040m | 1+128.00 |
| 1130 | 1,060,817.4835m | 298,310.7392m | 1+129.00 |
| 1131 | 1,060,817.9868m | 298,309.8750m | 1+130.00 |
| 1132 | 1,060,818.4912m | 298,309.0115m | 1+131.00 |
| 1133 | 1,060,818.9967m | 298,308.1488m | 1+132.00 |
| 1134 | 1,060,819.5034m | 298,307.2866m | 1+133.00 |
| 1135 | 1,060,820.0113m | 298,306.4252m | 1+134.00 |
| 1136 | 1,060,820.5203m | 298,305.5645m | 1+135.00 |
| 1137 | 1,060,821.0305m | 298,304.7044m | 1+136.00 |
| 1138 | 1,060,821.5419m | 298,303.8450m | 1+137.00 |
| 1139 | 1,060,822.0544m | 298,302.9863m | 1+138.00 |
| 1140 | 1,060,822.5680m | 298,302.1284m | 1+139.00 |
| 1141 | 1,060,823.0829m | 298,301.2710m | 1+140.00 |
| 1142 | 1,060,823.5988m | 298,300.4144m | 1+141.00 |
| 1143 | 1,060,824.1159m | 298,299.5585m | 1+142.00 |
| 1144 | 1,060,824.6342m | 298,298.7033m | 1+143.00 |
| 1145 | 1,060,825.1536m | 298,297.8488m | 1+144.00 |
| 1146 | 1,060,825.6742m | 298,296.9950m | 1+145.00 |
| 1147 | 1,060,826.1959m | 298,296.1418m | 1+146.00 |
| 1148 | 1,060,826.7188m | 298,295.2894m | 1+147.00 |
| 1149 | 1,060,827.2428m | 298,294.4377m | 1+148.00 |
| 1150 | 1,060,827.7679m | 298,293.5867m | 1+149.00 |
| 1151 | 1,060,828.2942m | 298,292.7364m | 1+150.00 |
| 1152 | 1,060,828.8216m | 298,291.8868m | 1+151.00 |
| 1153 | 1,060,829.3502m | 298,291.0379m | 1+152.00 |
| 1154 | 1,060,829.8799m | 298,290.1897m | 1+153.00 |
| 1155 | 1,060,830.4108m | 298,289.3423m | 1+154.00 |
| 1156 | 1,060,830.9428m | 298,288.4955m | 1+155.00 |
| 1157 | 1,060,831.4759m | 298,287.6495m | 1+156.00 |
| 1158 | 1,060,832.0102m | 298,286.8042m | 1+157.00 |
| 1159 | 1,060,832.5456m | 298,285.9596m | 1+158.00 |
| 1160 | 1,060,833.0822m | 298,285.1157m | 1+159.00 |
| 1161 | 1,060,833.6198m | 298,284.2726m | 1+160.00 |
| 1162 | 1,060,834.1587m | 298,283.4302m | 1+161.00 |
| 1163 | 1,060,834.6986m | 298,282.5885m | 1+162.00 |
| 1164 | 1,060,835.2397m | 298,281.7475m | 1+163.00 |
| 1165 | 1,060,835.7819m | 298,280.9072m | 1+164.00 |
| 1166 | 1,060,836.3252m | 298,280.0677m | 1+165.00 |
| 1167 | 1,060,836.8697m | 298,279.2289m | 1+166.00 |
| 1168 | 1,060,837.4153m | 298,278.3909m | 1+167.00 |
| 1169 | 1,060,837.9620m | 298,277.5536m | 1+168.00 |
| 1170 | 1,060,838.5099m | 298,276.7170m | 1+169.00 |
| 1171 | 1,060,839.0588m | 298,275.8812m | 1+170.00 |
| 1172 | 1,060,839.6085m | 298,275.0458m | 1+171.00 |
| 1173 | 1,060,840.1582m | 298,274.2104m | 1+172.00 |
| 1174 | 1,060,840.7080m | 298,273.3751m | 1+173.00 |
| 1175 | 1,060,841.2577m | 298,272.5397m | 1+174.00 |
| 1176 | 1,060,841.8074m | 298,271.7044m | 1+175.00 |
| 1177 | 1,060,842.3571m | 298,270.8690m | 1+176.00 |
| 1178 | 1,060,842.9068m | 298,270.0337m | 1+177.00 |
| 1179 | 1,060,843.4566m | 298,269.1983m | 1+178.00 |
| 1180 | 1,060,844.0063m | 298,268.3630m | 1+179.00 |
| 1181 | 1,060,844.5560m | 298,267.5276m | 1+180.00 |
| 1182 | 1,060,845.1057m | 298,266.6923m | 1+181.00 |
| 1183 | 1,060,845.6554m | 298,265.8569m | 1+182.00 |
| 1184 | 1,060,846.2052m | 298,265.0216m | 1+183.00 |
| 1185 | 1,060,846.7549m | 298,264.1862m | 1+184.00 |
| 1186 | 1,060,847.3046m | 298,263.3509m | 1+185.00 |
| 1187 | 1,060,847.8543m | 298,262.5155m | 1+186.00 |
| 1188 | 1,060,848.4040m | 298,261.6802m | 1+187.00 |
| 1189 | 1,060,848.9537m | 298,260.8448m | 1+188.00 |
| 1190 | 1,060,849.5035m | 298,260.0095m | 1+189.00 |
| 1191 | 1,060,850.0532m | 298,259.1741m | 1+190.00 |
| 1192 | 1,060,850.6029m | 298,258.3388m | 1+191.00 |
| 1193 | 1,060,851.1526m | 298,257.5034m | 1+192.00 |
| 1194 | 1,060,851.7023m | 298,256.6681m | 1+193.00 |
| 1195 | 1,060,852.2521m | 298,255.8327m | 1+194.00 |
| 1196 | 1,060,852.8018m | 298,254.9974m | 1+195.00 |
| 1197 | 1,060,853.3515m | 298,254.1620m | 1+196.00 |
| 1198 | 1,060,853.9011m | 298,253.3266m | 1+197.00 |
| 1199 | 1,060,854.4380m | 298,252.4830m | 1+198.00 |
| 1200 | 1,060,854.9531m | 298,251.6259m | 1+199.00 |
| 1201 | 1,060,855.4460m | 298,250.7558m | 1+200.00 |
| 1202 | 1,060,855.9163m | 298,249.8734m | 1+201.00 |
| 1203 | 1,060,856.3638m | 298,248.9791m | 1+202.00 |
| 1204 | 1,060,856.7881m | 298,248.0737m | 1+203.00 |
| 1205 | 1,060,857.1891m | 298,247.1576m | 1+204.00 |
| 1206 | 1,060,857.5663m | 298,246.2315m | 1+205.00 |
| 1207 | 1,060,857.9197m | 298,245.2960m | 1+206.00 |
| 1208 | 1,060,858.2488m | 298,244.3518m | 1+207.00 |
| 1209 | 1,060,858.5536m | 298,243.3994m | 1+208.00 |
| 1210 | 1,060,858.8338m | 298,242.4395m | 1+209.00 |
| 1211 | 1,060,859.1261m | 298,241.4887m | 1+210.00 |
| 1212 | 1,060,859.6468m | 298,240.6350m | 1+211.00 |
| 1213 | 1,060,860.1402m | 298,239.7654m | 1+212.00 |
| 1214 | 1,060,860.6309m | 298,238.8941m | 1+213.00 |
| 1215 | 1,060,861.0526m | 298,238.0005m | 1+214.00 |
| 1216 | 1,060,861.1864m | 298,237.0095m | 1+215.00 |
| 1217 | 1,060,861.3547m | 298,236.0239m | 1+216.00 |
| 1218 | 1,060,861.4892m | 298,235.0331m | 1+217.00 |
| 1219 | 1,060,861.6005m | 298,234.0394m | 1+218.00 |
| 1220 | 1,060,861.6894m | 298,233.0434m | 1+219.00 |
| 1221 | 1,060,861.7583m | 298,232.0508m | 1+220.00 |
| 1222 | 1,060,861.8253m | 298,231.0481m | 1+221.00 |
| 1223 | 1,060,861.8828m | 298,230.0497m | 1+222.00 |
| 1224 | 1,060,862.1203m | 298,229.0967m | 1+223.00 |
| 1225 | 1,060,862.5332m | 298,228.1863m | 1+224.00 |
| 1226 | 1,060,862.8438m | 298,227.2358m | 1+225.00 |
| 1227 | 1,060,863.5556m | 298,226.6572m | 1+226.00 |
| 1228 | 1,060,864.4799m | 298,226.2755m | 1+227.00 |
| 1229 | 1,060,865.4042m | 298,225.8938m | 1+228.00 |
| 1230 | 1,060,866.3285m | 298,225.5121m | 1+229.00 |
| 1231 | 1,060,867.2528m | 298,225.1304m | 1+230.00 |
| 1232 | 1,060,868.0003m | 298,224.6266m | 1+231.00 |
| 1233 | 1,060,868.0299m | 298,223.6270m | 1+232.00 |
| 1234 | 1,060,867.8324m | 298,222.6576m | 1+233.00 |
| 1235 | 1,060,867.5893m | 298,221.6911m | 1+234.00 |
| 1236 | 1,060,867.4871m | 298,220.6964m | 1+235.00 |
| 1237 | 1,060,867.6184m | 298,219.7130m | 1+236.00 |
| 1238 | 1,060,867.8129m | 298,218.7322m | 1+237.00 |
| 1239 | 1,060,867.9768m | 298,217.7457m | 1+238.00 |
| 1240 | 1,060,868.0144m | 298,216.7558m | 1+239.00 |
| 1241 | 1,060,867.9051m | 298,215.7617m | 1+240.00 |
| 1242 | 1,060,867.6835m | 298,214.7872m | 1+241.00 |
| 1243 | 1,060,867.4961m | 298,213.8066m | 1+242.00 |
| 1244 | 1,060,867.3803m | 298,212.8134m | 1+243.00 |
| 1245 | 1,060,867.2142m | 298,211.8276m | 1+244.00 |
| 1246 | 1,060,867.2085m | 298,210.8888m | 1+245.00 |
| 1247 | 1,060,867.8448m | 298,210.1174m | 1+246.00 |
| 1248 | 1,060,868.4812m | 298,209.3459m | 1+247.00 |
| 1249 | 1,060,869.1175m | 298,208.5745m | 1+248.00 |
| 1250 | 1,060,869.3778m | 298,207.7215m | 1+249.00 |
| 1251 | 1,060,869.1184m | 298,206.7558m | 1+250.00 |
| 1252 | 1,060,868.8953m | 298,205.7812m | 1+251.00 |
| 1253 | 1,060,868.6860m | 298,204.8034m | 1+252.00 |
| 1254 | 1,060,868.3593m | 298,203.8585m | 1+253.00 |
| 1255 | 1,060,868.0217m | 298,202.9173m | 1+254.00 |
| 1256 | 1,060,867.6944m | 298,201.9770m | 1+255.00 |
| 1257 | 1,060,867.5234m | 298,200.9969m | 1+256.00 |
| 1258 | 1,060,867.2431m | 298,200.0370m | 1+257.00 |
| 1259 | 1,060,866.8582m | 298,199.1177m | 1+258.00 |
| 1260 | 1,060,866.4169m | 298,198.2204m | 1+259.00 |
| 1261 | 1,060,866.1131m | 298,197.2690m | 1+260.00 |
| 1262 | 1,060,865.8252m | 298,196.3113m | 1+261.00 |
| 1263 | 1,060,865.5251m | 298,195.3574m | 1+262.00 |
| 1264 | 1,060,865.2147m | 298,194.4073m | 1+263.00 |
| 1265 | 1,060,864.8273m | 298,193.4854m | 1+264.00 |
| 1266 | 1,060,864.6035m | 298,192.5569m | 1+265.00 |
| 1267 | 1,060,864.9158m | 298,191.6069m | 1+266.00 |
| 1268 | 1,060,865.2281m | 298,190.6569m | 1+267.00 |
| 1269 | 1,060,865.5403m | 298,189.7069m | 1+268.00 |
| 1270 | 1,060,865.5606m | 298,188.7790m | 1+269.00 |
| 1271 | 1,060,865.1092m | 298,187.8866m | 1+270.00 |
| 1272 | 1,060,864.6354m | 298,187.0067m | 1+271.00 |
| 1273 | 1,060,864.1239m | 298,186.1473m | 1+272.00 |
| 1274 | 1,060,863.6507m | 298,185.2682m | 1+273.00 |
| 1275 | 1,060,863.2422m | 298,184.3554m | 1+274.00 |
| 1276 | 1,060,862.8138m | 298,183.4527m | 1+275.00 |
| 1277 | 1,060,862.3197m | 298,182.5834m | 1+276.00 |
| 1278 | 1,060,861.8076m | 298,181.7264m | 1+277.00 |
| 1279 | 1,060,861.1689m | 298,180.9569m | 1+278.00 |
| 1280 | 1,060,860.5268m | 298,180.1905m | 1+279.00 |
| 1281 | 1,060,859.8470m | 298,179.4570m | 1+280.00 |
| 1282 | 1,060,859.1632m | 298,178.7279m | 1+281.00 |
| 1283 | 1,060,858.3904m | 298,178.0933m | 1+282.00 |
| 1284 | 1,060,857.6145m | 298,177.4635m | 1+283.00 |
| 1285 | 1,060,856.7132m | 298,177.0304m | 1+284.00 |
| 1286 | 1,060,855.8118m | 298,176.5973m | 1+285.00 |
| 1287 | 1,060,854.8808m | 298,176.2323m | 1+286.00 |
| 1288 | 1,060,853.9497m | 298,175.8676m | 1+287.00 |
| 1289 | 1,060,853.0082m | 298,175.5306m | 1+288.00 |
| 1290 | 1,060,852.0663m | 298,175.1946m | 1+289.00 |
| 1291 | 1,060,851.1073m | 298,174.9115m | 1+290.00 |
| 1292 | 1,060,850.1473m | 298,174.6316m | 1+291.00 |
| 1293 | 1,060,849.1515m | 298,174.5627m | 1+292.00 |
| 1294 | 1,060,848.1529m | 298,174.5108m | 1+293.00 |
| 1295 | 1,060,847.1578m | 298,174.4141m | 1+294.00 |
| 1296 | 1,060,846.1637m | 298,174.3060m | 1+295.00 |
| 1297 | 1,060,845.1654m | 298,174.2573m | 1+296.00 |
| 1298 | 1,060,844.1659m | 298,174.2273m | 1+297.00 |
| 1299 | 1,060,843.3674m | 298,174.7150m | 1+298.00 |
| 1300 | 1,060,842.6501m | 298,175.4118m | 1+299.00 |
| 1301 | 1,060,841.9329m | 298,176.1086m | 1+300.00 |
| 1302 | 1,060,841.2156m | 298,176.8053m | 1+301.00 |
| 1303 | 1,060,840.3904m | 298,177.2932m | 1+302.00 |
| 1304 | 1,060,839.4070m | 298,177.4749m | 1+303.00 |
| 1305 | 1,060,838.4356m | 298,177.4732m | 1+304.00 |
| 1306 | 1,060,837.4839m | 298,177.1660m | 1+305.00 |
| 1307 | 1,060,836.5028m | 298,177.0288m | 1+306.00 |
| 1308 | 1,060,835.5033m | 298,176.9975m | 1+307.00 |
| 1309 | 1,060,834.5036m | 298,176.9734m | 1+308.00 |
| 1310 | 1,060,833.5042m | 298,176.9467m | 1+309.00 |
| 1311 | 1,060,832.5150m | 298,176.7997m | 1+310.00 |
| 1312 | 1,060,831.5229m | 298,176.6853m | 1+311.00 |
| 1313 | 1,060,830.5236m | 298,176.6475m | 1+312.00 |
| 1314 | 1,060,829.5282m | 298,176.5614m | 1+313.00 |
| 1315 | 1,060,828.5361m | 298,176.4363m | 1+314.00 |
| 1316 | 1,060,827.5443m | 298,176.5215m | 1+315.00 |
| 1317 | 1,060,826.5528m | 298,176.6513m | 1+316.00 |
| 1318 | 1,060,825.5634m | 298,176.7964m | 1+317.00 |
| 1319 | 1,060,824.5729m | 298,176.9336m | 1+318.00 |

| | | | |
|---|---|---|---|
| 1320 | 1,060,823.5801m | 298,177.0533m | 1+319.00 |
| 1321 | 1,060,822.5836m | 298,177.1277m | 1+320.00 |
| 1322 | 1,060,821.5845m | 298,177.1707m | 1+321.00 |
| 1323 | 1,060,820.5875m | 298,177.2475m | 1+322.00 |
| 1324 | 1,060,819.5924m | 298,177.3421m | 1+323.00 |
| 1325 | 1,060,818.6034m | 298,177.4899m | 1+324.00 |
| 1326 | 1,060,817.6182m | 298,177.6599m | 1+325.00 |
| 1327 | 1,060,816.6362m | 298,177.8486m | 1+326.00 |
| 1328 | 1,060,815.6551m | 298,178.0425m | 1+327.00 |
| 1329 | 1,060,814.6752m | 298,178.2414m | 1+328.00 |
| 1330 | 1,060,813.6983m | 298,178.4552m | 1+329.00 |
| 1331 | 1,060,812.7210m | 298,178.6672m | 1+330.00 |
| 1332 | 1,060,811.7489m | 298,178.9011m | 1+331.00 |
| 1333 | 1,060,810.7734m | 298,179.1146m | 1+332.00 |
| 1334 | 1,060,809.7927m | 298,179.3062m | 1+333.00 |
| 1335 | 1,060,808.8058m | 298,179.4514m | 1+334.00 |
| 1336 | 1,060,807.8294m | 298,179.6671m | 1+335.00 |
| 1337 | 1,060,806.8423m | 298,179.8271m | 1+336.00 |
| 1338 | 1,060,805.8541m | 298,179.9696m | 1+337.00 |
| 1339 | 1,060,804.8933m | 298,180.0441m | 1+338.00 |
| 1340 | 1,060,803.9047m | 298,180.0973m | 1+339.00 |
| 1341 | 1,060,802.9065m | 298,180.1879m | 1+340.00 |
| 1342 | 1,060,801.9351m | 298,180.4073m | 1+341.00 |
| 1343 | 1,060,801.0095m | 298,180.6357m | 1+342.00 |
| 1344 | 1,060,800.0155m | 298,180.6388m | 1+343.00 |
| 1345 | 1,060,799.0293m | 298,180.6555m | 1+344.00 |
| 1346 | 1,060,798.1037m | 298,180.2697m | 1+345.00 |
| 1347 | 1,060,797.1649m | 298,179.9233m | 1+346.00 |
| 1348 | 1,060,796.2401m | 298,180.1195m | 1+347.00 |
| 1349 | 1,060,795.2980m | 298,180.4389m | 1+348.00 |
| 1350 | 1,060,794.3765m | 298,180.8247m | 1+349.00 |
| 1351 | 1,060,793.3854m | 298,180.8483m | 1+350.00 |
| 1352 | 1,060,792.4898m | 298,180.4112m | 1+351.00 |
| 1353 | 1,060,791.6013m | 298,179.9585m | 1+352.00 |
| 1354 | 1,060,790.6432m | 298,179.6819m | 1+353.00 |
| 1355 | 1,060,789.6904m | 298,179.3785m | 1+354.00 |
| 1356 | 1,060,788.7272m | 298,179.1100m | 1+355.00 |
| 1357 | 1,060,787.7449m | 298,178.9248m | 1+356.00 |
| 1358 | 1,060,786.7505m | 298,178.8507m | 1+357.00 |
| 1359 | 1,060,785.7640m | 298,178.7837m | 1+358.00 |
| 1360 | 1,060,784.7759m | 298,178.8290m | 1+359.00 |
| 1361 | 1,060,783.7763m | 298,178.8163m | 1+360.00 |
| 1362 | 1,060,782.7768m | 298,178.8463m | 1+361.00 |
| 1363 | 1,060,781.7779m | 298,178.8889m | 1+362.00 |
| 1364 | 1,060,780.8056m | 298,179.1085m | 1+363.00 |
| 1365 | 1,060,779.8646m | 298,179.4445m | 1+364.00 |
| 1366 | 1,060,778.9259m | 298,179.7890m | 1+365.00 |
| 1367 | 1,060,777.9875m | 298,180.1341m | 1+366.00 |
| 1368 | 1,060,777.0543m | 298,180.4935m | 1+367.00 |
| 1369 | 1,060,776.2680m | 298,181.0903m | 1+368.00 |
| 1370 | 1,060,776.3207m | 298,182.0522m | 1+369.00 |
| 1371 | 1,060,776.4596m | 298,183.0425m | 1+370.00 |
| 1372 | 1,060,776.5985m | 298,184.0328m | 1+371.00 |
| 1373 | 1,060,775.9738m | 298,184.6705m | 1+372.00 |
| 1374 | 1,060,775.1458m | 298,185.1839m | 1+373.00 |
| 1375 | 1,060,774.2302m | 298,185.5733m | 1+374.00 |
| 1376 | 1,060,773.3066m | 298,185.9560m | 1+375.00 |
| 1377 | 1,060,772.4030m | 298,186.3688m | 1+376.00 |
| 1378 | 1,060,771.5206m | 298,186.8350m | 1+377.00 |
| 1379 | 1,060,770.5879m | 298,187.1785m | 1+378.00 |
| 1380 | 1,060,769.6248m | 298,187.4461m | 1+379.00 |
| 1381 | 1,060,768.6601m | 298,187.6615m | 1+380.00 |
| 1382 | 1,060,767.6937m | 298,187.8280m | 1+381.00 |
| 1383 | 1,060,766.6963m | 298,187.8593m | 1+382.00 |
| 1384 | 1,060,765.7553m | 298,188.0801m | 1+383.00 |
| 1385 | 1,060,764.8965m | 298,188.5835m | 1+384.00 |
| 1386 | 1,060,763.9405m | 298,188.7662m | 1+385.00 |
| 1387 | 1,060,762.9412m | 298,188.7419m | 1+386.00 |
| 1388 | 1,060,761.9483m | 298,188.8598m | 1+387.00 |
| 1389 | 1,060,760.9570m | 298,188.9920m | 1+388.00 |
| 1390 | 1,060,760.0097m | 298,189.2765m | 1+389.00 |
| 1391 | 1,060,759.1392m | 298,189.7688m | 1+390.00 |
| 1392 | 1,060,758.1702m | 298,190.0072m | 1+391.00 |
| 1393 | 1,060,757.3086m | 298,190.4883m | 1+392.00 |
| 1394 | 1,060,756.5357m | 298,191.1229m | 1+393.00 |
| 1395 | 1,060,755.7624m | 298,191.7569m | 1+394.00 |
| 1396 | 1,060,754.9709m | 298,192.3676m | 1+395.00 |
| 1397 | 1,060,754.0418m | 298,192.7289m | 1+396.00 |
| 1398 | 1,060,753.0579m | 298,192.9058m | 1+397.00 |
| 1399 | 1,060,752.0728m | 298,193.0778m | 1+398.00 |
| 1400 | 1,060,751.1101m | 298,193.3476m | 1+399.00 |
| 1401 | 1,060,750.1998m | 298,193.7516m | 1+400.00 |
| 1402 | 1,060,749.3388m | 298,194.2557m | 1+401.00 |
| 1403 | 1,060,748.5802m | 298,194.9063m | 1+402.00 |
| 1404 | 1,060,747.9593m | 298,195.6880m | 1+403.00 |
| 1405 | 1,060,747.3875m | 298,196.5030m | 1+404.00 |
| 1406 | 1,060,747.0064m | 298,197.4276m | 1+405.00 |
| 1407 | 1,060,746.6487m | 298,198.3612m | 1+406.00 |
| 1408 | 1,060,746.3901m | 298,199.3197m | 1+407.00 |
| 1409 | 1,060,746.3161m | 298,200.2781m | 1+408.00 |
| 1410 | 1,060,745.9723m | 298,201.2151m | 1+409.00 |
| 1411 | 1,060,745.7135m | 298,202.1803m | 1+410.00 |
| 1412 | 1,060,745.5796m | 298,203.1702m | 1+411.00 |
| 1413 | 1,060,745.4472m | 298,204.1588m | 1+412.00 |
| 1414 | 1,060,745.3905m | 298,205.1571m | 1+413.00 |
| 1415 | 1,060,744.8982m | 298,205.8216m | 1+414.00 |
| 1416 | 1,060,743.9488m | 298,206.1357m | 1+415.00 |
| 1417 | 1,060,742.9994m | 298,206.4499m | 1+416.00 |
| 1418 | 1,060,742.2823m | 298,207.0032m | 1+417.00 |
| 1419 | 1,060,741.9403m | 298,207.9429m | 1+418.00 |
| 1420 | 1,060,741.5983m | 298,208.8826m | 1+419.00 |
| 1421 | 1,060,741.3014m | 298,209.8364m | 1+420.00 |
| 1422 | 1,060,741.1781m | 298,210.8286m | 1+421.00 |
| 1423 | 1,060,741.0207m | 298,211.8160m | 1+422.00 |
| 1424 | 1,060,740.7681m | 298,212.7826m | 1+423.00 |
| 1425 | 1,060,740.6045m | 298,213.7659m | 1+424.00 |
| 1426 | 1,060,740.5436m | 298,214.7640m | 1+425.00 |
| 1427 | 1,060,740.4826m | 298,215.7621m | 1+426.00 |
| 1428 | 1,060,740.4217m | 298,216.7603m | 1+427.00 |
| 1429 | 1,060,740.3608m | 298,217.7584m | 1+428.00 |
| 1430 | 1,060,740.2926m | 298,218.7559m | 1+429.00 |
| 1431 | 1,060,740.1141m | 298,219.7351m | 1+430.00 |
| 1432 | 1,060,740.2314m | 298,220.7277m | 1+431.00 |
| 1433 | 1,060,740.3764m | 298,221.7171m | 1+432.00 |
| 1434 | 1,060,740.4864m | 298,222.7104m | 1+433.00 |
| 1435 | 1,060,740.4871m | 298,223.7098m | 1+434.00 |
| 1436 | 1,060,740.3545m | 298,224.6964m | 1+435.00 |
| 1437 | 1,060,739.5027m | 298,225.2202m | 1+436.00 |
| 1438 | 1,060,739.2786m | 298,226.0621m | 1+437.00 |
| 1439 | 1,060,739.7830m | 298,226.9205m | 1+438.00 |
| 1440 | 1,060,739.8259m | 298,227.8626m | 1+439.00 |
| 1441 | 1,060,739.7084m | 298,228.8557m | 1+440.00 |
| 1442 | 1,060,739.5908m | 298,229.8487m | 1+441.00 |
| 1443 | 1,060,740.2884m | 298,230.5499m | 1+442.00 |
| 1444 | 1,060,740.6950m | 298,231.4045m | 1+443.00 |
| 1445 | 1,060,741.4142m | 298,232.0953m | 1+444.00 |
| 1446 | 1,060,741.7350m | 298,233.0381m | 1+445.00 |
| 1447 | 1,060,742.0428m | 298,233.9895m | 1+446.00 |
| 1448 | 1,060,742.3835m | 298,234.9289m | 1+447.00 |
| 1449 | 1,060,742.7913m | 298,235.8388m | 1+448.00 |
| 1450 | 1,060,743.1965m | 298,236.7523m | 1+449.00 |
| 1451 | 1,060,743.6225m | 298,237.6525m | 1+450.00 |
| 1452 | 1,060,744.2339m | 298,238.4422m | 1+451.00 |
| 1453 | 1,060,744.8490m | 298,239.2305m | 1+452.00 |
| 1454 | 1,060,745.5147m | 298,239.9720m | 1+453.00 |
| 1455 | 1,060,746.2095m | 298,240.6904m | 1+454.00 |
| 1456 | 1,060,746.8566m | 298,241.4521m | 1+455.00 |
| 1457 | 1,060,747.4146m | 298,242.2820m | 1+456.00 |
| 1458 | 1,060,747.9751m | 298,243.1097m | 1+457.00 |
| 1459 | 1,060,748.5520m | 298,243.9044m | 1+458.00 |
| 1460 | 1,060,749.4525m | 298,244.2973m | 1+459.00 |
| 1461 | 1,060,750.3370m | 298,244.7329m | 1+460.00 |
| 1462 | 1,060,751.1500m | 298,245.3150m | 1+461.00 |
| 1463 | 1,060,751.8429m | 298,246.0057m | 1+462.00 |
| 1464 | 1,060,752.3101m | 298,246.8897m | 1+463.00 |
| 1465 | 1,060,752.7767m | 298,247.7742m | 1+464.00 |
| 1466 | 1,060,753.2738m | 298,248.6417m | 1+465.00 |
| 1467 | 1,060,753.7724m | 298,249.5086m | 1+466.00 |
| 1468 | 1,060,754.2243m | 298,250.3995m | 1+467.00 |
| 1469 | 1,060,754.5519m | 298,251.3441m | 1+468.00 |
| 1470 | 1,060,754.9589m | 298,252.2566m | 1+469.00 |
| 1471 | 1,060,755.3984m | 298,253.1549m | 1+470.00 |
| 1472 | 1,060,755.9432m | 298,253.9764m | 1+471.00 |
| 1473 | 1,060,756.6627m | 298,254.6710m | 1+472.00 |
| 1474 | 1,060,757.4028m | 298,255.3405m | 1+473.00 |
| 1475 | 1,060,758.2466m | 298,255.8771m | 1+474.00 |
| 1476 | 1,060,759.0964m | 298,256.4010m | 1+475.00 |
| 1477 | 1,060,760.0466m | 298,256.7129m | 1+476.00 |
| 1478 | 1,060,760.9967m | 298,257.0247m | 1+477.00 |
| 1479 | 1,060,761.9849m | 298,257.1156m | 1+478.00 |
| 1480 | 1,060,762.9846m | 298,257.1074m | 1+479.00 |
| 1481 | 1,060,763.9672m | 298,256.9255m | 1+480.00 |
| 1482 | 1,060,764.9510m | 298,256.7466m | 1+481.00 |
| 1483 | 1,060,765.9067m | 298,256.4535m | 1+482.00 |
| 1484 | 1,060,766.8695m | 298,256.1856m | 1+483.00 |
| 1485 | 1,060,767.8453m | 298,255.9675m | 1+484.00 |
| 1486 | 1,060,768.8149m | 298,255.7648m | 1+485.00 |
| 1487 | 1,060,769.7521m | 298,255.4160m | 1+486.00 |
| 1488 | 1,060,770.6871m | 298,255.0649m | 1+487.00 |
| 1489 | 1,060,771.6531m | 298,254.8070m | 1+488.00 |
| 1490 | 1,060,772.5908m | 298,254.4629m | 1+489.00 |
| 1491 | 1,060,773.5292m | 298,254.1177m | 1+490.00 |
| 1492 | 1,060,774.4924m | 298,253.8662m | 1+491.00 |
| 1493 | 1,060,775.4607m | 298,253.6204m | 1+492.00 |
| 1494 | 1,060,776.4329m | 298,253.3864m | 1+493.00 |
| 1495 | 1,060,777.4072m | 298,253.1615m | 1+494.00 |
| 1496 | 1,060,778.3942m | 298,253.0024m | 1+495.00 |
| 1497 | 1,060,779.3831m | 298,252.8536m | 1+496.00 |
| 1498 | 1,060,780.3720m | 298,252.7047m | 1+497.00 |
| 1499 | 1,060,781.3580m | 298,252.5399m | 1+498.00 |
| 1500 | 1,060,782.3317m | 298,252.3141m | 1+499.00 |
| 1501 | 1,060,783.3223m | 298,252.1799m | 1+500.00 |
| 1502 | 1,060,784.3007m | 298,251.9787m | 1+501.00 |
| 1503 | 1,060,785.2915m | 298,251.8583m | 1+502.00 |
| 1504 | 1,060,786.2875m | 298,251.7683m | 1+503.00 |
| 1505 | 1,060,787.2479m | 298,251.5398m | 1+504.00 |
| 1506 | 1,060,788.1385m | 298,251.0951m | 1+505.00 |
| 1507 | 1,060,788.9898m | 298,250.5704m | 1+506.00 |
| 1508 | 1,060,789.7495m | 298,249.9274m | 1+507.00 |
| 1509 | 1,060,790.3886m | 298,249.1763m | 1+508.00 |
| 1510 | 1,060,790.6673m | 298,248.2176m | 1+509.00 |
| 1511 | 1,060,790.9149m | 298,247.2494m | 1+510.00 |
| 1512 | 1,060,791.0442m | 298,246.2578m | 1+511.00 |
| 1513 | 1,060,791.1417m | 298,245.2637m | 1+512.00 |
| 1514 | 1,060,791.1577m | 298,244.2638m | 1+513.00 |
| 1515 | 1,060,791.1736m | 298,243.2640m | 1+514.00 |
| 1516 | 1,060,791.1903m | 298,242.2641m | 1+515.00 |
| 1517 | 1,060,791.2320m | 298,241.2655m | 1+516.00 |
| 1518 | 1,060,791.3532m | 298,240.2735m | 1+517.00 |
| 1519 | 1,060,791.4120m | 298,239.2756m | 1+518.00 |
| 1520 | 1,060,791.4014m | 298,238.2775m | 1+519.00 |
| 1521 | 1,060,791.4800m | 298,237.2806m | 1+520.00 |
| 1522 | 1,060,791.4506m | 298,236.2895m | 1+521.00 |
| 1523 | 1,060,791.3370m | 298,235.2965m | 1+522.00 |
| 1524 | 1,060,791.2479m | 298,234.3006m | 1+523.00 |
| 1525 | 1,060,791.1949m | 298,233.3025m | 1+524.00 |
| 1526 | 1,060,791.1987m | 298,232.3030m | 1+525.00 |
| 1527 | 1,060,791.2091m | 298,231.3037m | 1+526.00 |
| 1528 | 1,060,791.1689m | 298,230.3046m | 1+527.00 |
| 1529 | 1,060,791.0128m | 298,229.3186m | 1+528.00 |
| 1530 | 1,060,790.9244m | 298,228.3226m | 1+529.00 |
| 1531 | 1,060,790.9395m | 298,227.3243m | 1+530.00 |
| 1532 | 1,060,790.9624m | 298,226.3252m | 1+531.00 |
| 1533 | 1,060,790.9479m | 298,225.3253m | 1+532.00 |
| 1534 | 1,060,790.8966m | 298,224.3267m | 1+533.00 |
| 1535 | 1,060,790.8390m | 298,223.3284m | 1+534.00 |
| 1536 | 1,060,791.5475m | 298,222.6586m | 1+535.00 |
| 1537 | 1,060,792.4799m | 298,222.3330m | 1+536.00 |
| 1538 | 1,060,793.4478m | 298,222.0817m | 1+537.00 |
| 1539 | 1,060,793.8890m | 298,221.3221m | 1+538.00 |
| 1540 | 1,060,794.5088m | 298,220.7270m | 1+539.00 |
| 1541 | 1,060,794.8553m | 298,219.7989m | 1+540.00 |
| 1542 | 1,060,795.2885m | 298,218.8992m | 1+541.00 |
| 1543 | 1,060,795.8807m | 298,218.0951m | 1+542.00 |
| 1544 | 1,060,796.5968m | 298,217.4068m | 1+543.00 |
| 1545 | 1,060,797.4094m | 298,216.8161m | 1+544.00 |
| 1546 | 1,060,798.2760m | 298,216.3197m | 1+545.00 |
| 1547 | 1,060,799.1531m | 298,215.9045m | 1+546.00 |
| 1548 | 1,060,800.1020m | 298,215.6491m | 1+547.00 |
| 1549 | 1,060,800.5133m | 298,214.9024m | 1+548.00 |
| 1550 | 1,060,800.6779m | 298,213.9640m | 1+549.00 |
| 1551 | 1,060,801.1073m | 298,213.1005m | 1+550.00 |
| 1552 | 1,060,801.3873m | 298,212.1813m | 1+551.00 |
| 1553 | 1,060,802.2833m | 298,211.7395m | 1+552.00 |
| 1554 | 1,060,803.1836m | 298,211.3042m | 1+553.00 |
| 1555 | 1,060,804.0839m | 298,210.8690m | 1+554.00 |
| 1556 | 1,060,804.9512m | 298,210.3727m | 1+555.00 |
| 1557 | 1,060,805.8583m | 298,209.9574m | 1+556.00 |
| 1558 | 1,060,806.8078m | 298,209.6438m | 1+557.00 |
| 1559 | 1,060,807.7555m | 298,209.3246m | 1+558.00 |
| 1560 | 1,060,808.7164m | 298,209.0485m | 1+559.00 |
| 1561 | 1,060,809.6801m | 298,208.7815m | 1+560.00 |
| 1562 | 1,060,810.6288m | 298,208.4700m | 1+561.00 |
| 1563 | 1,060,811.5721m | 298,208.1945m | 1+562.00 |
| 1564 | 1,060,812.4537m | 298,207.7497m | 1+563.00 |
| 1565 | 1,060,813.4309m | 298,207.5277m | 1+564.00 |
| 1566 | 1,060,814.4130m | 298,207.3361m | 1+565.00 |
| 1567 | 1,060,815.3870m | 298,207.0934m | 1+566.00 |
| 1568 | 1,060,816.3671m | 298,206.8904m | 1+567.00 |
| 1569 | 1,060,817.3567m | 298,206.7486m | 1+568.00 |
| 1570 | 1,060,818.3535m | 298,206.6692m | 1+569.00 |
| 1571 | 1,060,819.3528m | 298,206.6378m | 1+570.00 |
| 1572 | 1,060,820.3528m | 298,206.6327m | 1+571.00 |
| 1573 | 1,060,821.3524m | 298,206.6067m | 1+572.00 |
| 1574 | 1,060,822.3511m | 298,206.5559m | 1+573.00 |
| 1575 | 1,060,823.3482m | 298,206.5836m | 1+574.00 |
| 1576 | 1,060,824.3428m | 298,206.6863m | 1+575.00 |
| 1577 | 1,060,825.3306m | 298,206.7736m | 1+576.00 |
| 1578 | 1,060,826.3302m | 298,206.9052m | 1+577.00 |
| 1579 | 1,060,827.3137m | 298,207.0832m | 1+578.00 |
| 1580 | 1,060,828.2971m | 298,207.2625m | 1+579.00 |
| 1581 | 1,060,829.2620m | 298,207.5216m | 1+580.00 |
| 1582 | 1,060,830.2145m | 298,207.8260m | 1+581.00 |
| 1583 | 1,060,831.1551m | 298,208.1647m | 1+582.00 |
| 1584 | 1,060,832.0914m | 298,208.5160m | 1+583.00 |
| 1585 | 1,060,833.0139m | 298,208.8964m | 1+584.00 |
| 1586 | 1,060,833.8385m | 298,209.4619m | 1+585.00 |
| 1587 | 1,060,834.6693m | 298,210.0184m | 1+586.00 |
| 1588 | 1,060,835.5730m | 298,210.4302m | 1+587.00 |
| 1589 | 1,060,836.5385m | 298,210.6815m | 1+588.00 |
| 1590 | 1,060,837.3365m | 298,211.2833m | 1+589.00 |
| 1591 | 1,060,838.1339m | 298,211.8829m | 1+590.00 |
| 1592 | 1,060,838.7727m | 298,212.6432m | 1+591.00 |
| 1593 | 1,060,839.3209m | 298,213.4795m | 1+592.00 |
| 1594 | 1,060,839.8405m | 298,214.3338m | 1+593.00 |
| 1595 | 1,060,840.4118m | 298,215.1534m | 1+594.00 |
| 1596 | 1,060,840.9649m | 298,215.9832m | 1+595.00 |
| 1597 | 1,060,841.4814m | 298,216.8394m | 1+596.00 |
| 1598 | 1,060,842.0512m | 298,217.6610m | 1+597.00 |
| 1599 | 1,060,842.5850m | 298,218.5063m | 1+598.00 |
| 1600 | 1,060,843.0304m | 298,219.4008m | 1+599.00 |
| 1601 | 1,060,843.5196m | 298,220.2723m | 1+600.00 |
| 1602 | 1,060,844.0824m | 298,221.0984m | 1+601.00 |
| 1603 | 1,060,844.6728m | 298,221.9055m | 1+602.00 |
| 1604 | 1,060,845.2420m | 298,222.7277m | 1+603.00 |
| 1605 | 1,060,845.6884m | 298,223.6203m | 1+604.00 |
| 1606 | 1,060,846.1807m | 298,224.4859m | 1+605.00 |
| 1607 | 1,060,846.5649m | 298,225.4091m | 1+606.00 |
| 1608 | 1,060,846.7426m | 298,226.3828m | 1+607.00 |
| 1609 | 1,060,846.7951m | 298,227.3813m | 1+608.00 |
| 1610 | 1,060,846.8641m | 298,228.3759m | 1+609.00 |
| 1611 | 1,060,847.1512m | 298,229.3283m | 1+610.00 |
| 1612 | 1,060,847.3976m | 298,230.2850m | 1+611.00 |
| 1613 | 1,060,847.4449m | 298,231.2838m | 1+612.00 |
| 1614 | 1,060,847.4540m | 298,232.2837m | 1+613.00 |
| 1615 | 1,060,847.4247m | 298,233.2832m | 1+614.00 |
| 1616 | 1,060,847.3572m | 298,234.2808m | 1+615.00 |
| 1617 | 1,060,847.2515m | 298,235.2752m | 1+616.00 |
| 1618 | 1,060,847.1078m | 298,236.2647m | 1+617.00 |
| 1619 | 1,060,846.9263m | 298,237.2481m | 1+618.00 |
| 1620 | 1,060,846.7073m | 298,238.2237m | 1+619.00 |
| 1621 | 1,060,846.4510m | 298,239.1903m | 1+620.00 |
| 1622 | 1,060,846.1579m | 298,240.1463m | 1+621.00 |
| 1623 | 1,060,845.8285m | 298,241.0904m | 1+622.00 |
| 1624 | 1,060,845.4631m | 298,242.0212m | 1+623.00 |
| 1625 | 1,060,845.0623m | 298,242.9373m | 1+624.00 |
| 1626 | 1,060,844.6267m | 298,243.8373m | 1+625.00 |
| 1627 | 1,060,844.1569m | 298,244.7201m | 1+626.00 |
| 1628 | 1,060,843.6537m | 298,245.5842m | 1+627.00 |
| 1629 | 1,060,843.1178m | 298,246.4284m | 1+628.00 |
| 1630 | 1,060,842.5681m | 298,247.2638m | 1+629.00 |
| 1631 | 1,060,842.0184m | 298,248.0991m | 1+630.00 |
| 1632 | 1,060,841.4687m | 298,248.9345m | 1+631.00 |
| 1633 | 1,060,840.9190m | 298,249.7698m | 1+632.00 |
| 1634 | 1,060,840.3693m | 298,250.6052m | 1+633.00 |
| 1635 | 1,060,839.8195m | 298,251.4405m | 1+634.00 |
| 1636 | 1,060,839.2698m | 298,252.2759m | 1+635.00 |
| 1637 | 1,060,838.7201m | 298,253.1112m | 1+636.00 |
| 1638 | 1,060,838.1704m | 298,253.9466m | 1+637.00 |
| 1639 | 1,060,837.6207m | 298,254.7819m | 1+638.00 |
| 1640 | 1,060,837.0709m | 298,255.6173m | 1+639.00 |
| 1641 | 1,060,836.5212m | 298,256.4526m | 1+640.00 |
| 1642 | 1,060,835.9715m | 298,257.2880m | 1+641.00 |
| 1643 | 1,060,835.4218m | 298,258.1233m | 1+642.00 |
| 1644 | 1,060,834.8721m | 298,258.9587m | 1+643.00 |
| 1645 | 1,060,834.3224m | 298,259.7940m | 1+644.00 |
| 1646 | 1,060,833.7726m | 298,260.6294m | 1+645.00 |
| 1647 | 1,060,833.2229m | 298,261.4647m | 1+646.00 |
| 1648 | 1,060,832.6732m | 298,262.3001m | 1+647.00 |
| 1649 | 1,060,832.1235m | 298,263.1354m | 1+648.00 |

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|---|---|---|---|
| 1650 | 1,060,831.5738m | 298,263.9708m | 1+649.00 |
| 1651 | 1,060,831.0240m | 298,264.8061m | 1+650.00 |
| 1652 | 1,060,830.4743m | 298,265.6415m | 1+651.00 |
| 1653 | 1,060,829.8968m | 298,266.4522m | 1+652.00 |
| 1654 | 1,060,829.1134m | 298,267.0729m | 1+653.00 |
| 1655 | 1,060,828.3204m | 298,267.6822m | 1+654.00 |
| 1656 | 1,060,827.5303m | 298,268.2949m | 1+655.00 |
| 1657 | 1,060,826.7761m | 298,268.9515m | 1+656.00 |
| 1658 | 1,060,826.0171m | 298,269.6025m | 1+657.00 |
| 1659 | 1,060,825.2568m | 298,270.2521m | 1+658.00 |
| 1660 | 1,060,824.4977m | 298,270.9030m | 1+659.00 |
| 1661 | 1,060,823.7474m | 298,271.5641m | 1+660.00 |
| 1662 | 1,060,823.0275m | 298,272.2573m | 1+661.00 |
| 1663 | 1,060,822.3144m | 298,272.9578m | 1+662.00 |
| 1664 | 1,060,821.4864m | 298,273.1789m | 1+663.00 |
| 1665 | 1,060,820.5432m | 298,272.8466m | 1+664.00 |
| 1666 | 1,060,819.6000m | 298,272.5144m | 1+665.00 |
| 1667 | 1,060,818.6568m | 298,272.1821m | 1+666.00 |
| 1668 | 1,060,817.7292m | 298,271.9076m | 1+667.00 |
| 1669 | 1,060,817.0837m | 298,272.6712m | 1+668.00 |
| 1670 | 1,060,816.5247m | 298,273.4925m | 1+669.00 |
| 1671 | 1,060,815.9722m | 298,274.3338m | 1+670.00 |
| 1672 | 1,060,815.4314m | 298,275.1750m | 1+671.00 |
| 1673 | 1,060,814.6309m | 298,275.7709m | 1+672.00 |
| 1674 | 1,060,813.6882m | 298,276.0836m | 1+673.00 |
| 1675 | 1,060,812.7696m | 298,276.4623m | 1+674.00 |
| 1676 | 1,060,811.8910m | 298,276.9398m | 1+675.00 |
| 1677 | 1,060,811.0167m | 298,277.4234m | 1+676.00 |
| 1678 | 1,060,810.1922m | 298,277.9893m | 1+677.00 |
| 1679 | 1,060,809.3741m | 298,278.5643m | 1+678.00 |
| 1680 | 1,060,808.4644m | 298,278.2270m | 1+679.00 |
| 1681 | 1,060,807.5483m | 298,277.8261m | 1+680.00 |
| 1682 | 1,060,806.6321m | 298,277.4252m | 1+681.00 |
| 1683 | 1,060,805.7160m | 298,277.0243m | 1+682.00 |
| 1684 | 1,060,804.7999m | 298,276.6233m | 1+683.00 |
| 1685 | 1,060,803.8838m | 298,276.2224m | 1+684.00 |
| 1686 | 1,060,802.9677m | 298,275.8215m | 1+685.00 |
| 1687 | 1,060,802.0851m | 298,276.1230m | 1+686.00 |
| 1688 | 1,060,801.3145m | 298,276.7455m | 1+687.00 |
| 1689 | 1,060,800.6804m | 298,277.5142m | 1+688.00 |
| 1690 | 1,060,800.1974m | 298,278.3837m | 1+689.00 |
| 1691 | 1,060,799.6972m | 298,279.2397m | 1+690.00 |
| 1692 | 1,060,799.0613m | 298,280.0110m | 1+691.00 |
| 1693 | 1,060,798.3936m | 298,280.7552m | 1+692.00 |
| 1694 | 1,060,797.6269m | 298,281.1371m | 1+693.00 |
| 1695 | 1,060,796.6874m | 298,280.7945m | 1+694.00 |
| 1696 | 1,060,795.7479m | 298,280.4519m | 1+695.00 |
| 1697 | 1,060,794.8084m | 298,280.1094m | 1+696.00 |
| 1698 | 1,060,793.8689m | 298,279.7668m | 1+697.00 |
| 1699 | 1,060,792.9347m | 298,279.4384m | 1+698.00 |
| 1700 | 1,060,792.4417m | 298,280.3084m | 1+699.00 |
| 1701 | 1,060,792.0978m | 298,281.2470m | 1+700.00 |
| 1702 | 1,060,791.7672m | 298,282.1908m | 1+701.00 |
| 1703 | 1,060,791.4348m | 298,283.1339m | 1+702.00 |
| 1704 | 1,060,791.0440m | 298,284.0538m | 1+703.00 |
| 1705 | 1,060,790.6379m | 298,284.9676m | 1+704.00 |
| 1706 | 1,060,790.7762m | 298,285.7799m | 1+705.00 |
| 1707 | 1,060,791.5288m | 298,286.4384m | 1+706.00 |
| 1708 | 1,060,792.2813m | 298,287.0970m | 1+707.00 |
| 1709 | 1,060,793.0339m | 298,287.7555m | 1+708.00 |
| 1710 | 1,060,793.7515m | 298,288.4241m | 1+709.00 |
| 1711 | 1,060,793.4633m | 298,289.3817m | 1+710.00 |
| 1712 | 1,060,793.1158m | 298,290.3193m | 1+711.00 |
| 1713 | 1,060,792.7996m | 298,291.2679m | 1+712.00 |
| 1714 | 1,060,792.3053m | 298,292.1335m | 1+713.00 |
| 1715 | 1,060,791.8625m | 298,293.0292m | 1+714.00 |
| 1716 | 1,060,791.3779m | 298,293.9033m | 1+715.00 |
| 1717 | 1,060,791.0384m | 298,294.8387m | 1+716.00 |
| 1718 | 1,060,790.8147m | 298,295.8123m | 1+717.00 |
| 1719 | 1,060,790.4751m | 298,296.7449m | 1+718.00 |
| 1720 | 1,060,790.2089m | 298,297.6968m | 1+719.00 |
| 1721 | 1,060,790.0309m | 298,298.6799m | 1+720.00 |
| 1722 | 1,060,789.7906m | 298,299.6502m | 1+721.00 |
| 1723 | 1,060,789.4627m | 298,300.5944m | 1+722.00 |
| 1724 | 1,060,789.1150m | 298,301.5320m | 1+723.00 |
| 1725 | 1,060,788.7468m | 298,302.4605m | 1+724.00 |
| 1726 | 1,060,788.3109m | 298,303.3603m | 1+725.00 |
| 1727 | 1,060,787.9185m | 298,304.2800m | 1+726.00 |
| 1728 | 1,060,787.5513m | 298,305.2101m | 1+727.00 |
| 1729 | 1,060,787.1860m | 298,306.1409m | 1+728.00 |
| 1730 | 1,060,786.8613m | 298,307.0867m | 1+729.00 |
| 1731 | 1,060,786.5417m | 298,308.0343m | 1+730.00 |
| 1732 | 1,060,786.3039m | 298,309.0056m | 1+731.00 |
| 1733 | 1,060,786.0655m | 298,309.9768m | 1+732.00 |
| 1734 | 1,060,786.6563m | 298,310.7049m | 1+733.00 |
| 1735 | 1,060,787.3812m | 298,311.3937m | 1+734.00 |
| 1736 | 1,060,788.1061m | 298,312.0826m | 1+735.00 |
| 1737 | 1,060,788.8311m | 298,312.7714m | 1+736.00 |
| 1738 | 1,060,788.7624m | 298,313.6650m | 1+737.00 |
| 1739 | 1,060,788.4506m | 298,314.6151m | 1+738.00 |
| 1740 | 1,060,788.1328m | 298,315.5633m | 1+739.00 |
| 1741 | 1,060,787.9913m | 298,316.5444m | 1+740.00 |
| 1742 | 1,060,787.9147m | 298,317.5410m | 1+741.00 |
| 1743 | 1,060,787.7589m | 298,318.5269m | 1+742.00 |
| 1744 | 1,060,787.4692m | 298,319.4801m | 1+743.00 |
| 1745 | 1,060,787.0889m | 298,320.4043m | 1+744.00 |
| 1746 | 1,060,786.7029m | 298,321.3228m | 1+745.00 |
| 1747 | 1,060,786.2204m | 298,322.1975m | 1+746.00 |
| 1748 | 1,060,785.7931m | 298,323.1013m | 1+747.00 |
| 1749 | 1,060,785.4305m | 298,324.0143m | 1+748.00 |
| 1750 | 1,060,785.3543m | 298,324.9998m | 1+749.00 |
| 1751 | 1,060,784.8351m | 298,325.8520m | 1+750.00 |
| 1752 | 1,060,784.5336m | 298,326.8054m | 1+751.00 |
| 1753 | 1,060,784.1914m | 298,327.7428m | 1+752.00 |
| 1754 | 1,060,783.6901m | 298,328.6105m | 1+753.00 |
| 1755 | 1,060,782.9392m | 298,329.2694m | 1+754.00 |
| 1756 | 1,060,782.6732m | 298,330.2119m | 1+755.00 |
| 1757 | 1,060,782.1984m | 298,331.0817m | 1+756.00 |
| 1758 | 1,060,781.8410m | 298,332.0109m | 1+757.00 |
| 1759 | 1,060,781.5466m | 298,332.9665m | 1+758.00 |
| 1760 | 1,060,780.9701m | 298,333.7588m | 1+759.00 |
| 1761 | 1,060,780.6340m | 298,334.6623m | 1+760.00 |
| 1762 | 1,060,780.4463m | 298,335.6445m | 1+761.00 |
| 1763 | 1,060,780.1850m | 298,336.6079m | 1+762.00 |
| 1764 | 1,060,780.4344m | 298,337.3954m | 1+763.00 |
| 1765 | 1,060,781.2052m | 298,338.0325m | 1+764.00 |
| 1766 | 1,060,781.9760m | 298,338.6696m | 1+765.00 |
| 1767 | 1,060,782.7468m | 298,339.3067m | 1+766.00 |
| 1768 | 1,060,783.5176m | 298,339.9438m | 1+767.00 |
| 1769 | 1,060,783.5511m | 298,340.8846m | 1+768.00 |
| 1770 | 1,060,783.2941m | 298,341.8468m | 1+769.00 |
| 1771 | 1,060,783.0615m | 298,342.8183m | 1+770.00 |
| 1772 | 1,060,782.8972m | 298,343.8046m | 1+771.00 |
| 1773 | 1,060,782.7684m | 298,344.7959m | 1+772.00 |
| 1774 | 1,060,782.7012m | 298,345.7929m | 1+773.00 |
| 1775 | 1,060,782.6689m | 298,346.7924m | 1+774.00 |
| 1776 | 1,060,782.5993m | 298,347.7886m | 1+775.00 |
| 1777 | 1,060,782.4242m | 298,348.7717m | 1+776.00 |
| 1778 | 1,060,782.0480m | 298,349.6931m | 1+777.00 |
| 1779 | 1,060,781.6014m | 298,350.5878m | 1+778.00 |
| 1780 | 1,060,781.1548m | 298,351.4826m | 1+779.00 |
| 1781 | 1,060,780.7082m | 298,352.3773m | 1+780.00 |
| 1782 | 1,060,780.2615m | 298,353.2720m | 1+781.00 |
| 1783 | 1,060,779.8149m | 298,354.1667m | 1+782.00 |
| 1784 | 1,060,779.3683m | 298,355.0614m | 1+783.00 |
| 1785 | 1,060,778.9217m | 298,355.9562m | 1+784.00 |
| 1786 | 1,060,778.4750m | 298,356.8509m | 1+785.00 |
| 1787 | 1,060,778.0284m | 298,357.7456m | 1+786.00 |
| 1788 | 1,060,777.5818m | 298,358.6403m | 1+787.00 |
| 1789 | 1,060,777.1351m | 298,359.5350m | 1+788.00 |
| 1790 | 1,060,776.6885m | 298,360.4298m | 1+789.00 |
| 1791 | 1,060,776.2419m | 298,361.3245m | 1+790.00 |
| 1792 | 1,060,775.7953m | 298,362.2192m | 1+791.00 |
| 1793 | 1,060,775.3486m | 298,363.1139m | 1+792.00 |
| 1794 | 1,060,774.9020m | 298,364.0086m | 1+793.00 |
| 1795 | 1,060,774.4554m | 298,364.9034m | 1+794.00 |
| 1796 | 1,060,774.0088m | 298,365.7981m | 1+795.00 |
| 1797 | 1,060,773.5621m | 298,366.6928m | 1+796.00 |
| 1798 | 1,060,773.1155m | 298,367.5875m | 1+797.00 |
| 1799 | 1,060,772.6689m | 298,368.4822m | 1+798.00 |
| 1800 | 1,060,772.2222m | 298,369.3770m | 1+799.00 |
| 1801 | 1,060,771.6471m | 298,370.1907m | 1+800.00 |
| 1802 | 1,060,771.0060m | 298,370.9581m | 1+801.00 |
| 1803 | 1,060,770.3771m | 298,371.7356m | 1+802.00 |
| 1804 | 1,060,769.7483m | 298,372.5132m | 1+803.00 |
| 1805 | 1,060,769.1197m | 298,373.2908m | 1+804.00 |
| 1806 | 1,060,768.4733m | 298,374.0514m | 1+805.00 |
| 1807 | 1,060,767.7236m | 298,374.7119m | 1+806.00 |
| 1808 | 1,060,767.1044m | 298,375.4946m | 1+807.00 |
| 1809 | 1,060,766.7938m | 298,376.4450m | 1+808.00 |
| 1810 | 1,060,766.3928m | 298,377.3608m | 1+809.00 |
| 1811 | 1,060,766.1454m | 298,378.3297m | 1+810.00 |
| 1812 | 1,060,765.8981m | 298,379.2987m | 1+811.00 |
| 1813 | 1,060,765.7058m | 298,380.2800m | 1+812.00 |
| 1814 | 1,060,765.4724m | 298,381.2523m | 1+813.00 |
| 1815 | 1,060,765.2610m | 298,382.2296m | 1+814.00 |
| 1816 | 1,060,765.0622m | 298,383.2097m | 1+815.00 |
| 1817 | 1,060,764.7381m | 298,384.1539m | 1+816.00 |
| 1818 | 1,060,764.3900m | 298,385.0914m | 1+817.00 |
| 1819 | 1,060,764.0425m | 298,386.0291m | 1+818.00 |
| 1820 | 1,060,763.5011m | 298,386.8637m | 1+819.00 |
| 1821 | 1,060,762.8976m | 298,387.6609m | 1+820.00 |
| 1822 | 1,060,762.2640m | 298,388.4344m | 1+821.00 |
| 1823 | 1,060,761.6237m | 298,389.2025m | 1+822.00 |
| 1824 | 1,060,760.9835m | 298,389.9707m | 1+823.00 |
| 1825 | 1,060,760.3330m | 298,390.7302m | 1+824.00 |
| 1826 | 1,060,759.6599m | 298,391.4695m | 1+825.00 |
| 1827 | 1,060,759.0127m | 298,392.2311m | 1+826.00 |
| 1828 | 1,060,758.3096m | 298,392.9372m | 1+827.00 |
| 1829 | 1,060,757.5769m | 298,393.6172m | 1+828.00 |
| 1830 | 1,060,756.8742m | 298,394.3284m | 1+829.00 |
| 1831 | 1,060,756.2173m | 298,395.0809m | 1+830.00 |
| 1832 | 1,060,755.6929m | 298,395.9227m | 1+831.00 |
| 1833 | 1,060,755.2363m | 298,396.8079m | 1+832.00 |
| 1834 | 1,060,754.5656m | 298,397.5194m | 1+833.00 |
| 1835 | 1,060,753.7281m | 298,398.0467m | 1+834.00 |
| 1836 | 1,060,753.0689m | 298,398.7987m | 1+835.00 |
| 1837 | 1,060,752.4245m | 298,399.5633m | 1+836.00 |
| 1838 | 1,060,751.8031m | 298,400.3467m | 1+837.00 |
| 1839 | 1,060,751.2036m | 298,401.1471m | 1+838.00 |
| 1840 | 1,060,750.6028m | 298,401.9464m | 1+839.00 |
| 1841 | 1,060,750.0474m | 298,402.7780m | 1+840.00 |
| 1842 | 1,060,749.4823m | 298,403.6027m | 1+841.00 |
| 1843 | 1,060,748.8427m | 298,404.3714m | 1+842.00 |
| 1844 | 1,060,748.1807m | 298,405.1209m | 1+843.00 |
| 1845 | 1,060,747.4097m | 298,405.7576m | 1+844.00 |
| 1846 | 1,060,746.6996m | 298,406.4610m | 1+845.00 |
| 1847 | 1,060,745.9908m | 298,407.1664m | 1+846.00 |
| 1848 | 1,060,745.6300m | 298,408.0750m | 1+847.00 |
| 1849 | 1,060,745.3399m | 298,409.0319m | 1+848.00 |
| 1850 | 1,060,744.6682m | 298,409.7256m | 1+849.00 |
| 1851 | 1,060,744.1192m | 298,410.5285m | 1+850.00 |
| 1852 | 1,060,743.7804m | 298,411.4674m | 1+851.00 |
| 1853 | 1,060,743.4832m | 298,412.4223m | 1+852.00 |
| 1854 | 1,060,743.1796m | 298,413.3750m | 1+853.00 |
| 1855 | 1,060,742.8731m | 298,414.3269m | 1+854.00 |
| 1856 | 1,060,742.9149m | 298,415.2490m | 1+855.00 |
| 1857 | 1,060,743.3861m | 298,416.1311m | 1+856.00 |
| 1858 | 1,060,743.6330m | 298,417.0824m | 1+857.00 |
| 1859 | 1,060,743.6596m | 298,418.0761m | 1+858.00 |
| 1860 | 1,060,743.7393m | 298,418.9995m | 1+859.00 |
| 1861 | 1,060,744.4530m | 298,419.7000m | 1+860.00 |
| 1862 | 1,060,745.1666m | 298,420.4005m | 1+861.00 |
| 1863 | 1,060,745.7791m | 298,421.1428m | 1+862.00 |
| 1864 | 1,060,745.7683m | 298,422.1427m | 1+863.00 |
| 1865 | 1,060,745.6279m | 298,423.1108m | 1+864.00 |
| 1866 | 1,060,745.2306m | 298,424.0284m | 1+865.00 |
| 1867 | 1,060,744.8391m | 298,424.9486m | 1+866.00 |
| 1868 | 1,060,744.4535m | 298,425.8713m | 1+867.00 |
| 1869 | 1,060,744.0738m | 298,426.7964m | 1+868.00 |
| 1870 | 1,060,743.7000m | 298,427.7239m | 1+869.00 |
| 1871 | 1,060,743.3322m | 298,428.6538m | 1+870.00 |
| 1872 | 1,060,742.9703m | 298,429.5860m | 1+871.00 |
| 1873 | 1,060,742.6144m | 298,430.5205m | 1+872.00 |
| 1874 | 1,060,742.2644m | 298,431.4573m | 1+873.00 |
| 1875 | 1,060,741.9205m | 298,432.3963m | 1+874.00 |
| 1876 | 1,060,741.5826m | 298,433.3375m | 1+875.00 |
| 1877 | 1,060,741.2507m | 298,434.2808m | 1+876.00 |
| 1878 | 1,060,740.9176m | 298,435.2224m | 1+877.00 |
| 1879 | 1,060,740.3414m | 298,436.0397m | 1+878.00 |
| 1880 | 1,060,739.8026m | 298,436.8810m | 1+879.00 |
| 1881 | 1,060,739.2830m | 298,437.7247m | 1+880.00 |
| 1882 | 1,060,738.5249m | 298,438.3768m | 1+881.00 |
| 1883 | 1,060,738.1362m | 298,439.2899m | 1+882.00 |
| 1884 | 1,060,737.4331m | 298,439.9835m | 1+883.00 |
| 1885 | 1,060,736.7170m | 298,440.6804m | 1+884.00 |
| 1886 | 1,060,736.0662m | 298,441.4368m | 1+885.00 |
| 1887 | 1,060,735.4144m | 298,442.1855m | 1+886.00 |
| 1888 | 1,060,734.6330m | 298,442.8095m | 1+887.00 |
| 1889 | 1,060,733.7972m | 298,443.3585m | 1+888.00 |
| 1890 | 1,060,732.9601m | 298,443.9055m | 1+889.00 |
| 1891 | 1,060,732.1334m | 298,444.4657m | 1+890.00 |
| 1892 | 1,060,731.3922m | 298,445.1371m | 1+891.00 |
| 1893 | 1,060,730.9377m | 298,446.0131m | 1+892.00 |
| 1894 | 1,060,730.5401m | 298,446.9307m | 1+893.00 |
| 1895 | 1,060,730.2172m | 298,447.8751m | 1+894.00 |
| 1896 | 1,060,729.8666m | 298,448.8088m | 1+895.00 |
| 1897 | 1,060,729.4212m | 298,449.7032m | 1+896.00 |
| 1898 | 1,060,729.0183m | 298,450.6074m | 1+897.00 |
| 1899 | 1,060,728.7726m | 298,451.5701m | 1+898.00 |
| 1900 | 1,060,728.3213m | 298,452.4612m | 1+899.00 |
| 1901 | 1,060,728.0390m | 298,453.4205m | 1+900.00 |
| 1902 | 1,060,727.6835m | 298,454.3551m | 1+901.00 |
| 1903 | 1,060,727.3612m | 298,455.3016m | 1+902.00 |
| 1904 | 1,060,727.0366m | 298,456.2473m | 1+903.00 |
| 1905 | 1,060,726.6799m | 298,457.1813m | 1+904.00 |
| 1906 | 1,060,726.3599m | 298,458.1273m | 1+905.00 |
| 1907 | 1,060,726.0953m | 298,459.0916m | 1+906.00 |
| 1908 | 1,060,725.7695m | 298,460.0295m | 1+907.00 |
| 1909 | 1,060,725.2811m | 298,460.9020m | 1+908.00 |
| 1910 | 1,060,724.8237m | 298,461.7913m | 1+909.00 |
| 1911 | 1,060,724.3131m | 298,462.6510m | 1+910.00 |
| 1912 | 1,060,723.9046m | 298,463.5614m | 1+911.00 |
| 1913 | 1,060,723.5185m | 298,464.4838m | 1+912.00 |
| 1914 | 1,060,723.1049m | 298,465.3940m | 1+913.00 |
| 1915 | 1,060,722.5795m | 298,466.2263m | 1+914.00 |
| 1916 | 1,060,721.8279m | 298,466.8859m | 1+915.00 |
| 1917 | 1,060,721.0708m | 298,467.5391m | 1+916.00 |
| 1918 | 1,060,720.3133m | 298,468.1920m | 1+917.00 |
| 1919 | 1,060,719.5607m | 298,468.8505m | 1+918.00 |
| 1920 | 1,060,719.0320m | 298,469.6768m | 1+919.00 |
| 1921 | 1,060,718.7042m | 298,470.6157m | 1+920.00 |
| 1922 | 1,060,718.5014m | 298,471.5945m | 1+921.00 |
| 1923 | 1,060,718.3414m | 298,472.5816m | 1+922.00 |
| 1924 | 1,060,718.1929m | 298,473.5704m | 1+923.00 |
| 1925 | 1,060,718.1433m | 298,474.5691m | 1+924.00 |
| 1926 | 1,060,718.1684m | 298,475.5687m | 1+925.00 |
| 1927 | 1,060,718.2230m | 298,476.5671m | 1+926.00 |
| 1928 | 1,060,718.3708m | 298,477.5562m | 1+927.00 |
| 1929 | 1,060,718.8156m | 298,478.4515m | 1+928.00 |
| 1930 | 1,060,719.5826m | 298,479.0640m | 1+929.00 |
| 1931 | 1,060,720.4139m | 298,479.6198m | 1+930.00 |
| 1932 | 1,060,721.1253m | 298,480.3169m | 1+931.00 |
| 1933 | 1,060,721.6666m | 298,481.1264m | 1+932.00 |
| 1934 | 1,060,721.9494m | 298,482.0851m | 1+933.00 |
| 1935 | 1,060,722.3130m | 298,483.0133m | 1+934.00 |
| 1936 | 1,060,722.8252m | 298,483.8721m | 1+935.00 |
| 1937 | 1,060,722.9707m | 298,484.8593m | 1+936.00 |
| 1938 | 1,060,723.0455m | 298,485.8564m | 1+937.00 |
| 1939 | 1,060,723.2399m | 298,486.8369m | 1+938.00 |
| 1940 | 1,060,723.4145m | 298,487.8215m | 1+939.00 |
| 1941 | 1,060,723.4649m | 298,488.8191m | 1+940.00 |
| 1942 | 1,060,723.5517m | 298,489.8151m | 1+941.00 |
| 1943 | 1,060,723.6603m | 298,490.8091m | 1+942.00 |
| 1944 | 1,060,723.7087m | 298,491.8076m | 1+943.00 |
| 1945 | 1,060,723.8721m | 298,492.7924m | 1+944.00 |
| 1946 | 1,060,724.1379m | 298,493.7556m | 1+945.00 |
| 1947 | 1,060,724.2923m | 298,494.7402m | 1+946.00 |
| 1948 | 1,060,724.4083m | 298,495.7334m | 1+947.00 |
| 1949 | 1,060,724.5748m | 298,496.7190m | 1+948.00 |
| 1950 | 1,060,724.7249m | 298,497.7073m | 1+949.00 |
| 1951 | 1,060,724.8562m | 298,498.6986m | 1+950.00 |
| 1952 | 1,060,724.9437m | 298,499.6941m | 1+951.00 |
| 1953 | 1,060,725.3819m | 298,500.5291m | 1+952.00 |
| 1954 | 1,060,726.0903m | 298,501.2282m | 1+953.00 |
| 1955 | 1,060,726.9552m | 298,501.7301m | 1+954.00 |
| 1956 | 1,060,727.8201m | 298,502.2320m | 1+955.00 |
| 1957 | 1,060,728.0431m | 298,503.1530m | 1+956.00 |
| 1958 | 1,060,728.1926m | 298,504.1416m | 1+957.00 |
| 1959 | 1,060,728.4909m | 298,505.0934m | 1+958.00 |
| 1960 | 1,060,728.7696m | 298,506.0532m | 1+959.00 |
| 1961 | 1,060,729.0372m | 298,507.0167m | 1+960.00 |
| 1962 | 1,060,729.2489m | 298,507.9927m | 1+961.00 |
| 1963 | 1,060,729.4122m | 298,508.9792m | 1+962.00 |
| 1964 | 1,060,729.5718m | 298,509.9664m | 1+963.00 |
| 1965 | 1,060,729.8008m | 298,510.9374m | 1+964.00 |
| 1966 | 1,060,730.1252m | 298,511.8827m | 1+965.00 |
| 1967 | 1,060,730.2143m | 298,512.8559m | 1+966.00 |
| 1968 | 1,060,730.1431m | 298,513.8533m | 1+967.00 |
| 1969 | 1,060,730.0718m | 298,514.8508m | 1+968.00 |
| 1970 | 1,060,730.0006m | 298,515.8483m | 1+969.00 |
| 1971 | 1,060,729.9294m | 298,516.8457m | 1+970.00 |
| 1972 | 1,060,729.8582m | 298,517.8432m | 1+971.00 |
| 1973 | 1,060,729.7070m | 298,518.8185m | 1+972.00 |
| 1974 | 1,060,729.2564m | 298,519.7112m | 1+973.00 |
| 1975 | 1,060,728.8095m | 298,520.6058m | 1+974.00 |
| 1976 | 1,060,728.3241m | 298,521.4718m | 1+975.00 |
| 1977 | 1,060,727.5848m | 298,522.1452m | 1+976.00 |
| 1978 | 1,060,726.8858m | 298,522.8595m | 1+977.00 |
| 1979 | 1,060,726.2981m | 298,523.6578m | 1+978.00 |

| | | | |
|---|---|---|---|
| 1980 | 1,060,725.6967m | 298,524.4485m | 1+979.00 |
| 1981 | 1,060,725.2732m | 298,525.3519m | 1+980.00 |
| 1982 | 1,060,724.9614m | 298,526.3020m | 1+981.00 |
| 1983 | 1,060,724.6465m | 298,527.2511m | 1+982.00 |
| 1984 | 1,060,724.3261m | 298,528.1984m | 1+983.00 |
| 1985 | 1,060,723.9993m | 298,529.1435m | 1+984.00 |
| 1986 | 1,060,723.6706m | 298,530.0879m | 1+985.00 |
| 1987 | 1,060,723.3822m | 298,531.0437m | 1+986.00 |
| 1988 | 1,060,723.3068m | 298,532.0196m | 1+987.00 |
| 1989 | 1,060,723.6176m | 298,532.9657m | 1+988.00 |
| 1990 | 1,060,724.0567m | 298,533.8641m | 1+989.00 |
| 1991 | 1,060,724.4856m | 298,534.7671m | 1+990.00 |
| 1992 | 1,060,724.7748m | 298,535.7244m | 1+991.00 |
| 1993 | 1,060,724.9090m | 298,536.7150m | 1+992.00 |
| 1994 | 1,060,724.6295m | 298,537.6734m | 1+993.00 |
| 1995 | 1,060,724.1346m | 298,538.5423m | 1+994.00 |
| 1996 | 1,060,723.3268m | 298,539.1237m | 1+995.00 |
| 1997 | 1,060,722.5109m | 298,539.7017m | 1+996.00 |
| 1998 | 1,060,721.8384m | 298,540.3205m | 1+997.00 |
| 1999 | 1,060,722.3318m | 298,541.1902m | 1+998.00 |
| 2000 | 1,060,722.9315m | 298,541.9894m | 1+999.00 |
| 2001 | 1,060,723.5426m | 298,542.7809m | 2+000.00 |
| 2002 | 1,060,724.1532m | 298,543.5729m | 2+001.00 |
| 2003 | 1,060,724.7631m | 298,544.3653m | 2+002.00 |
| 2004 | 1,060,725.2916m | 298,545.2125m | 2+003.00 |
| 2005 | 1,060,725.7182m | 298,546.1132m | 2+004.00 |
| 2006 | 1,060,726.0963m | 298,547.0386m | 2+005.00 |
| 2007 | 1,060,726.4948m | 298,547.9553m | 2+006.00 |
| 2008 | 1,060,726.5560m | 298,548.9205m | 2+007.00 |
| 2009 | 1,060,726.3979m | 298,549.9079m | 2+008.00 |
| 2010 | 1,060,726.2364m | 298,550.8948m | 2+009.00 |
| 2011 | 1,060,726.0715m | 298,551.8811m | 2+010.00 |
| 2012 | 1,060,725.9033m | 298,552.8669m | 2+011.00 |
| 2013 | 1,060,725.7317m | 298,553.8520m | 2+012.00 |
| 2014 | 1,060,725.5568m | 298,554.8366m | 2+013.00 |
| 2015 | 1,060,725.3785m | 298,555.8206m | 2+014.00 |
| 2016 | 1,060,725.1969m | 298,556.8040m | 2+015.00 |
| 2017 | 1,060,725.0119m | 298,557.7867m | 2+016.00 |
| 2018 | 1,060,724.8236m | 298,558.7688m | 2+017.00 |
| 2019 | 1,060,724.6319m | 298,559.7503m | 2+018.00 |
| 2020 | 1,060,724.4369m | 298,560.7311m | 2+019.00 |
| 2021 | 1,060,724.2386m | 298,561.7112m | 2+020.00 |
| 2022 | 1,060,724.0369m | 298,562.6907m | 2+021.00 |
| 2023 | 1,060,723.8319m | 298,563.6694m | 2+022.00 |
| 2024 | 1,060,723.4768m | 298,564.6025m | 2+023.00 |
| 2025 | 1,060,723.0757m | 298,565.5170m | 2+024.00 |
| 2026 | 1,060,722.5361m | 298,566.3520m | 2+025.00 |
| 2027 | 1,060,721.9456m | 298,567.1571m | 2+026.00 |
| 2028 | 1,060,721.4246m | 298,568.0103m | 2+027.00 |
| 2029 | 1,060,720.9564m | 298,568.8931m | 2+028.00 |
| 2030 | 1,060,720.5367m | 298,569.8007m | 2+029.00 |
| 2031 | 1,060,720.1400m | 298,570.7182m | 2+030.00 |
| 2032 | 1,060,719.7888m | 298,571.6544m | 2+031.00 |
| 2033 | 1,060,719.4130m | 298,572.5798m | 2+032.00 |
| 2034 | 1,060,719.0157m | 298,573.4966m | 2+033.00 |
| 2035 | 1,060,718.7261m | 298,574.4508m | 2+034.00 |
| 2036 | 1,060,718.4874m | 298,575.4214m | 2+035.00 |
| 2037 | 1,060,718.1903m | 298,576.3758m | 2+036.00 |
| 2038 | 1,060,717.8360m | 298,577.3105m | 2+037.00 |
| 2039 | 1,060,717.3927m | 298,578.2047m | 2+038.00 |
| 2040 | 1,060,716.7274m | 298,578.9227m | 2+039.00 |
| 2041 | 1,060,715.8754m | 298,579.4217m | 2+040.00 |
| 2042 | 1,060,714.9206m | 298,579.7191m | 2+041.00 |
| 2043 | 1,060,713.9954m | 298,580.0913m | 2+042.00 |
| 2044 | 1,060,713.2877m | 298,580.7288m | 2+043.00 |
| 2045 | 1,060,712.9083m | 298,581.6539m | 2+044.00 |
| 2046 | 1,060,712.5579m | 298,582.5904m | 2+045.00 |
| 2047 | 1,060,712.1628m | 298,583.5078m | 2+046.00 |
| 2048 | 1,060,711.6717m | 298,584.3789m | 2+047.00 |
| 2049 | 1,060,711.1790m | 298,585.2487m | 2+048.00 |
| 2050 | 1,060,710.7498m | 298,586.1518m | 2+049.00 |
| 2051 | 1,060,710.2938m | 298,587.0418m | 2+050.00 |
| 2052 | 1,060,709.8522m | 298,587.9389m | 2+051.00 |
| 2053 | 1,060,709.4318m | 298,588.8463m | 2+052.00 |
| 2054 | 1,060,708.9935m | 298,589.7451m | 2+053.00 |
| 2055 | 1,060,708.5602m | 298,590.6463m | 2+054.00 |
| 2056 | 1,060,708.0483m | 298,591.5053m | 2+055.00 |
| 2057 | 1,060,707.6365m | 298,592.4165m | 2+056.00 |
| 2058 | 1,060,707.1993m | 298,593.3158m | 2+057.00 |
| 2059 | 1,060,706.8052m | 298,594.2348m | 2+058.00 |
| 2060 | 1,060,706.4693m | 298,595.1766m | 2+059.00 |
| 2061 | 1,060,706.1125m | 298,596.1107m | 2+060.00 |
| 2062 | 1,060,705.7483m | 298,597.0420m | 2+061.00 |
| 2063 | 1,060,705.3875m | 298,597.9747m | 2+062.00 |
| 2064 | 1,060,704.9893m | 298,598.8919m | 2+063.00 |
| 2065 | 1,060,704.6039m | 298,599.8146m | 2+064.00 |
| 2066 | 1,060,704.1986m | 298,600.7288m | 2+065.00 |
| 2067 | 1,060,703.6506m | 298,601.5635m | 2+066.00 |
| 2068 | 1,060,703.1258m | 298,602.4145m | 2+067.00 |
| 2069 | 1,060,702.6517m | 298,603.2947m | 2+068.00 |
| 2070 | 1,060,702.2122m | 298,604.1928m | 2+069.00 |
| 2071 | 1,060,701.8056m | 298,605.1063m | 2+070.00 |
| 2072 | 1,060,701.4633m | 298,606.0452m | 2+071.00 |
| 2073 | 1,060,701.1540m | 298,606.9961m | 2+072.00 |
| 2074 | 1,060,700.8695m | 298,607.9547m | 2+073.00 |
| 2075 | 1,060,700.7263m | 298,608.9413m | 2+074.00 |
| 2076 | 1,060,700.6554m | 298,609.9387m | 2+075.00 |
| 2077 | 1,060,700.5400m | 298,610.9314m | 2+076.00 |
| 2078 | 1,060,700.3729m | 298,611.9172m | 2+077.00 |
| 2079 | 1,060,700.1997m | 298,612.9020m | 2+078.00 |
| 2080 | 1,060,700.0400m | 298,613.8892m | 2+079.00 |
| 2081 | 1,060,699.8358m | 298,614.8675m | 2+080.00 |
| 2082 | 1,060,699.5019m | 298,615.8071m | 2+081.00 |
| 2083 | 1,060,699.1497m | 298,616.7428m | 2+082.00 |
| 2084 | 1,060,698.8546m | 298,617.6977m | 2+083.00 |
| 2085 | 1,060,698.6262m | 298,618.6707m | 2+084.00 |
| 2086 | 1,060,698.3802m | 298,619.6396m | 2+085.00 |
| 2087 | 1,060,698.0529m | 298,620.5834m | 2+086.00 |
| 2088 | 1,060,697.8120m | 298,621.5503m | 2+087.00 |
| 2089 | 1,060,697.5407m | 298,622.5108m | 2+088.00 |
| 2090 | 1,060,697.2170m | 298,623.4569m | 2+089.00 |
| 2091 | 1,060,696.8692m | 298,624.3944m | 2+090.00 |
| 2092 | 1,060,696.4907m | 298,625.3198m | 2+091.00 |
| 2093 | 1,060,696.1800m | 298,626.2684m | 2+092.00 |
| 2094 | 1,060,695.9260m | 298,627.2356m | 2+093.00 |
| 2095 | 1,060,695.6917m | 298,628.2077m | 2+094.00 |
| 2096 | 1,060,695.3699m | 298,629.1518m | 2+095.00 |
| 2097 | 1,060,695.0167m | 298,630.0872m | 2+096.00 |
| 2098 | 1,060,694.6601m | 298,631.0214m | 2+097.00 |
| 2099 | 1,060,694.2192m | 298,631.9167m | 2+098.00 |
| 2100 | 1,060,693.7766m | 298,632.8126m | 2+099.00 |
| 2101 | 1,060,693.2788m | 298,633.6766m | 2+100.00 |
| 2102 | 1,060,692.5601m | 298,634.3367m | 2+101.00 |
| 2103 | 1,060,691.6930m | 298,634.8320m | 2+102.00 |
| 2104 | 1,060,690.7732m | 298,635.2243m | 2+103.00 |
| 2105 | 1,060,689.9348m | 298,635.7523m | 2+104.00 |
| 2106 | 1,060,689.2609m | 298,636.4672m | 2+105.00 |
| 2107 | 1,060,688.7832m | 298,637.3457m | 2+106.00 |
| 2108 | 1,060,688.3056m | 298,638.2243m | 2+107.00 |
| 2109 | 1,060,687.8279m | 298,639.1028m | 2+108.00 |
| 2110 | 1,060,687.3502m | 298,639.9813m | 2+109.00 |
| 2111 | 1,060,686.8725m | 298,640.8599m | 2+110.00 |
| 2112 | 1,060,686.3948m | 298,641.7384m | 2+111.00 |
| 2113 | 1,060,685.9225m | 298,642.6197m | 2+112.00 |
| 2114 | 1,060,685.4805m | 298,643.5167m | 2+113.00 |
| 2115 | 1,060,685.0571m | 298,644.4226m | 2+114.00 |
| 2116 | 1,060,684.6374m | 298,645.3303m | 2+115.00 |
| 2117 | 1,060,684.2022m | 298,646.2306m | 2+116.00 |
| 2118 | 1,060,683.7522m | 298,647.1236m | 2+117.00 |
| 2119 | 1,060,683.3021m | 298,648.0166m | 2+118.00 |
| 2120 | 1,060,682.8568m | 298,648.9117m | 2+119.00 |
| 2121 | 1,060,682.5058m | 298,649.8479m | 2+120.00 |
| 2122 | 1,060,682.0846m | 298,650.7548m | 2+121.00 |
| 2123 | 1,060,681.7371m | 298,651.6909m | 2+122.00 |
| 2124 | 1,060,681.5438m | 298,652.6720m | 2+123.00 |
| 2125 | 1,060,681.4059m | 298,653.6625m | 2+124.00 |
| 2126 | 1,060,681.2182m | 298,654.6347m | 2+125.00 |
| 2127 | 1,060,681.0425m | 298,655.6239m | 2+126.00 |
| 2128 | 1,060,680.9831m | 298,656.6273m | 2+127.00 |
| 2129 | 1,060,681.0302m | 298,657.6261m | 2+128.00 |
| 2130 | 1,060,680.9723m | 298,658.6239m | 2+129.00 |
| 2131 | 1,060,680.8945m | 298,659.6195m | 2+130.00 |
| 2132 | 1,060,680.7810m | 298,660.6130m | 2+131.00 |
| 2133 | 1,060,680.6310m | 298,661.6016m | 2+132.00 |
| 2134 | 1,060,680.4075m | 298,662.5759m | 2+133.00 |
| 2135 | 1,060,680.2742m | 298,663.5661m | 2+134.00 |
| 2136 | 1,060,680.1046m | 298,664.5511m | 2+135.00 |
| 2137 | 1,060,679.8745m | 298,665.5243m | 2+136.00 |
| 2138 | 1,060,679.6926m | 298,666.5073m | 2+137.00 |
| 2139 | 1,060,679.5099m | 298,667.4905m | 2+138.00 |
| 2140 | 1,060,679.3430m | 298,668.4764m | 2+139.00 |
| 2141 | 1,060,679.2387m | 298,669.4706m | 2+140.00 |
| 2142 | 1,060,679.9227m | 298,670.0744m | 2+141.00 |
| 2143 | 1,060,680.7787m | 298,670.5914m | 2+142.00 |
| 2144 | 1,060,681.6347m | 298,671.1084m | 2+143.00 |
| 2145 | 1,060,682.4073m | 298,671.6648m | 2+144.00 |
| 2146 | 1,060,682.2630m | 298,672.6543m | 2+145.00 |
| 2147 | 1,060,682.1032m | 298,673.6415m | 2+146.00 |
| 2148 | 1,060,681.9408m | 298,674.6282m | 2+147.00 |
| 2149 | 1,060,681.8005m | 298,675.6175m | 2+148.00 |
| 2150 | 1,060,681.6985m | 298,676.6123m | 2+149.00 |
| 2151 | 1,060,681.6129m | 298,677.6086m | 2+150.00 |
| 2152 | 1,060,681.5037m | 298,678.5943m | 2+151.00 |
| 2153 | 1,060,681.5236m | 298,679.6024m | 2+152.00 |
| 2154 | 1,060,681.4309m | 298,680.5978m | 2+153.00 |
| 2155 | 1,060,681.4214m | 298,681.5976m | 2+154.00 |
| 2156 | 1,060,681.4146m | 298,682.5975m | 2+155.00 |
| 2157 | 1,060,681.3939m | 298,683.5973m | 2+156.00 |
| 2158 | 1,060,681.3263m | 298,684.5948m | 2+157.00 |
| 2159 | 1,060,681.2813m | 298,685.5936m | 2+158.00 |
| 2160 | 1,060,681.2680m | 298,686.5934m | 2+159.00 |
| 2161 | 1,060,681.2772m | 298,687.5934m | 2+160.00 |
| 2162 | 1,060,681.3530m | 298,688.5897m | 2+161.00 |
| 2163 | 1,060,681.4011m | 298,689.5878m | 2+162.00 |
| 2164 | 1,060,681.9270m | 298,690.2893m | 2+163.00 |
| 2165 | 1,060,682.7920m | 298,690.7912m | 2+164.00 |
| 2166 | 1,060,683.6570m | 298,691.2930m | 2+165.00 |
| 2167 | 1,060,684.5219m | 298,691.7948m | 2+166.00 |
| 2168 | 1,060,684.8708m | 298,692.6006m | 2+167.00 |
| 2169 | 1,060,684.8919m | 298,693.6004m | 2+168.00 |
| 2170 | 1,060,684.8752m | 298,694.5995m | 2+169.00 |
| 2171 | 1,060,684.8372m | 298,695.5987m | 2+170.00 |
| 2172 | 1,060,684.8175m | 298,696.5985m | 2+171.00 |
| 2173 | 1,060,684.8058m | 298,697.5984m | 2+172.00 |
| 2174 | 1,060,684.7633m | 298,698.5965m | 2+173.00 |
| 2175 | 1,060,684.6892m | 298,699.5933m | 2+174.00 |
| 2176 | 1,060,684.6344m | 298,700.5915m | 2+175.00 |
| 2177 | 1,060,684.5139m | 298,701.5833m | 2+176.00 |
| 2178 | 1,060,684.3779m | 298,702.5720m | 2+177.00 |
| 2179 | 1,060,684.3289m | 298,703.5708m | 2+178.00 |
| 2180 | 1,060,684.2779m | 298,704.5694m | 2+179.00 |
| 2181 | 1,060,684.2488m | 298,705.5688m | 2+180.00 |
| 2182 | 1,060,684.2427m | 298,706.5684m | 2+181.00 |
| 2183 | 1,060,684.1970m | 298,707.5668m | 2+182.00 |
| 2184 | 1,060,684.0039m | 298,708.5395m | 2+183.00 |
| 2185 | 1,060,683.7350m | 298,709.5027m | 2+184.00 |
| 2186 | 1,060,683.4660m | 298,710.4658m | 2+185.00 |
| 2187 | 1,060,683.1971m | 298,711.4290m | 2+186.00 |
| 2188 | 1,060,682.9281m | 298,712.3921m | 2+187.00 |
| 2189 | 1,060,682.6592m | 298,713.3553m | 2+188.00 |
| 2190 | 1,060,682.3902m | 298,714.3184m | 2+189.00 |
| 2191 | 1,060,682.1212m | 298,715.2816m | 2+190.00 |
| 2192 | 1,060,681.8523m | 298,716.2447m | 2+191.00 |
| 2193 | 1,060,681.5833m | 298,717.2079m | 2+192.00 |
| 2194 | 1,060,681.3144m | 298,718.1710m | 2+193.00 |
| 2195 | 1,060,681.0454m | 298,719.1342m | 2+194.00 |
| 2196 | 1,060,680.7765m | 298,720.0973m | 2+195.00 |
| 2197 | 1,060,680.5075m | 298,721.0605m | 2+196.00 |
| 2198 | 1,060,680.2386m | 298,722.0237m | 2+197.00 |
| 2199 | 1,060,679.9696m | 298,722.9868m | 2+198.00 |
| 2200 | 1,060,679.7006m | 298,723.9500m | 2+199.00 |
| 2201 | 1,060,679.4317m | 298,724.9131m | 2+200.00 |
| 2202 | 1,060,679.1627m | 298,725.8763m | 2+201.00 |
| 2203 | 1,060,678.8938m | 298,726.8394m | 2+202.00 |
| 2204 | 1,060,678.6248m | 298,727.8026m | 2+203.00 |
| 2205 | 1,060,678.3559m | 298,728.7657m | 2+204.00 |
| 2206 | 1,060,678.0869m | 298,729.7289m | 2+205.00 |
| 2207 | 1,060,677.8179m | 298,730.6920m | 2+206.00 |
| 2208 | 1,060,677.5490m | 298,731.6552m | 2+207.00 |
| 2209 | 1,060,677.2800m | 298,732.6183m | 2+208.00 |
| 2210 | 1,060,677.0111m | 298,733.5815m | 2+209.00 |
| 2211 | 1,060,676.7421m | 298,734.5446m | 2+210.00 |
| 2212 | 1,060,676.4732m | 298,735.5078m | 2+211.00 |
| 2213 | 1,060,676.2042m | 298,736.4709m | 2+212.00 |
| 2214 | 1,060,675.9353m | 298,737.4341m | 2+213.00 |
| 2215 | 1,060,675.6663m | 298,738.3972m | 2+214.00 |
| 2216 | 1,060,675.3973m | 298,739.3604m | 2+215.00 |
| 2217 | 1,060,675.1284m | 298,740.3235m | 2+216.00 |
| 2218 | 1,060,674.8594m | 298,741.2867m | 2+217.00 |
| 2219 | 1,060,674.5905m | 298,742.2499m | 2+218.00 |
| 2220 | 1,060,674.3215m | 298,743.2130m | 2+219.00 |
| 2221 | 1,060,674.0526m | 298,744.1762m | 2+220.00 |
| 2222 | 1,060,673.7836m | 298,745.1393m | 2+221.00 |
| 2223 | 1,060,673.5146m | 298,746.1025m | 2+222.00 |
| 2224 | 1,060,673.2457m | 298,747.0656m | 2+223.00 |
| 2225 | 1,060,672.9767m | 298,748.0288m | 2+224.00 |
| 2226 | 1,060,672.7078m | 298,748.9919m | 2+225.00 |
| 2227 | 1,060,672.4388m | 298,749.9551m | 2+226.00 |
| 2228 | 1,060,672.1699m | 298,750.9182m | 2+227.00 |
| 2229 | 1,060,671.9009m | 298,751.8814m | 2+228.00 |
| 2230 | 1,060,671.6319m | 298,752.8445m | 2+229.00 |
| 2231 | 1,060,671.3630m | 298,753.8077m | 2+230.00 |
| 2232 | 1,060,671.0940m | 298,754.7708m | 2+231.00 |
| 2233 | 1,060,670.8251m | 298,755.7340m | 2+232.00 |
| 2234 | 1,060,670.5561m | 298,756.6971m | 2+233.00 |
| 2235 | 1,060,670.2872m | 298,757.6603m | 2+234.00 |
| 2236 | 1,060,670.0182m | 298,758.6234m | 2+235.00 |
| 2237 | 1,060,669.7493m | 298,759.5866m | 2+236.00 |
| 2238 | 1,060,669.4803m | 298,760.5497m | 2+237.00 |
| 2239 | 1,060,669.2113m | 298,761.5129m | 2+238.00 |
| 2240 | 1,060,668.9424m | 298,762.4761m | 2+239.00 |
| 2241 | 1,060,668.6734m | 298,763.4392m | 2+240.00 |
| 2242 | 1,060,668.4045m | 298,764.4024m | 2+241.00 |
| 2243 | 1,060,668.1355m | 298,765.3655m | 2+242.00 |
| 2244 | 1,060,667.8666m | 298,766.3287m | 2+243.00 |
| 2245 | 1,060,667.5976m | 298,767.2918m | 2+244.00 |
| 2246 | 1,060,667.3286m | 298,768.2550m | 2+245.00 |
| 2247 | 1,060,667.0597m | 298,769.2181m | 2+246.00 |
| 2248 | 1,060,666.7924m | 298,770.1817m | 2+247.00 |
| 2249 | 1,060,666.5462m | 298,771.1509m | 2+248.00 |
| 2250 | 1,060,666.3267m | 298,772.1265m | 2+249.00 |
| 2251 | 1,060,666.1341m | 298,773.1077m | 2+250.00 |
| 2252 | 1,060,665.9685m | 298,774.0939m | 2+251.00 |
| 2253 | 1,060,665.8300m | 298,775.0842m | 2+252.00 |
| 2254 | 1,060,665.7188m | 298,776.0780m | 2+253.00 |
| 2255 | 1,060,665.6350m | 298,777.0744m | 2+254.00 |
| 2256 | 1,060,665.5785m | 298,778.0728m | 2+255.00 |
| 2257 | 1,060,665.5495m | 298,779.0724m | 2+256.00 |
| 2258 | 1,060,665.5480m | 298,780.0723m | 2+257.00 |
| 2259 | 1,060,665.5739m | 298,781.0720m | 2+258.00 |
| 2260 | 1,060,665.6273m | 298,782.0705m | 2+259.00 |
| 2261 | 1,060,665.7081m | 298,783.0672m | 2+260.00 |
| 2262 | 1,060,665.8162m | 298,784.0613m | 2+261.00 |
| 2263 | 1,060,665.9516m | 298,785.0521m | 2+262.00 |
| 2264 | 1,060,666.1142m | 298,786.0387m | 2+263.00 |
| 2265 | 1,060,666.3038m | 298,787.0206m | 2+264.00 |
| 2266 | 1,060,666.5203m | 298,787.9968m | 2+265.00 |
| 2267 | 1,060,666.7636m | 298,788.9667m | 2+266.00 |
| 2268 | 1,060,667.0333m | 298,789.9296m | 2+267.00 |
| 2269 | 1,060,667.3295m | 298,790.8847m | 2+268.00 |
| 2270 | 1,060,667.6518m | 298,791.8314m | 2+269.00 |
| 2271 | 1,060,667.9999m | 298,792.7688m | 2+270.00 |
| 2272 | 1,060,668.3737m | 298,793.6963m | 2+271.00 |
| 2273 | 1,060,668.7728m | 298,794.6131m | 2+272.00 |
| 2274 | 1,060,669.1969m | 298,795.5187m | 2+273.00 |
| 2275 | 1,060,669.6458m | 298,796.4123m | 2+274.00 |
| 2276 | 1,060,670.1190m | 298,797.2932m | 2+275.00 |
| 2277 | 1,060,670.6162m | 298,798.1607m | 2+276.00 |
| 2278 | 1,060,671.1371m | 298,799.0143m | 2+277.00 |
| 2279 | 1,060,671.6813m | 298,799.8533m | 2+278.00 |
| 2280 | 1,060,672.2483m | 298,800.6770m | 2+279.00 |
| 2281 | 1,060,672.8377m | 298,801.4848m | 2+280.00 |
| 2282 | 1,060,673.4490m | 298,802.2761m | 2+281.00 |
| 2283 | 1,060,674.0819m | 298,803.0503m | 2+282.00 |
| 2284 | 1,060,674.7358m | 298,803.8068m | 2+283.00 |
| 2285 | 1,060,675.4102m | 298,804.5451m | 2+284.00 |
| 2286 | 1,060,676.1047m | 298,805.2646m | 2+285.00 |
| 2287 | 1,060,676.8186m | 298,805.9648m | 2+286.00 |
| 2288 | 1,060,677.5515m | 298,806.6450m | 2+287.00 |
| 2289 | 1,060,678.3029m | 298,807.3049m | 2+288.00 |
| 2290 | 1,060,679.0720m | 298,807.9439m | 2+289.00 |
| 2291 | 1,060,679.8585m | 298,808.5615m | 2+290.00 |
| 2292 | 1,060,680.6616m | 298,809.1573m | 2+291.00 |
| 2293 | 1,060,681.4808m | 298,809.7308m | 2+292.00 |
| 2294 | 1,060,682.3154m | 298,810.2816m | 2+293.00 |
| 2295 | 1,060,683.1648m | 298,810.8093m | 2+294.00 |
| 2296 | 1,060,684.0284m | 298,811.3134m | 2+295.00 |
| 2297 | 1,060,684.9055m | 298,811.7936m | 2+296.00 |
| 2298 | 1,060,685.6167m | 298,812.4392m | 2+297.00 |
| 2299 | 1,060,686.0794m | 298,813.3257m | 2+298.00 |
| 2300 | 1,060,686.6706m | 298,814.1298m | 2+299.00 |
| 2301 | 1,060,687.3509m | 298,814.8548m | 2+300.00 |
| 2302 | 1,060,688.1283m | 298,815.4822m | 2+301.00 |
| 2303 | 1,060,688.9851m | 298,815.9979m | 2+302.00 |
| 2304 | 1,060,689.8145m | 298,816.5560m | 2+303.00 |
| 2305 | 1,060,690.6957m | 298,816.7519m | 2+304.00 |
| 2306 | 1,060,691.6536m | 298,816.4648m | 2+305.00 |
| 2307 | 1,060,692.4662m | 298,815.8920m | 2+306.00 |
| 2308 | 1,060,693.2626m | 298,815.2871m | 2+307.00 |
| 2309 | 1,060,694.2332m | 298,815.2019m | 2+308.00 |

| | | | |
|---|---|---|---|
| 2310 | 1,060,695.2133m | 298,815.4003m | 2+309.00 |
| 2311 | 1,060,696.1975m | 298,815.5773m | 2+310.00 |
| 2312 | 1,060,697.1821m | 298,815.7525m | 2+311.00 |
| 2313 | 1,060,698.1666m | 298,815.9277m | 2+312.00 |
| 2314 | 1,060,699.1511m | 298,816.1029m | 2+313.00 |
| 2315 | 1,060,700.1357m | 298,816.2781m | 2+314.00 |
| 2316 | 1,060,701.1202m | 298,816.4533m | 2+315.00 |
| 2317 | 1,060,702.1047m | 298,816.6285m | 2+316.00 |
| 2318 | 1,060,703.0893m | 298,816.8037m | 2+317.00 |
| 2319 | 1,060,704.0738m | 298,816.9788m | 2+318.00 |
| 2320 | 1,060,705.0583m | 298,817.1540m | 2+319.00 |
| 2321 | 1,060,706.0429m | 298,817.3292m | 2+320.00 |
| 2322 | 1,060,707.0274m | 298,817.5044m | 2+321.00 |
| 2323 | 1,060,708.0119m | 298,817.6796m | 2+322.00 |
| 2324 | 1,060,708.9965m | 298,817.8548m | 2+323.00 |
| 2325 | 1,060,709.9810m | 298,818.0300m | 2+324.00 |
| 2326 | 1,060,710.9655m | 298,818.2052m | 2+325.00 |
| 2327 | 1,060,711.9501m | 298,818.3804m | 2+326.00 |
| 2328 | 1,060,712.9346m | 298,818.5556m | 2+327.00 |
| 2329 | 1,060,713.9191m | 298,818.7308m | 2+328.00 |
| 2330 | 1,060,714.9036m | 298,818.9061m | 2+329.00 |
| 2331 | 1,060,715.8835m | 298,819.1056m | 2+330.00 |
| 2332 | 1,060,716.8539m | 298,819.3465m | 2+331.00 |
| 2333 | 1,060,717.8134m | 298,819.6282m | 2+332.00 |
| 2334 | 1,060,718.7600m | 298,819.9503m | 2+333.00 |
| 2335 | 1,060,719.6921m | 298,820.3122m | 2+334.00 |
| 2336 | 1,060,720.6081m | 298,820.7133m | 2+335.00 |
| 2337 | 1,060,721.5062m | 298,821.1528m | 2+336.00 |
| 2338 | 1,060,722.3850m | 298,821.6299m | 2+337.00 |
| 2339 | 1,060,723.2427m | 298,822.1439m | 2+338.00 |
| 2340 | 1,060,724.0779m | 298,822.6937m | 2+339.00 |
| 2341 | 1,060,724.8890m | 298,823.2784m | 2+340.00 |
| 2342 | 1,060,725.6747m | 298,823.8970m | 2+341.00 |
| 2343 | 1,060,726.4334m | 298,824.5483m | 2+342.00 |
| 2344 | 1,060,727.1639m | 298,825.2311m | 2+343.00 |
| 2345 | 1,060,727.8648m | 298,825.9443m | 2+344.00 |
| 2346 | 1,060,728.5348m | 298,826.6865m | 2+345.00 |
| 2347 | 1,060,729.1729m | 298,827.4564m | 2+346.00 |
| 2348 | 1,060,729.7777m | 298,828.2527m | 2+347.00 |
| 2349 | 1,060,730.3482m | 298,829.0738m | 2+348.00 |
| 2350 | 1,060,730.8835m | 298,829.9184m | 2+349.00 |
| 2351 | 1,060,731.3825m | 298,830.7850m | 2+350.00 |
| 2352 | 1,060,731.8443m | 298,831.6718m | 2+351.00 |
| 2353 | 1,060,732.2682m | 298,832.5775m | 2+352.00 |
| 2354 | 1,060,732.6533m | 298,833.5003m | 2+353.00 |
| 2355 | 1,060,732.9990m | 298,834.4385m | 2+354.00 |
| 2356 | 1,060,733.3046m | 298,835.3906m | 2+355.00 |
| 2357 | 1,060,733.5696m | 298,836.3548m | 2+356.00 |
| 2358 | 1,060,733.7936m | 298,837.3293m | 2+357.00 |
| 2359 | 1,060,733.9763m | 298,838.3124m | 2+358.00 |
| 2360 | 1,060,734.1428m | 298,839.2984m | 2+359.00 |
| 2361 | 1,060,734.3093m | 298,840.2845m | 2+360.00 |
| 2362 | 1,060,734.4758m | 298,841.2705m | 2+361.00 |
| 2363 | 1,060,734.6422m | 298,842.2566m | 2+362.00 |
| 2364 | 1,060,734.8087m | 298,843.2426m | 2+363.00 |
| 2365 | 1,060,734.9752m | 298,844.2287m | 2+364.00 |
| 2366 | 1,060,735.1417m | 298,845.2147m | 2+365.00 |
| 2367 | 1,060,735.3082m | 298,846.2007m | 2+366.00 |
| 2368 | 1,060,735.4747m | 298,847.1868m | 2+367.00 |
| 2369 | 1,060,735.6412m | 298,848.1728m | 2+368.00 |
| 2370 | 1,060,735.8076m | 298,849.1589m | 2+369.00 |
| 2371 | 1,060,735.9547m | 298,850.1479m | 2+370.00 |
| 2372 | 1,060,736.0597m | 298,851.1423m | 2+371.00 |
| 2373 | 1,060,736.1225m | 298,852.1403m | 2+372.00 |
| 2374 | 1,060,736.1430m | 298,853.1400m | 2+373.00 |
| 2375 | 1,060,736.1211m | 298,854.1397m | 2+374.00 |
| 2376 | 1,060,736.0569m | 298,855.1375m | 2+375.00 |
| 2377 | 1,060,735.9505m | 298,856.1318m | 2+376.00 |
| 2378 | 1,060,735.8020m | 298,857.1206m | 2+377.00 |
| 2379 | 1,060,735.6118m | 298,858.1023m | 2+378.00 |
| 2380 | 1,060,735.3802m | 298,859.0750m | 2+379.00 |
| 2381 | 1,060,735.1076m | 298,860.0371m | 2+380.00 |
| 2382 | 1,060,734.7945m | 298,860.9867m | 2+381.00 |
| 2383 | 1,060,734.4414m | 298,861.9222m | 2+382.00 |
| 2384 | 1,060,734.0490m | 298,862.8420m | 2+383.00 |
| 2385 | 1,060,733.6180m | 298,863.7442m | 2+384.00 |
| 2386 | 1,060,733.1492m | 298,864.6274m | 2+385.00 |
| 2387 | 1,060,732.6434m | 298,865.4900m | 2+386.00 |
| 2388 | 1,060,731.7779m | 298,865.9333m | 2+387.00 |
| 2389 | 1,060,730.8478m | 298,866.2970m | 2+388.00 |
| 2390 | 1,060,729.8681m | 298,866.4949m | 2+389.00 |
| 2391 | 1,060,728.8737m | 298,866.6003m | 2+390.00 |
| 2392 | 1,060,727.9714m | 298,867.0293m | 2+391.00 |
| 2393 | 1,060,727.4334m | 298,867.8687m | 2+392.00 |
| 2394 | 1,060,727.1163m | 298,868.8162m | 2+393.00 |
| 2395 | 1,060,726.8052m | 298,869.7666m | 2+394.00 |
| 2396 | 1,060,726.4937m | 298,870.7168m | 2+395.00 |
| 2397 | 1,060,726.1818m | 298,871.6669m | 2+396.00 |
| 2398 | 1,060,725.8670m | 298,872.6161m | 2+397.00 |
| 2399 | 1,060,725.5208m | 298,873.5539m | 2+398.00 |
| 2400 | 1,060,725.1593m | 298,874.4862m | 2+399.00 |
| 2401 | 1,060,724.7573m | 298,875.3907m | 2+400.00 |
| 2402 | 1,060,724.1203m | 298,876.1615m | 2+401.00 |
| 2403 | 1,060,723.4832m | 298,876.9324m | 2+402.00 |
| 2404 | 1,060,722.8462m | 298,877.7032m | 2+403.00 |
| 2405 | 1,060,722.2092m | 298,878.4741m | 2+404.00 |
| 2406 | 1,060,721.5722m | 298,879.2449m | 2+405.00 |
| 2407 | 1,060,720.9352m | 298,880.0158m | 2+406.00 |
| 2408 | 1,060,720.2982m | 298,880.7866m | 2+407.00 |
| 2409 | 1,060,719.6611m | 298,881.5575m | 2+408.00 |
| 2410 | 1,060,719.0241m | 298,882.3284m | 2+409.00 |
| 2411 | 1,060,718.3871m | 298,883.0992m | 2+410.00 |
| 2412 | 1,060,717.7501m | 298,883.8701m | 2+411.00 |
| 2413 | 1,060,717.1131m | 298,884.6409m | 2+412.00 |
| 2414 | 1,060,716.4761m | 298,885.4118m | 2+413.00 |
| 2415 | 1,060,715.8390m | 298,886.1826m | 2+414.00 |
| 2416 | 1,060,715.2020m | 298,886.9535m | 2+415.00 |
| 2417 | 1,060,714.5650m | 298,887.7243m | 2+416.00 |
| 2418 | 1,060,713.9288m | 298,888.4958m | 2+417.00 |
| 2419 | 1,060,713.2960m | 298,889.2701m | 2+418.00 |
| 2420 | 1,060,712.6670m | 298,890.0476m | 2+419.00 |
| 2421 | 1,060,712.0418m | 298,890.8280m | 2+420.00 |
| 2422 | 1,060,711.4204m | 298,891.6115m | 2+421.00 |
| 2423 | 1,060,710.8028m | 298,892.3980m | 2+422.00 |
| 2424 | 1,060,710.1890m | 298,893.1874m | 2+423.00 |
| 2425 | 1,060,709.5790m | 298,893.9798m | 2+424.00 |
| 2426 | 1,060,708.9729m | 298,894.7752m | 2+425.00 |
| 2427 | 1,060,708.3706m | 298,895.5735m | 2+426.00 |
| 2428 | 1,060,707.7722m | 298,896.3747m | 2+427.00 |
| 2429 | 1,060,707.1777m | 298,897.1788m | 2+428.00 |
| 2430 | 1,060,706.5871m | 298,897.9858m | 2+429.00 |
| 2431 | 1,060,706.0004m | 298,898.7956m | 2+430.00 |
| 2432 | 1,060,705.4177m | 298,899.6082m | 2+431.00 |
| 2433 | 1,060,704.8389m | 298,900.4237m | 2+432.00 |
| 2434 | 1,060,704.2640m | 298,901.2419m | 2+433.00 |
| 2435 | 1,060,703.6931m | 298,902.0630m | 2+434.00 |
| 2436 | 1,060,703.1262m | 298,902.8868m | 2+435.00 |
| 2437 | 1,060,702.5633m | 298,903.7133m | 2+436.00 |
| 2438 | 1,060,702.0044m | 298,904.5425m | 2+437.00 |
| 2439 | 1,060,701.4496m | 298,905.3745m | 2+438.00 |
| 2440 | 1,060,700.8988m | 298,906.2091m | 2+439.00 |
| 2441 | 1,060,700.3520m | 298,907.0464m | 2+440.00 |
| 2442 | 1,060,699.8093m | 298,907.8863m | 2+441.00 |
| 2443 | 1,060,699.2706m | 298,908.7288m | 2+442.00 |
| 2444 | 1,060,698.7361m | 298,909.5740m | 2+443.00 |
| 2445 | 1,060,698.2056m | 298,910.4217m | 2+444.00 |
| 2446 | 1,060,697.6793m | 298,911.2719m | 2+445.00 |
| 2447 | 1,060,697.1571m | 298,912.1248m | 2+446.00 |
| 2448 | 1,060,696.6390m | 298,912.9801m | 2+447.00 |
| 2449 | 1,060,696.1251m | 298,913.8379m | 2+448.00 |
| 2450 | 1,060,695.6153m | 298,914.6983m | 2+449.00 |
| 2451 | 1,060,695.1098m | 298,915.5610m | 2+450.00 |
| 2452 | 1,060,694.6084m | 298,916.4262m | 2+451.00 |
| 2453 | 1,060,694.1112m | 298,917.2939m | 2+452.00 |
| 2454 | 1,060,693.6182m | 298,918.1639m | 2+453.00 |
| 2455 | 1,060,693.1294m | 298,919.0363m | 2+454.00 |
| 2456 | 1,060,692.6449m | 298,919.9111m | 2+455.00 |
| 2457 | 1,060,692.1644m | 298,920.7881m | 2+456.00 |
| 2458 | 1,060,691.6852m | 298,921.6658m | 2+457.00 |
| 2459 | 1,060,691.2060m | 298,922.5435m | 2+458.00 |
| 2460 | 1,060,690.7267m | 298,923.4212m | 2+459.00 |
| 2461 | 1,060,690.2475m | 298,924.2989m | 2+460.00 |
| 2462 | 1,060,689.7682m | 298,925.1765m | 2+461.00 |
| 2463 | 1,060,689.2890m | 298,926.0542m | 2+462.00 |
| 2464 | 1,060,688.8097m | 298,926.9319m | 2+463.00 |
| 2465 | 1,060,688.3305m | 298,927.8096m | 2+464.00 |
| 2466 | 1,060,687.8513m | 298,928.6873m | 2+465.00 |
| 2467 | 1,060,687.3720m | 298,929.5650m | 2+466.00 |
| 2468 | 1,060,686.8928m | 298,930.4426m | 2+467.00 |
| 2469 | 1,060,686.4135m | 298,931.3203m | 2+468.00 |
| 2470 | 1,060,685.9343m | 298,932.1980m | 2+469.00 |
| 2471 | 1,060,685.4550m | 298,933.0757m | 2+470.00 |
| 2472 | 1,060,684.9758m | 298,933.9534m | 2+471.00 |
| 2473 | 1,060,684.4966m | 298,934.8311m | 2+472.00 |
| 2474 | 1,060,684.0173m | 298,935.7087m | 2+473.00 |
| 2475 | 1,060,683.5381m | 298,936.5864m | 2+474.00 |
| 2476 | 1,060,683.0588m | 298,937.4641m | 2+475.00 |
| 2477 | 1,060,682.5796m | 298,938.3418m | 2+476.00 |
| 2478 | 1,060,682.1003m | 298,939.2195m | 2+477.00 |
| 2479 | 1,060,681.6211m | 298,940.0971m | 2+478.00 |
| 2480 | 1,060,681.1419m | 298,940.9748m | 2+479.00 |
| 2481 | 1,060,680.6626m | 298,941.8525m | 2+480.00 |
| 2482 | 1,060,680.1834m | 298,942.7302m | 2+481.00 |
| 2483 | 1,060,679.7041m | 298,943.6079m | 2+482.00 |
| 2484 | 1,060,679.2249m | 298,944.4856m | 2+483.00 |
| 2485 | 1,060,678.7456m | 298,945.3632m | 2+484.00 |
| 2486 | 1,060,678.2664m | 298,946.2409m | 2+485.00 |
| 2487 | 1,060,677.7872m | 298,947.1186m | 2+486.00 |
| 2488 | 1,060,677.3079m | 298,947.9963m | 2+487.00 |
| 2489 | 1,060,676.8287m | 298,948.8740m | 2+488.00 |
| 2490 | 1,060,676.3494m | 298,949.7517m | 2+489.00 |
| 2491 | 1,060,675.8702m | 298,950.6293m | 2+490.00 |
| 2492 | 1,060,675.3910m | 298,951.5070m | 2+491.00 |
| 2493 | 1,060,674.9117m | 298,952.3847m | 2+492.00 |
| 2494 | 1,060,674.4308m | 298,953.2614m | 2+493.00 |
| 2495 | 1,060,673.9453m | 298,954.1357m | 2+494.00 |
| 2496 | 1,060,673.4554m | 298,955.0075m | 2+495.00 |
| 2497 | 1,060,672.9609m | 298,955.8767m | 2+496.00 |
| 2498 | 1,060,672.4620m | 298,956.7433m | 2+497.00 |
| 2499 | 1,060,671.9586m | 298,957.6074m | 2+498.00 |
| 2500 | 1,060,671.4508m | 298,958.4688m | 2+499.00 |
| 2501 | 1,060,670.9385m | 298,959.3276m | 2+500.00 |
| 2502 | 1,060,670.4218m | 298,960.1838m | 2+501.00 |
| 2503 | 1,060,669.9006m | 298,961.0373m | 2+502.00 |
| 2504 | 1,060,669.3751m | 298,961.8880m | 2+503.00 |
| 2505 | 1,060,668.8451m | 298,962.7361m | 2+504.00 |
| 2506 | 1,060,668.3108m | 298,963.5814m | 2+505.00 |
| 2507 | 1,060,667.7722m | 298,964.4239m | 2+506.00 |
| 2508 | 1,060,667.2292m | 298,965.2636m | 2+507.00 |
| 2509 | 1,060,666.6819m | 298,966.1005m | 2+508.00 |
| 2510 | 1,060,666.1302m | 298,966.9346m | 2+509.00 |
| 2511 | 1,060,665.5743m | 298,967.7658m | 2+510.00 |
| 2512 | 1,060,665.0140m | 298,968.5941m | 2+511.00 |
| 2513 | 1,060,664.4495m | 298,969.4196m | 2+512.00 |
| 2514 | 1,060,663.8807m | 298,970.2421m | 2+513.00 |
| 2515 | 1,060,663.3077m | 298,971.0616m | 2+514.00 |
| 2516 | 1,060,662.7305m | 298,971.8782m | 2+515.00 |
| 2517 | 1,060,662.1491m | 298,972.6918m | 2+516.00 |
| 2518 | 1,060,661.5634m | 298,973.5024m | 2+517.00 |
| 2519 | 1,060,660.9736m | 298,974.3099m | 2+518.00 |
| 2520 | 1,060,660.3796m | 298,975.1144m | 2+519.00 |
| 2521 | 1,060,659.7815m | 298,975.9158m | 2+520.00 |
| 2522 | 1,060,659.1793m | 298,976.7141m | 2+521.00 |
| 2523 | 1,060,658.5729m | 298,977.5093m | 2+522.00 |
| 2524 | 1,060,657.9624m | 298,978.3013m | 2+523.00 |
| 2525 | 1,060,657.3479m | 298,979.0902m | 2+524.00 |
| 2526 | 1,060,656.7293m | 298,979.8759m | 2+525.00 |
| 2527 | 1,060,656.1066m | 298,980.6584m | 2+526.00 |
| 2528 | 1,060,655.4814m | 298,981.4388m | 2+527.00 |
| 2529 | 1,060,654.8561m | 298,982.2192m | 2+528.00 |
| 2530 | 1,060,654.2309m | 298,982.9996m | 2+529.00 |
| 2531 | 1,060,653.6056m | 298,983.7801m | 2+530.00 |
| 2532 | 1,060,652.9804m | 298,984.5605m | 2+531.00 |
| 2533 | 1,060,652.3551m | 298,985.3409m | 2+532.00 |
| 2534 | 1,060,651.7298m | 298,986.1213m | 2+533.00 |
| 2535 | 1,060,651.1046m | 298,986.9018m | 2+534.00 |
| 2536 | 1,060,650.4793m | 298,987.6822m | 2+535.00 |
| 2537 | 1,060,649.8541m | 298,988.4626m | 2+536.00 |
| 2538 | 1,060,649.2288m | 298,989.2430m | 2+537.00 |
| 2539 | 1,060,648.6036m | 298,990.0234m | 2+538.00 |
| 2540 | 1,060,647.9783m | 298,990.8039m | 2+539.00 |
| 2541 | 1,060,647.3531m | 298,991.5843m | 2+540.00 |
| 2542 | 1,060,646.7278m | 298,992.3647m | 2+541.00 |
| 2543 | 1,060,646.1026m | 298,993.1451m | 2+542.00 |
| 2544 | 1,060,645.4773m | 298,993.9255m | 2+543.00 |
| 2545 | 1,060,644.8521m | 298,994.7060m | 2+544.00 |
| 2546 | 1,060,644.2268m | 298,995.4864m | 2+545.00 |
| 2547 | 1,060,643.6015m | 298,996.2668m | 2+546.00 |
| 2548 | 1,060,642.9763m | 298,997.0472m | 2+547.00 |
| 2549 | 1,060,642.3510m | 298,997.8277m | 2+548.00 |
| 2550 | 1,060,641.7258m | 298,998.6081m | 2+549.00 |
| 2551 | 1,060,641.1005m | 298,999.3885m | 2+550.00 |
| 2552 | 1,060,640.4753m | 299,000.1689m | 2+551.00 |
| 2553 | 1,060,639.8500m | 299,000.9493m | 2+552.00 |
| 2554 | 1,060,639.2248m | 299,001.7298m | 2+553.00 |
| 2555 | 1,060,638.5995m | 299,002.5102m | 2+554.00 |
| 2556 | 1,060,637.9743m | 299,003.2906m | 2+555.00 |
| 2557 | 1,060,637.3490m | 299,004.0710m | 2+556.00 |
| 2558 | 1,060,636.7238m | 299,004.8514m | 2+557.00 |
| 2559 | 1,060,636.0985m | 299,005.6319m | 2+558.00 |
| 2560 | 1,060,635.4732m | 299,006.4123m | 2+559.00 |
| 2561 | 1,060,634.8480m | 299,007.1927m | 2+560.00 |
| 2562 | 1,060,634.2227m | 299,007.9731m | 2+561.00 |
| 2563 | 1,060,633.5975m | 299,008.7536m | 2+562.00 |
| 2564 | 1,060,632.9722m | 299,009.5340m | 2+563.00 |
| 2565 | 1,060,632.3470m | 299,010.3144m | 2+564.00 |
| 2566 | 1,060,631.7217m | 299,011.0948m | 2+565.00 |
| 2567 | 1,060,631.0965m | 299,011.8752m | 2+566.00 |
| 2568 | 1,060,630.4712m | 299,012.6557m | 2+567.00 |
| 2569 | 1,060,629.8477m | 299,013.4375m | 2+568.00 |
| 2570 | 1,060,629.2280m | 299,014.2223m | 2+569.00 |
| 2571 | 1,060,628.6120m | 299,015.0101m | 2+570.00 |
| 2572 | 1,060,627.9999m | 299,015.8009m | 2+571.00 |
| 2573 | 1,060,627.3917m | 299,016.5946m | 2+572.00 |
| 2574 | 1,060,626.7873m | 299,017.3913m | 2+573.00 |
| 2575 | 1,060,626.1867m | 299,018.1909m | 2+574.00 |
| 2576 | 1,060,625.5901m | 299,018.9934m | 2+575.00 |
| 2577 | 1,060,624.9973m | 299,019.7987m | 2+576.00 |
| 2578 | 1,060,624.4084m | 299,020.6070m | 2+577.00 |
| 2579 | 1,060,623.8235m | 299,021.4180m | 2+578.00 |
| 2580 | 1,060,623.2425m | 299,022.2320m | 2+579.00 |
| 2581 | 1,060,622.6655m | 299,023.0487m | 2+580.00 |
| 2582 | 1,060,622.0924m | 299,023.8682m | 2+581.00 |
| 2583 | 1,060,621.5233m | 299,024.6904m | 2+582.00 |
| 2584 | 1,060,620.9582m | 299,025.5154m | 2+583.00 |
| 2585 | 1,060,620.3970m | 299,026.3432m | 2+584.00 |
| 2586 | 1,060,619.8400m | 299,027.1736m | 2+585.00 |
| 2587 | 1,060,619.2869m | 299,028.0068m | 2+586.00 |
| 2588 | 1,060,618.7379m | 299,028.8426m | 2+587.00 |
| 2589 | 1,060,618.1929m | 299,029.6810m | 2+588.00 |
| 2590 | 1,060,617.6520m | 299,030.5221m | 2+589.00 |
| 2591 | 1,060,617.1152m | 299,031.3658m | 2+590.00 |
| 2592 | 1,060,616.5825m | 299,032.2121m | 2+591.00 |
| 2593 | 1,060,616.0538m | 299,033.0610m | 2+592.00 |
| 2594 | 1,060,615.5294m | 299,033.9124m | 2+593.00 |
| 2595 | 1,060,615.0090m | 299,034.7663m | 2+594.00 |
| 2596 | 1,060,614.4928m | 299,035.6228m | 2+595.00 |
| 2597 | 1,060,613.9807m | 299,036.4817m | 2+596.00 |
| 2598 | 1,060,613.4728m | 299,037.3431m | 2+597.00 |
| 2599 | 1,060,612.9691m | 299,038.2070m | 2+598.00 |
| 2600 | 1,060,612.4696m | 299,039.0733m | 2+599.00 |
| 2601 | 1,060,611.9742m | 299,039.9420m | 2+600.00 |
| 2602 | 1,060,611.4831m | 299,040.8131m | 2+601.00 |
| 2603 | 1,060,610.9962m | 299,041.6866m | 2+602.00 |
| 2604 | 1,060,610.5136m | 299,042.5624m | 2+603.00 |
| 2605 | 1,060,610.0352m | 299,043.4405m | 2+604.00 |
| 2606 | 1,060,609.5610m | 299,044.3210m | 2+605.00 |
| 2607 | 1,060,609.0912m | 299,045.2037m | 2+606.00 |
| 2608 | 1,060,608.6256m | 299,046.0887m | 2+607.00 |
| 2609 | 1,060,608.1643m | 299,046.9759m | 2+608.00 |
| 2610 | 1,060,607.7073m | 299,047.8654m | 2+609.00 |
| 2611 | 1,060,607.2546m | 299,048.7571m | 2+610.00 |
| 2612 | 1,060,606.8063m | 299,049.6510m | 2+611.00 |
| 2613 | 1,060,606.3623m | 299,050.5470m | 2+612.00 |
| 2614 | 1,060,605.9226m | 299,051.4451m | 2+613.00 |
| 2615 | 1,060,605.4873m | 299,052.3454m | 2+614.00 |
| 2616 | 1,060,605.0564m | 299,053.2478m | 2+615.00 |
| 2617 | 1,060,604.6298m | 299,054.1522m | 2+616.00 |
| 2618 | 1,060,604.2076m | 299,055.0588m | 2+617.00 |
| 2619 | 1,060,603.7899m | 299,055.9673m | 2+618.00 |
| 2620 | 1,060,603.3765m | 299,056.8779m | 2+619.00 |
| 2621 | 1,060,602.9675m | 299,057.7904m | 2+620.00 |
| 2622 | 1,060,602.5630m | 299,058.7049m | 2+621.00 |
| 2623 | 1,060,602.1629m | 299,059.6214m | 2+622.00 |
| 2624 | 1,060,601.7673m | 299,060.5398m | 2+623.00 |
| 2625 | 1,060,601.3761m | 299,061.4601m | 2+624.00 |
| 2626 | 1,060,600.9893m | 299,062.3823m | 2+625.00 |
| 2627 | 1,060,600.6071m | 299,063.3064m | 2+626.00 |
| 2628 | 1,060,600.2293m | 299,064.2323m | 2+627.00 |
| 2629 | 1,060,599.8560m | 299,065.1600m | 2+628.00 |
| 2630 | 1,060,599.4872m | 299,066.0895m | 2+629.00 |
| 2631 | 1,060,599.1229m | 299,067.0208m | 2+630.00 |
| 2632 | 1,060,598.7632m | 299,067.9538m | 2+631.00 |
| 2633 | 1,060,598.4079m | 299,068.8886m | 2+632.00 |
| 2634 | 1,060,598.0572m | 299,069.8251m | 2+633.00 |
| 2635 | 1,060,597.7111m | 299,070.7633m | 2+634.00 |
| 2636 | 1,060,597.3694m | 299,071.7031m | 2+635.00 |
| 2637 | 1,060,597.0324m | 299,072.6446m | 2+636.00 |
| 2638 | 1,060,596.6999m | 299,073.5877m | 2+637.00 |
| 2639 | 1,060,596.3720m | 299,074.5324m | 2+638.00 |

| | | | |
|---|---|---|---|
| 2640 | 1,060,596.0486m | 299,075.4787m | 2+639.00 |
| 2641 | 1,060,595.7299m | 299,076.4265m | 2+640.00 |
| 2642 | 1,060,595.4157m | 299,077.3759m | 2+641.00 |
| 2643 | 1,060,595.1062m | 299,078.3268m | 2+642.00 |
| 2644 | 1,060,594.8012m | 299,079.2791m | 2+643.00 |
| 2645 | 1,060,594.5009m | 299,080.2330m | 2+644.00 |
| 2646 | 1,060,594.2052m | 299,081.1882m | 2+645.00 |
| 2647 | 1,060,593.9141m | 299,082.1449m | 2+646.00 |
| 2648 | 1,060,593.6277m | 299,083.1030m | 2+647.00 |
| 2649 | 1,060,593.3459m | 299,084.0625m | 2+648.00 |
| 2650 | 1,060,593.0688m | 299,085.0234m | 2+649.00 |
| 2651 | 1,060,592.7963m | 299,085.9855m | 2+650.00 |
| 2652 | 1,060,592.5285m | 299,086.9490m | 2+651.00 |
| 2653 | 1,060,592.2654m | 299,087.9137m | 2+652.00 |
| 2654 | 1,060,592.0069m | 299,088.8798m | 2+653.00 |
| 2655 | 1,060,591.7532m | 299,089.8470m | 2+654.00 |
| 2656 | 1,060,591.5041m | 299,090.8155m | 2+655.00 |
| 2657 | 1,060,591.2597m | 299,091.7852m | 2+656.00 |
| 2658 | 1,060,591.0200m | 299,092.7560m | 2+657.00 |
| 2659 | 1,060,590.7850m | 299,093.7280m | 2+658.00 |
| 2660 | 1,060,590.5547m | 299,094.7012m | 2+659.00 |
| 2661 | 1,060,590.3292m | 299,095.6754m | 2+660.00 |
| 2662 | 1,060,590.1084m | 299,096.6507m | 2+661.00 |
| 2663 | 1,060,589.8922m | 299,097.6271m | 2+662.00 |
| 2664 | 1,060,589.6809m | 299,098.6045m | 2+663.00 |
| 2665 | 1,060,589.4742m | 299,099.5829m | 2+664.00 |
| 2666 | 1,060,589.2705m | 299,100.5619m | 2+665.00 |
| 2667 | 1,060,589.0668m | 299,101.5409m | 2+666.00 |
| 2668 | 1,060,588.8631m | 299,102.5200m | 2+667.00 |
| 2669 | 1,060,588.6594m | 299,103.4990m | 2+668.00 |
| 2670 | 1,060,588.4556m | 299,104.4780m | 2+669.00 |
| 2671 | 1,060,588.2519m | 299,105.4571m | 2+670.00 |
| 2672 | 1,060,588.0482m | 299,106.4361m | 2+671.00 |
| 2673 | 1,060,587.8445m | 299,107.4151m | 2+672.00 |
| 2674 | 1,060,587.6408m | 299,108.3942m | 2+673.00 |
| 2675 | 1,060,587.4371m | 299,109.3732m | 2+674.00 |
| 2676 | 1,060,587.2334m | 299,110.3522m | 2+675.00 |
| 2677 | 1,060,587.0296m | 299,111.3312m | 2+676.00 |
| 2678 | 1,060,586.8259m | 299,112.3103m | 2+677.00 |
| 2679 | 1,060,586.6222m | 299,113.2893m | 2+678.00 |
| 2680 | 1,060,586.4185m | 299,114.2683m | 2+679.00 |
| 2681 | 1,060,586.2148m | 299,115.2474m | 2+680.00 |
| 2682 | 1,060,586.0111m | 299,116.2264m | 2+681.00 |
| 2683 | 1,060,585.8074m | 299,117.2054m | 2+682.00 |
| 2684 | 1,060,585.6036m | 299,118.1845m | 2+683.00 |
| 2685 | 1,060,585.3999m | 299,119.1635m | 2+684.00 |
| 2686 | 1,060,585.1962m | 299,120.1425m | 2+685.00 |
| 2687 | 1,060,584.9925m | 299,121.1216m | 2+686.00 |
| 2688 | 1,060,584.7888m | 299,122.1006m | 2+687.00 |
| 2689 | 1,060,584.5851m | 299,123.0796m | 2+688.00 |
| 2690 | 1,060,584.3813m | 299,124.0586m | 2+689.00 |
| 2691 | 1,060,584.1776m | 299,125.0377m | 2+690.00 |
| 2692 | 1,060,583.9739m | 299,126.0167m | 2+691.00 |
| 2693 | 1,060,583.7702m | 299,126.9957m | 2+692.00 |
| 2694 | 1,060,583.5665m | 299,127.9748m | 2+693.00 |
| 2695 | 1,060,583.3628m | 299,128.9538m | 2+694.00 |
| 2696 | 1,060,583.1591m | 299,129.9328m | 2+695.00 |
| 2697 | 1,060,582.9553m | 299,130.9119m | 2+696.00 |
| 2698 | 1,060,582.7516m | 299,131.8909m | 2+697.00 |
| 2699 | 1,060,582.5479m | 299,132.8699m | 2+698.00 |
| 2700 | 1,060,582.3442m | 299,133.8489m | 2+699.00 |
| 2701 | 1,060,582.1405m | 299,134.8280m | 2+700.00 |
| 2702 | 1,060,581.9368m | 299,135.8070m | 2+701.00 |
| 2703 | 1,060,581.7331m | 299,136.7860m | 2+702.00 |
| 2704 | 1,060,581.5293m | 299,137.7651m | 2+703.00 |
| 2705 | 1,060,581.3256m | 299,138.7441m | 2+704.00 |
| 2706 | 1,060,581.1219m | 299,139.7231m | 2+705.00 |
| 2707 | 1,060,580.9182m | 299,140.7022m | 2+706.00 |
| 2708 | 1,060,580.7145m | 299,141.6812m | 2+707.00 |
| 2709 | 1,060,580.5108m | 299,142.6602m | 2+708.00 |
| 2710 | 1,060,580.3071m | 299,143.6393m | 2+709.00 |
| 2711 | 1,060,580.1033m | 299,144.6183m | 2+710.00 |
| 2712 | 1,060,579.8996m | 299,145.5973m | 2+711.00 |
| 2713 | 1,060,579.6959m | 299,146.5763m | 2+712.00 |
| 2714 | 1,060,579.4922m | 299,147.5554m | 2+713.00 |
| 2715 | 1,060,579.2885m | 299,148.5344m | 2+714.00 |
| 2716 | 1,060,579.0848m | 299,149.5134m | 2+715.00 |
| 2717 | 1,060,578.8811m | 299,150.4925m | 2+716.00 |
| 2718 | 1,060,578.6773m | 299,151.4715m | 2+717.00 |
| 2719 | 1,060,578.4736m | 299,152.4505m | 2+718.00 |
| 2720 | 1,060,578.2699m | 299,153.4296m | 2+719.00 |
| 2721 | 1,060,578.0662m | 299,154.4086m | 2+720.00 |
| 2722 | 1,060,577.8625m | 299,155.3876m | 2+721.00 |
| 2723 | 1,060,577.6588m | 299,156.3666m | 2+722.00 |
| 2724 | 1,060,577.4551m | 299,157.3457m | 2+723.00 |
| 2725 | 1,060,577.2513m | 299,158.3247m | 2+724.00 |
| 2726 | 1,060,577.0476m | 299,159.3037m | 2+725.00 |
| 2727 | 1,060,576.8439m | 299,160.2828m | 2+726.00 |
| 2728 | 1,060,576.6402m | 299,161.2618m | 2+727.00 |
| 2729 | 1,060,576.4365m | 299,162.2408m | 2+728.00 |
| 2730 | 1,060,576.2328m | 299,163.2199m | 2+729.00 |
| 2731 | 1,060,576.0291m | 299,164.1989m | 2+730.00 |
| 2732 | 1,060,575.8253m | 299,165.1779m | 2+731.00 |
| 2733 | 1,060,575.6216m | 299,166.1569m | 2+732.00 |
| 2734 | 1,060,575.4179m | 299,167.1360m | 2+733.00 |
| 2735 | 1,060,575.2142m | 299,168.1150m | 2+734.00 |
| 2736 | 1,060,575.0105m | 299,169.0940m | 2+735.00 |
| 2737 | 1,060,574.8068m | 299,170.0731m | 2+736.00 |
| 2738 | 1,060,574.6030m | 299,171.0521m | 2+737.00 |
| 2739 | 1,060,574.3993m | 299,172.0311m | 2+738.00 |
| 2740 | 1,060,574.1956m | 299,173.0102m | 2+739.00 |
| 2741 | 1,060,573.9919m | 299,173.9892m | 2+740.00 |
| 2742 | 1,060,573.7882m | 299,174.9682m | 2+741.00 |
| 2743 | 1,060,573.5845m | 299,175.9473m | 2+742.00 |
| 2744 | 1,060,573.3808m | 299,176.9263m | 2+743.00 |
| 2745 | 1,060,573.1770m | 299,177.9053m | 2+744.00 |
| 2746 | 1,060,572.9733m | 299,178.8843m | 2+745.00 |
| 2747 | 1,060,572.7696m | 299,179.8634m | 2+746.00 |
| 2748 | 1,060,572.5659m | 299,180.8424m | 2+747.00 |
| 2749 | 1,060,572.3622m | 299,181.8214m | 2+748.00 |
| 2750 | 1,060,572.1585m | 299,182.8005m | 2+749.00 |
| 2751 | 1,060,571.9548m | 299,183.7795m | 2+750.00 |
| 2752 | 1,060,571.7510m | 299,184.7585m | 2+751.00 |
| 2753 | 1,060,571.5473m | 299,185.7376m | 2+752.00 |
| 2754 | 1,060,571.3436m | 299,186.7166m | 2+753.00 |
| 2755 | 1,060,571.1399m | 299,187.6956m | 2+754.00 |
| 2756 | 1,060,570.9362m | 299,188.6746m | 2+755.00 |
| 2757 | 1,060,570.7325m | 299,189.6537m | 2+756.00 |
| 2758 | 1,060,570.5288m | 299,190.6327m | 2+757.00 |
| 2759 | 1,060,570.3250m | 299,191.6117m | 2+758.00 |
| 2760 | 1,060,570.1213m | 299,192.5908m | 2+759.00 |
| 2761 | 1,060,569.9176m | 299,193.5698m | 2+760.00 |
| 2762 | 1,060,569.7139m | 299,194.5488m | 2+761.00 |
| 2763 | 1,060,569.5102m | 299,195.5279m | 2+762.00 |
| 2764 | 1,060,569.3065m | 299,196.5069m | 2+763.00 |
| 2765 | 1,060,569.1028m | 299,197.4859m | 2+764.00 |
| 2766 | 1,060,568.8990m | 299,198.4649m | 2+765.00 |
| 2767 | 1,060,568.6953m | 299,199.4440m | 2+766.00 |
| 2768 | 1,060,568.4916m | 299,200.4230m | 2+767.00 |
| 2769 | 1,060,568.2879m | 299,201.4020m | 2+768.00 |
| 2770 | 1,060,568.0842m | 299,202.3811m | 2+769.00 |
| 2771 | 1,060,567.8805m | 299,203.3601m | 2+770.00 |
| 2772 | 1,060,567.6768m | 299,204.3391m | 2+771.00 |
| 2773 | 1,060,567.4730m | 299,205.3182m | 2+772.00 |
| 2774 | 1,060,567.2693m | 299,206.2972m | 2+773.00 |
| 2775 | 1,060,567.0656m | 299,207.2762m | 2+774.00 |
| 2776 | 1,060,566.8619m | 299,208.2553m | 2+775.00 |
| 2777 | 1,060,566.6582m | 299,209.2343m | 2+776.00 |
| 2778 | 1,060,566.4545m | 299,210.2133m | 2+777.00 |
| 2779 | 1,060,566.2508m | 299,211.1923m | 2+778.00 |
| 2780 | 1,060,566.0470m | 299,212.1714m | 2+779.00 |
| 2781 | 1,060,565.8433m | 299,213.1504m | 2+780.00 |
| 2782 | 1,060,565.6396m | 299,214.1294m | 2+781.00 |
| 2783 | 1,060,565.4359m | 299,215.1085m | 2+782.00 |
| 2784 | 1,060,565.2322m | 299,216.0875m | 2+783.00 |
| 2785 | 1,060,565.0285m | 299,217.0665m | 2+784.00 |
| 2786 | 1,060,564.8248m | 299,218.0456m | 2+785.00 |
| 2787 | 1,060,564.6210m | 299,219.0246m | 2+786.00 |
| 2788 | 1,060,564.4173m | 299,220.0036m | 2+787.00 |
| 2789 | 1,060,564.2136m | 299,220.9826m | 2+788.00 |
| 2790 | 1,060,564.0099m | 299,221.9617m | 2+789.00 |
| 2791 | 1,060,563.8062m | 299,222.9407m | 2+790.00 |
| 2792 | 1,060,563.6025m | 299,223.9197m | 2+791.00 |
| 2793 | 1,060,563.3987m | 299,224.8988m | 2+792.00 |
| 2794 | 1,060,563.1950m | 299,225.8778m | 2+793.00 |
| 2795 | 1,060,562.9913m | 299,226.8568m | 2+794.00 |
| 2796 | 1,060,562.7876m | 299,227.8359m | 2+795.00 |
| 2797 | 1,060,562.5839m | 299,228.8149m | 2+796.00 |
| 2798 | 1,060,562.3802m | 299,229.7939m | 2+797.00 |
| 2799 | 1,060,562.1765m | 299,230.7729m | 2+798.00 |
| 2800 | 1,060,561.9727m | 299,231.7520m | 2+799.00 |
| 2801 | 1,060,561.7690m | 299,232.7310m | 2+800.00 |
| 2802 | 1,060,561.5653m | 299,233.7100m | 2+801.00 |
| 2803 | 1,060,561.3616m | 299,234.6891m | 2+802.00 |
| 2804 | 1,060,561.1579m | 299,235.6681m | 2+803.00 |
| 2805 | 1,060,560.9542m | 299,236.6471m | 2+804.00 |
| 2806 | 1,060,560.7505m | 299,237.6262m | 2+805.00 |
| 2807 | 1,060,560.5467m | 299,238.6052m | 2+806.00 |
| 2808 | 1,060,560.3430m | 299,239.5842m | 2+807.00 |
| 2809 | 1,060,560.1393m | 299,240.5633m | 2+808.00 |
| 2810 | 1,060,559.9356m | 299,241.5423m | 2+809.00 |
| 2811 | 1,060,559.7319m | 299,242.5213m | 2+810.00 |
| 2812 | 1,060,559.5282m | 299,243.5003m | 2+811.00 |
| 2813 | 1,060,559.3245m | 299,244.4794m | 2+812.00 |
| 2814 | 1,060,559.1207m | 299,245.4584m | 2+813.00 |
| 2815 | 1,060,558.9170m | 299,246.4374m | 2+814.00 |
| 2816 | 1,060,558.7133m | 299,247.4165m | 2+815.00 |
| 2817 | 1,060,558.5096m | 299,248.3955m | 2+816.00 |
| 2818 | 1,060,558.3059m | 299,249.3745m | 2+817.00 |
| 2819 | 1,060,558.1022m | 299,250.3536m | 2+818.00 |
| 2820 | 1,060,557.8985m | 299,251.3326m | 2+819.00 |
| 2821 | 1,060,557.6947m | 299,252.3116m | 2+820.00 |
| 2822 | 1,060,557.4910m | 299,253.2906m | 2+821.00 |
| 2823 | 1,060,557.2873m | 299,254.2697m | 2+822.00 |
| 2824 | 1,060,557.0836m | 299,255.2487m | 2+823.00 |
| 2825 | 1,060,556.8799m | 299,256.2277m | 2+824.00 |
| 2826 | 1,060,556.6762m | 299,257.2068m | 2+825.00 |
| 2827 | 1,060,556.4725m | 299,258.1858m | 2+826.00 |
| 2828 | 1,060,556.2687m | 299,259.1648m | 2+827.00 |
| 2829 | 1,060,556.0650m | 299,260.1439m | 2+828.00 |
| 2830 | 1,060,555.8613m | 299,261.1229m | 2+829.00 |
| 2831 | 1,060,555.6576m | 299,262.1019m | 2+830.00 |
| 2832 | 1,060,555.4539m | 299,263.0809m | 2+831.00 |
| 2833 | 1,060,555.2787m | 299,263.9229m | 2+831.86 |

**Cuadro N°3. Coordenadas del Área de afectación Acceso y toma de agua cruda SIBUBE (C3) = 3.9856015 Ha**

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1 | 1,060,555.2786m | 299,263.9232m | 0+000.00 |
| 2 | 1,060,554.2838m | 299,263.8213m | 0+001.00 |
| 3 | 1,060,553.2890m | 299,263.7194m | 0+002.00 |
| 4 | 1,060,552.2942m | 299,263.6175m | 0+003.00 |
| 5 | 1,060,551.2995m | 299,263.5156m | 0+004.00 |
| 6 | 1,060,550.3047m | 299,263.4137m | 0+005.00 |
| 7 | 1,060,549.3099m | 299,263.3118m | 0+006.00 |
| 8 | 1,060,548.3151m | 299,263.2099m | 0+007.00 |
| 9 | 1,060,547.3203m | 299,263.1080m | 0+008.00 |
| 10 | 1,060,546.3255m | 299,263.0061m | 0+009.00 |
| 11 | 1,060,545.3307m | 299,262.9042m | 0+010.00 |
| 12 | 1,060,544.3359m | 299,262.8023m | 0+011.00 |
| 13 | 1,060,543.3411m | 299,262.7004m | 0+012.00 |
| 14 | 1,060,542.3463m | 299,262.5985m | 0+013.00 |
| 15 | 1,060,541.3515m | 299,262.4966m | 0+014.00 |
| 16 | 1,060,540.3567m | 299,262.3947m | 0+015.00 |
| 17 | 1,060,539.3619m | 299,262.2928m | 0+016.00 |
| 18 | 1,060,538.3671m | 299,262.1909m | 0+017.00 |
| 19 | 1,060,537.3723m | 299,262.0890m | 0+018.00 |
| 20 | 1,060,536.3775m | 299,261.9871m | 0+019.00 |
| 21 | 1,060,535.3827m | 299,261.8852m | 0+020.00 |
| 22 | 1,060,534.3879m | 299,261.7833m | 0+021.00 |
| 23 | 1,060,533.3931m | 299,261.6814m | 0+022.00 |
| 24 | 1,060,532.3984m | 299,261.5795m | 0+023.00 |
| 25 | 1,060,531.4036m | 299,261.4776m | 0+024.00 |
| 26 | 1,060,530.4088m | 299,261.3757m | 0+025.00 |
| 27 | 1,060,529.4140m | 299,261.2738m | 0+026.00 |
| 28 | 1,060,528.4192m | 299,261.1719m | 0+027.00 |
| 29 | 1,060,527.4244m | 299,261.0700m | 0+028.00 |
| 30 | 1,060,526.4296m | 299,260.9681m | 0+029.00 |
| 31 | 1,060,525.4348m | 299,260.8662m | 0+030.00 |
| 32 | 1,060,524.4400m | 299,260.7643m | 0+031.00 |
| 33 | 1,060,523.4452m | 299,260.6624m | 0+032.00 |
| 34 | 1,060,522.4504m | 299,260.5605m | 0+033.00 |
| 35 | 1,060,521.4556m | 299,260.4586m | 0+034.00 |
| 36 | 1,060,520.4608m | 299,260.3567m | 0+035.00 |
| 37 | 1,060,519.4660m | 299,260.2548m | 0+036.00 |
| 38 | 1,060,518.4712m | 299,260.1529m | 0+037.00 |
| 39 | 1,060,517.4764m | 299,260.0510m | 0+038.00 |
| 40 | 1,060,516.4816m | 299,259.9491m | 0+039.00 |
| 41 | 1,060,515.4868m | 299,259.8472m | 0+040.00 |
| 42 | 1,060,514.4920m | 299,259.7453m | 0+041.00 |
| 43 | 1,060,513.4973m | 299,259.6434m | 0+042.00 |
| 44 | 1,060,512.5025m | 299,259.5415m | 0+043.00 |
| 45 | 1,060,511.5077m | 299,259.4396m | 0+044.00 |
| 46 | 1,060,510.5129m | 299,259.3377m | 0+045.00 |
| 47 | 1,060,509.5181m | 299,259.2358m | 0+046.00 |
| 48 | 1,060,508.5233m | 299,259.1339m | 0+047.00 |
| 49 | 1,060,507.5285m | 299,259.0320m | 0+048.00 |
| 50 | 1,060,506.5337m | 299,258.9301m | 0+049.00 |
| 51 | 1,060,505.5389m | 299,258.8282m | 0+050.00 |
| 52 | 1,060,504.5441m | 299,258.7263m | 0+051.00 |
| 53 | 1,060,503.5493m | 299,258.6244m | 0+052.00 |
| 54 | 1,060,502.5545m | 299,258.5225m | 0+053.00 |
| 55 | 1,060,501.5597m | 299,258.4206m | 0+054.00 |
| 56 | 1,060,500.5649m | 299,258.3187m | 0+055.00 |
| 57 | 1,060,499.5701m | 299,258.2168m | 0+056.00 |
| 58 | 1,060,498.5753m | 299,258.1149m | 0+057.00 |
| 59 | 1,060,497.5805m | 299,258.0130m | 0+058.00 |
| 60 | 1,060,496.5857m | 299,257.9111m | 0+059.00 |
| 61 | 1,060,495.5909m | 299,257.8092m | 0+060.00 |
| 62 | 1,060,494.5962m | 299,257.7073m | 0+061.00 |
| 63 | 1,060,493.6014m | 299,257.6054m | 0+062.00 |
| 64 | 1,060,492.6066m | 299,257.5035m | 0+063.00 |
| 65 | 1,060,491.6118m | 299,257.4016m | 0+064.00 |
| 66 | 1,060,490.6170m | 299,257.2997m | 0+065.00 |
| 67 | 1,060,489.6222m | 299,257.1978m | 0+066.00 |
| 68 | 1,060,488.6274m | 299,257.0959m | 0+067.00 |
| 69 | 1,060,487.6326m | 299,256.9940m | 0+068.00 |
| 70 | 1,060,486.6378m | 299,256.8921m | 0+069.00 |
| 71 | 1,060,485.6430m | 299,256.7902m | 0+070.00 |
| 72 | 1,060,484.6482m | 299,256.6883m | 0+071.00 |
| 73 | 1,060,483.6534m | 299,256.5864m | 0+072.00 |
| 74 | 1,060,482.6586m | 299,256.4845m | 0+073.00 |
| 75 | 1,060,481.6638m | 299,256.3826m | 0+074.00 |
| 76 | 1,060,480.6690m | 299,256.2807m | 0+075.00 |
| 77 | 1,060,479.6742m | 299,256.1788m | 0+076.00 |
| 78 | 1,060,478.6794m | 299,256.0769m | 0+077.00 |
| 79 | 1,060,477.6846m | 299,255.9750m | 0+078.00 |
| 80 | 1,060,476.6899m | 299,255.8731m | 0+079.00 |
| 81 | 1,060,475.6954m | 299,255.7676m | 0+080.00 |
| 82 | 1,060,474.7022m | 299,255.6517m | 0+081.00 |
| 83 | 1,060,473.7102m | 299,255.5252m | 0+082.00 |
| 84 | 1,060,472.7197m | 299,255.3881m | 0+083.00 |
| 85 | 1,060,471.7306m | 299,255.2404m | 0+084.00 |
| 86 | 1,060,470.7432m | 299,255.0821m | 0+085.00 |
| 87 | 1,060,469.7576m | 299,254.9134m | 0+086.00 |
| 88 | 1,060,468.7738m | 299,254.7340m | 0+087.00 |
| 89 | 1,060,467.7920m | 299,254.5442m | 0+088.00 |
| 90 | 1,060,466.8123m | 299,254.3440m | 0+089.00 |
| 91 | 1,060,465.8347m | 299,254.1332m | 0+090.00 |
| 92 | 1,060,464.8595m | 299,253.9120m | 0+091.00 |
| 93 | 1,060,463.8867m | 299,253.6805m | 0+092.00 |
| 94 | 1,060,462.9164m | 299,253.4385m | 0+093.00 |
| 95 | 1,060,461.9488m | 299,253.1862m | 0+094.00 |
| 96 | 1,060,460.9839m | 299,252.9236m | 0+095.00 |
| 97 | 1,060,460.0218m | 299,252.6506m | 0+096.00 |
| 98 | 1,060,459.0628m | 299,252.3675m | 0+097.00 |
| 99 | 1,060,458.1068m | 299,252.0740m | 0+098.00 |
| 100 | 1,060,457.1540m | 299,251.7704m | 0+099.00 |
| 101 | 1,060,456.2045m | 299,251.4566m | 0+100.00 |
| 102 | 1,060,455.2584m | 299,251.1327m | 0+101.00 |
| 103 | 1,060,454.3159m | 299,250.7987m | 0+102.00 |
| 104 | 1,060,453.3769m | 299,250.4547m | 0+103.00 |
| 105 | 1,060,452.4417m | 299,250.1006m | 0+104.00 |
| 106 | 1,060,451.5103m | 299,249.7366m | 0+105.00 |
| 107 | 1,060,450.5829m | 299,249.3627m | 0+106.00 |
| 108 | 1,060,449.6583m | 299,248.9817m | 0+107.00 |
| 109 | 1,060,448.7338m | 299,248.6005m | 0+108.00 |
| 110 | 1,060,447.8093m | 299,248.2192m | 0+109.00 |
| 111 | 1,060,446.8848m | 299,247.8380m | 0+110.00 |
| 112 | 1,060,445.9604m | 299,247.4568m | 0+111.00 |
| 113 | 1,060,445.0359m | 299,247.0755m | 0+112.00 |
| 114 | 1,060,444.1114m | 299,246.6943m | 0+113.00 |
| 115 | 1,060,443.1869m | 299,246.3131m | 0+114.00 |
| 116 | 1,060,442.2624m | 299,245.9318m | 0+115.00 |
| 117 | 1,060,441.3380m | 299,245.5506m | 0+116.00 |
| 118 | 1,060,440.4135m | 299,245.1694m | 0+117.00 |
| 119 | 1,060,439.4890m | 299,244.7881m | 0+118.00 |
| 120 | 1,060,438.5645m | 299,244.4069m | 0+119.00 |
| 121 | 1,060,437.6401m | 299,244.0257m | 0+120.00 |
| 122 | 1,060,436.7156m | 299,243.6444m | 0+121.00 |
| 123 | 1,060,435.7911m | 299,243.2632m | 0+122.00 |
| 124 | 1,060,434.8666m | 299,242.8820m | 0+123.00 |
| 125 | 1,060,433.9421m | 299,242.5007m | 0+124.00 |
| 126 | 1,060,433.0177m | 299,242.1195m | 0+125.00 |
| 127 | 1,060,432.0932m | 299,241.7383m | 0+126.00 |
| 128 | 1,060,431.1687m | 299,241.3570m | 0+127.00 |
| 129 | 1,060,430.2442m | 299,240.9758m | 0+128.00 |
| 130 | 1,060,429.3198m | 299,240.5945m | 0+129.00 |
| 131 | 1,060,428.3953m | 299,240.2133m | 0+130.00 |
| 132 | 1,060,427.4708m | 299,239.8321m | 0+131.00 |
| 133 | 1,060,426.5463m | 299,239.4508m | 0+132.00 |
| 134 | 1,060,425.6218m | 299,239.0696m | 0+133.00 |
| 135 | 1,060,424.6974m | 299,238.6884m | 0+134.00 |
| 136 | 1,060,423.7729m | 299,238.3071m | 0+135.00 |
| 137 | 1,060,422.8484m | 299,237.9259m | 0+136.00 |
| 138 | 1,060,421.9239m | 299,237.5447m | 0+137.00 |
| 139 | 1,060,420.9994m | 299,237.1634m | 0+138.00 |
| 140 | 1,060,420.0750m | 299,236.7822m | 0+139.00 |
| 141 | 1,060,419.1505m | 299,236.4010m | 0+140.00 |
| 142 | 1,060,418.2260m | 299,236.0197m | 0+141.00 |
| 143 | 1,060,417.3015m | 299,235.6385m | 0+142.00 |
| 144 | 1,060,416.3771m | 299,235.2573m | 0+143.00 |
| 145 | 1,060,415.4526m | 299,234.8760m | 0+144.00 |
| 146 | 1,060,414.5281m | 299,234.4948m | 0+145.00 |
| 147 | 1,060,413.6036m | 299,234.1136m | 0+146.00 |
| 148 | 1,060,412.6791m | 299,233.7323m | 0+147.00 |
| 149 | 1,060,411.7547m | 299,233.3511m | 0+148.00 |
| 150 | 1,060,410.8302m | 299,232.9699m | 0+149.00 |
| 151 | 1,060,409.9057m | 299,232.5886m | 0+150.00 |
| 152 | 1,060,408.9812m | 299,232.2074m | 0+151.00 |
| 153 | 1,060,408.0567m | 299,231.8262m | 0+152.00 |
| 154 | 1,060,407.1323m | 299,231.4449m | 0+153.00 |
| 155 | 1,060,406.2078m | 299,231.0637m | 0+154.00 |
| 156 | 1,060,405.2833m | 299,230.6825m | 0+155.00 |
| 157 | 1,060,404.3588m | 299,230.3012m | 0+156.00 |
| 158 | 1,060,403.4344m | 299,229.9200m | 0+157.00 |
| 159 | 1,060,402.5099m | 299,229.5388m | 0+158.00 |
| 160 | 1,060,401.5854m | 299,229.1575m | 0+159.00 |
| 161 | 1,060,400.6609m | 299,228.7763m | 0+160.00 |
| 162 | 1,060,399.7364m | 299,228.3951m | 0+161.00 |
| 163 | 1,060,398.8120m | 299,228.0138m | 0+162.00 |
| 164 | 1,060,397.8875m | 299,227.6326m | 0+163.00 |
| 165 | 1,060,396.9630m | 299,227.2514m | 0+164.00 |
| 166 | 1,060,396.0385m | 299,226.8701m | 0+165.00 |
| 167 | 1,060,395.1140m | 299,226.4889m | 0+166.00 |
| 168 | 1,060,394.1896m | 299,226.1077m | 0+167.00 |
| 169 | 1,060,393.2651m | 299,225.7264m | 0+168.00 |
| 170 | 1,060,392.3406m | 299,225.3452m | 0+169.00 |
| 171 | 1,060,391.4161m | 299,224.9639m | 0+170.00 |
| 172 | 1,060,390.4917m | 299,224.5827m | 0+171.00 |
| 173 | 1,060,389.5672m | 299,224.2015m | 0+172.00 |
| 174 | 1,060,388.6427m | 299,223.8202m | 0+173.00 |
| 175 | 1,060,387.7182m | 299,223.4390m | 0+174.00 |
| 176 | 1,060,386.7937m | 299,223.0578m | 0+175.00 |
| 177 | 1,060,385.8693m | 299,222.6765m | 0+176.00 |
| 178 | 1,060,384.9448m | 299,222.2953m | 0+177.00 |
| 179 | 1,060,384.0203m | 299,221.9141m | 0+178.00 |
| 180 | 1,060,383.0958m | 299,221.5328m | 0+179.00 |
| 181 | 1,060,382.1713m | 299,221.1516m | 0+180.00 |
| 182 | 1,060,381.2469m | 299,220.7704m | 0+181.00 |
| 183 | 1,060,380.3224m | 299,220.3891m | 0+182.00 |
| 184 | 1,060,379.3979m | 299,220.0079m | 0+183.00 |
| 185 | 1,060,378.4734m | 299,219.6267m | 0+184.00 |
| 186 | 1,060,377.5490m | 299,219.2454m | 0+185.00 |
| 187 | 1,060,376.6245m | 299,218.8642m | 0+186.00 |
| 188 | 1,060,375.7000m | 299,218.4830m | 0+187.00 |
| 189 | 1,060,374.7755m | 299,218.1017m | 0+188.00 |
| 190 | 1,060,373.8510m | 299,217.7205m | 0+189.00 |
| 191 | 1,060,372.9266m | 299,217.3393m | 0+190.00 |
| 192 | 1,060,372.0021m | 299,216.9580m | 0+191.00 |
| 193 | 1,060,371.0776m | 299,216.5768m | 0+192.00 |
| 194 | 1,060,370.1531m | 299,216.1956m | 0+193.00 |
| 195 | 1,060,369.2286m | 299,215.8143m | 0+194.00 |
| 196 | 1,060,368.3042m | 299,215.4331m | 0+195.00 |
| 197 | 1,060,367.3797m | 299,215.0519m | 0+196.00 |
| 198 | 1,060,366.4552m | 299,214.6706m | 0+197.00 |
| 199 | 1,060,365.5307m | 299,214.2894m | 0+198.00 |
| 200 | 1,060,364.6063m | 299,213.9082m | 0+199.00 |
| 201 | 1,060,363.6818m | 299,213.5269m | 0+200.00 |
| 202 | 1,060,362.7573m | 299,213.1457m | 0+201.00 |
| 203 | 1,060,361.8328m | 299,212.7645m | 0+202.00 |
| 204 | 1,060,360.9083m | 299,212.3832m | 0+203.00 |
| 205 | 1,060,359.9839m | 299,212.0020m | 0+204.00 |
| 206 | 1,060,359.0594m | 299,211.6208m | 0+205.00 |
| 207 | 1,060,358.1349m | 299,211.2395m | 0+206.00 |
| 208 | 1,060,357.2104m | 299,210.8583m | 0+207.00 |
| 209 | 1,060,356.2859m | 299,210.4771m | 0+208.00 |
| 210 | 1,060,355.3615m | 299,210.0958m | 0+209.00 |
| 211 | 1,060,354.4370m | 299,209.7146m | 0+210.00 |
| 212 | 1,060,353.5125m | 299,209.3333m | 0+211.00 |
| 213 | 1,060,352.5880m | 299,208.9521m | 0+212.00 |
| 214 | 1,060,351.6636m | 299,208.5709m | 0+213.00 |
| 215 | 1,060,350.7391m | 299,208.1896m | 0+214.00 |
| 216 | 1,060,349.8146m | 299,207.8084m | 0+215.00 |
| 217 | 1,060,348.8901m | 299,207.4272m | 0+216.00 |
| 218 | 1,060,347.9656m | 299,207.0459m | 0+217.00 |
| 219 | 1,060,347.0412m | 299,206.6647m | 0+218.00 |
| 220 | 1,060,346.1167m | 299,206.2835m | 0+219.00 |
| 221 | 1,060,345.1922m | 299,205.9022m | 0+220.00 |
| 222 | 1,060,344.2677m | 299,205.5210m | 0+221.00 |
| 223 | 1,060,343.3432m | 299,205.1398m | 0+222.00 |
| 224 | 1,060,342.4188m | 299,204.7585m | 0+223.00 |
| 225 | 1,060,341.4943m | 299,204.3773m | 0+224.00 |
| 226 | 1,060,340.5698m | 299,203.9961m | 0+225.00 |
| 227 | 1,060,339.6453m | 299,203.6148m | 0+226.00 |
| 228 | 1,060,338.7209m | 299,203.2336m | 0+227.00 |
| 229 | 1,060,337.7964m | 299,202.8524m | 0+228.00 |
| 230 | 1,060,336.8719m | 299,202.4711m | 0+229.00 |
| 231 | 1,060,335.9474m | 299,202.0899m | 0+230.00 |
| 232 | 1,060,335.0229m | 299,201.7087m | 0+231.00 |
| 233 | 1,060,334.0985m | 299,201.3274m | 0+232.00 |
| 234 | 1,060,333.1740m | 299,200.9462m | 0+233.00 |
| 235 | 1,060,332.2495m | 299,200.5650m | 0+234.00 |
| 236 | 1,060,331.3250m | 299,200.1837m | 0+235.00 |
| 237 | 1,060,330.4005m | 299,199.8025m | 0+236.00 |
| 238 | 1,060,329.4761m | 299,199.4213m | 0+237.00 |
| 239 | 1,060,328.5516m | 299,199.0400m | 0+238.00 |
| 240 | 1,060,327.6271m | 299,198.6588m | 0+239.00 |
| 241 | 1,060,326.7026m | 299,198.2776m | 0+240.00 |
| 242 | 1,060,325.7782m | 299,197.8963m | 0+241.00 |
| 243 | 1,060,324.8537m | 299,197.5151m | 0+242.00 |
| 244 | 1,060,323.9292m | 299,197.1339m | 0+243.00 |
| 245 | 1,060,323.0047m | 299,196.7526m | 0+244.00 |
| 246 | 1,060,322.0802m | 299,196.3714m | 0+245.00 |
| 247 | 1,060,321.1558m | 299,195.9902m | 0+246.00 |
| 248 | 1,060,320.2313m | 299,195.6089m | 0+247.00 |
| 249 | 1,060,319.3068m | 299,195.2277m | 0+248.00 |
| 250 | 1,060,318.3823m | 299,194.8465m | 0+249.00 |
| 251 | 1,060,317.4578m | 299,194.4652m | 0+250.00 |
| 252 | 1,060,316.5334m | 299,194.0840m | 0+251.00 |
| 253 | 1,060,315.6089m | 299,193.7028m | 0+252.00 |
| 254 | 1,060,314.6844m | 299,193.3215m | 0+253.00 |
| 255 | 1,060,313.7599m | 299,192.9403m | 0+254.00 |
| 256 | 1,060,312.8355m | 299,192.5590m | 0+255.00 |
| 257 | 1,060,311.9110m | 299,192.1778m | 0+256.00 |
| 258 | 1,060,310.9865m | 299,191.7966m | 0+257.00 |
| 259 | 1,060,310.0620m | 299,191.4153m | 0+258.00 |
| 260 | 1,060,309.1375m | 299,191.0341m | 0+259.00 |
| 261 | 1,060,308.2131m | 299,190.6529m | 0+260.00 |
| 262 | 1,060,307.2886m | 299,190.2716m | 0+261.00 |
| 263 | 1,060,306.3628m | 299,189.8937m | 0+262.00 |
| 264 | 1,060,305.4308m | 299,189.5312m | 0+263.00 |
| 265 | 1,060,304.4926m | 299,189.1852m | 0+264.00 |
| 266 | 1,060,303.5483m | 299,188.8560m | 0+265.00 |
| 267 | 1,060,302.5984m | 299,188.5435m | 0+266.00 |
| 268 | 1,060,301.6431m | 299,188.2479m | 0+267.00 |
| 269 | 1,060,300.6827m | 299,187.9693m | 0+268.00 |
| 270 | 1,060,299.7176m | 299,187.7078m | 0+269.00 |
| 271 | 1,060,298.7479m | 299,187.4634m | 0+270.00 |
| 272 | 1,060,297.7740m | 299,187.2362m | 0+271.00 |
| 273 | 1,060,296.7963m | 299,187.0264m | 0+272.00 |
| 274 | 1,060,295.8150m | 299,186.8339m | 0+273.00 |
| 275 | 1,060,294.8305m | 299,186.6589m | 0+274.00 |
| 276 | 1,060,293.8430m | 299,186.5013m | 0+275.00 |
| 277 | 1,060,292.8529m | 299,186.3613m | 0+276.00 |
| 278 | 1,060,291.8604m | 299,186.2388m | 0+277.00 |
| 279 | 1,060,290.8659m | 299,186.1340m | 0+278.00 |
| 280 | 1,060,289.8697m | 299,186.0468m | 0+279.00 |
| 281 | 1,060,288.8722m | 299,185.9772m | 0+280.00 |
| 282 | 1,060,287.8735m | 299,185.9254m | 0+281.00 |
| 283 | 1,060,286.8742m | 299,185.8898m | 0+282.00 |
| 284 | 1,060,285.8747m | 299,185.8571m | 0+283.00 |
| 285 | 1,060,284.8752m | 299,185.8244m | 0+284.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 286 | 1,060,283.8758m | 299,185.7918m | 0+285.00 |
| 287 | 1,060,282.8763m | 299,185.7591m | 0+286.00 |
| 288 | 1,060,281.8768m | 299,185.7264m | 0+287.00 |
| 289 | 1,060,280.8774m | 299,185.6938m | 0+288.00 |
| 290 | 1,060,279.8779m | 299,185.6611m | 0+289.00 |
| 291 | 1,060,278.8784m | 299,185.6284m | 0+290.00 |
| 292 | 1,060,277.8790m | 299,185.5958m | 0+291.00 |
| 293 | 1,060,276.8795m | 299,185.5631m | 0+292.00 |
| 294 | 1,060,275.8800m | 299,185.5304m | 0+293.00 |
| 295 | 1,060,274.8806m | 299,185.4978m | 0+294.00 |
| 296 | 1,060,273.8811m | 299,185.4651m | 0+295.00 |
| 297 | 1,060,272.8816m | 299,185.4324m | 0+296.00 |
| 298 | 1,060,271.8822m | 299,185.3998m | 0+297.00 |
| 299 | 1,060,270.8827m | 299,185.3671m | 0+298.00 |
| 300 | 1,060,269.8832m | 299,185.3345m | 0+299.00 |
| 301 | 1,060,268.8838m | 299,185.3018m | 0+300.00 |
| 302 | 1,060,267.8843m | 299,185.2691m | 0+301.00 |
| 303 | 1,060,266.8848m | 299,185.2365m | 0+302.00 |
| 304 | 1,060,265.8854m | 299,185.2038m | 0+303.00 |
| 305 | 1,060,264.8859m | 299,185.1711m | 0+304.00 |
| 306 | 1,060,263.8864m | 299,185.1385m | 0+305.00 |
| 307 | 1,060,262.8870m | 299,185.1058m | 0+306.00 |
| 308 | 1,060,261.8875m | 299,185.0731m | 0+307.00 |
| 309 | 1,060,260.8880m | 299,185.0405m | 0+308.00 |
| 310 | 1,060,259.8886m | 299,185.0078m | 0+309.00 |
| 311 | 1,060,258.8891m | 299,184.9751m | 0+310.00 |
| 312 | 1,060,257.8896m | 299,184.9425m | 0+311.00 |
| 313 | 1,060,256.8902m | 299,184.9098m | 0+312.00 |
| 314 | 1,060,255.8907m | 299,184.8771m | 0+313.00 |
| 315 | 1,060,254.8913m | 299,184.8445m | 0+314.00 |
| 316 | 1,060,253.8918m | 299,184.8118m | 0+315.00 |
| 317 | 1,060,252.8923m | 299,184.7792m | 0+316.00 |
| 318 | 1,060,251.8929m | 299,184.7465m | 0+317.00 |
| 319 | 1,060,250.8934m | 299,184.7138m | 0+318.00 |
| 320 | 1,060,249.8939m | 299,184.6812m | 0+319.00 |
| 321 | 1,060,248.8945m | 299,184.6485m | 0+320.00 |
| 322 | 1,060,247.8950m | 299,184.6158m | 0+321.00 |
| 323 | 1,060,246.8955m | 299,184.5832m | 0+322.00 |
| 324 | 1,060,245.8961m | 299,184.5505m | 0+323.00 |
| 325 | 1,060,244.8966m | 299,184.5178m | 0+324.00 |
| 326 | 1,060,243.8971m | 299,184.4852m | 0+325.00 |
| 327 | 1,060,242.8977m | 299,184.4525m | 0+326.00 |
| 328 | 1,060,241.8982m | 299,184.4198m | 0+327.00 |
| 329 | 1,060,240.8987m | 299,184.3872m | 0+328.00 |
| 330 | 1,060,239.8993m | 299,184.3545m | 0+329.00 |
| 331 | 1,060,238.8998m | 299,184.3218m | 0+330.00 |
| 332 | 1,060,237.9003m | 299,184.2892m | 0+331.00 |
| 333 | 1,060,236.9009m | 299,184.2565m | 0+332.00 |
| 334 | 1,060,235.9014m | 299,184.2238m | 0+333.00 |
| 335 | 1,060,234.9019m | 299,184.1912m | 0+334.00 |
| 336 | 1,060,233.9025m | 299,184.1585m | 0+335.00 |
| 337 | 1,060,232.9030m | 299,184.1259m | 0+336.00 |
| 338 | 1,060,231.9035m | 299,184.0932m | 0+337.00 |
| 339 | 1,060,230.9041m | 299,184.0605m | 0+338.00 |
| 340 | 1,060,229.9046m | 299,184.0279m | 0+339.00 |
| 341 | 1,060,228.9051m | 299,183.9952m | 0+340.00 |
| 342 | 1,060,227.9057m | 299,183.9625m | 0+341.00 |
| 343 | 1,060,226.9062m | 299,183.9299m | 0+342.00 |
| 344 | 1,060,225.9067m | 299,183.8972m | 0+343.00 |
| 345 | 1,060,224.9073m | 299,183.8645m | 0+344.00 |
| 346 | 1,060,223.9078m | 299,183.8319m | 0+345.00 |
| 347 | 1,060,222.9083m | 299,183.7992m | 0+346.00 |
| 348 | 1,060,221.9089m | 299,183.7665m | 0+347.00 |
| 349 | 1,060,220.9094m | 299,183.7339m | 0+348.00 |
| 350 | 1,060,219.9099m | 299,183.7012m | 0+349.00 |
| 351 | 1,060,218.9105m | 299,183.6685m | 0+350.00 |
| 352 | 1,060,217.9110m | 299,183.6359m | 0+351.00 |
| 353 | 1,060,216.9115m | 299,183.6032m | 0+352.00 |
| 354 | 1,060,215.9121m | 299,183.5706m | 0+353.00 |
| 355 | 1,060,214.9126m | 299,183.5379m | 0+354.00 |
| 356 | 1,060,213.9131m | 299,183.5052m | 0+355.00 |
| 357 | 1,060,212.9137m | 299,183.4726m | 0+356.00 |
| 358 | 1,060,211.9142m | 299,183.4399m | 0+357.00 |
| 359 | 1,060,210.9147m | 299,183.4072m | 0+358.00 |
| 360 | 1,060,209.9153m | 299,183.3746m | 0+359.00 |
| 361 | 1,060,208.9158m | 299,183.3419m | 0+360.00 |
| 362 | 1,060,207.9163m | 299,183.3092m | 0+361.00 |
| 363 | 1,060,206.9169m | 299,183.2766m | 0+362.00 |
| 364 | 1,060,205.9174m | 299,183.2439m | 0+363.00 |
| 365 | 1,060,204.9179m | 299,183.2112m | 0+364.00 |
| 366 | 1,060,203.9185m | 299,183.1786m | 0+365.00 |
| 367 | 1,060,202.9190m | 299,183.1459m | 0+366.00 |
| 368 | 1,060,201.9195m | 299,183.1132m | 0+367.00 |
| 369 | 1,060,200.9201m | 299,183.0806m | 0+368.00 |
| 370 | 1,060,199.9206m | 299,183.0479m | 0+369.00 |
| 371 | 1,060,198.9211m | 299,183.0153m | 0+370.00 |
| 372 | 1,060,197.9217m | 299,182.9826m | 0+371.00 |
| 373 | 1,060,196.9222m | 299,182.9499m | 0+372.00 |
| 374 | 1,060,195.9227m | 299,182.9173m | 0+373.00 |
| 375 | 1,060,194.9233m | 299,182.8846m | 0+374.00 |
| 376 | 1,060,193.9238m | 299,182.8519m | 0+375.00 |
| 377 | 1,060,192.9243m | 299,182.8193m | 0+376.00 |
| 378 | 1,060,191.9249m | 299,182.7866m | 0+377.00 |
| 379 | 1,060,190.9254m | 299,182.7539m | 0+378.00 |
| 380 | 1,060,189.9259m | 299,182.7213m | 0+379.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 381 | 1,060,188.9265m | 299,182.6886m | 0+380.00 |
| 382 | 1,060,187.9270m | 299,182.6559m | 0+381.00 |
| 383 | 1,060,186.9275m | 299,182.6233m | 0+382.00 |
| 384 | 1,060,185.9281m | 299,182.5906m | 0+383.00 |
| 385 | 1,060,184.9286m | 299,182.5579m | 0+384.00 |
| 386 | 1,060,183.9291m | 299,182.5253m | 0+385.00 |
| 387 | 1,060,182.9297m | 299,182.4926m | 0+386.00 |
| 388 | 1,060,181.9302m | 299,182.4600m | 0+387.00 |
| 389 | 1,060,180.9307m | 299,182.4273m | 0+388.00 |
| 390 | 1,060,179.9313m | 299,182.3946m | 0+389.00 |
| 391 | 1,060,178.9318m | 299,182.3620m | 0+390.00 |
| 392 | 1,060,177.9323m | 299,182.3293m | 0+391.00 |
| 393 | 1,060,176.9329m | 299,182.2966m | 0+392.00 |
| 394 | 1,060,175.9334m | 299,182.2640m | 0+393.00 |
| 395 | 1,060,174.9339m | 299,182.2313m | 0+394.00 |
| 396 | 1,060,173.9345m | 299,182.1986m | 0+395.00 |
| 397 | 1,060,172.9350m | 299,182.1660m | 0+396.00 |
| 398 | 1,060,171.9355m | 299,182.1333m | 0+397.00 |
| 399 | 1,060,170.9361m | 299,182.1006m | 0+398.00 |
| 400 | 1,060,169.9366m | 299,182.0680m | 0+399.00 |
| 401 | 1,060,168.9371m | 299,182.0353m | 0+400.00 |
| 402 | 1,060,167.9377m | 299,182.0026m | 0+401.00 |
| 403 | 1,060,166.9382m | 299,181.9700m | 0+402.00 |
| 404 | 1,060,165.9387m | 299,181.9373m | 0+403.00 |
| 405 | 1,060,164.9393m | 299,181.9046m | 0+404.00 |
| 406 | 1,060,163.9398m | 299,181.8720m | 0+405.00 |
| 407 | 1,060,162.9403m | 299,181.8393m | 0+406.00 |
| 408 | 1,060,161.9409m | 299,181.8067m | 0+407.00 |
| 409 | 1,060,160.9414m | 299,181.7740m | 0+408.00 |
| 410 | 1,060,159.9419m | 299,181.7413m | 0+409.00 |
| 411 | 1,060,158.9425m | 299,181.7087m | 0+410.00 |
| 412 | 1,060,157.9430m | 299,181.6760m | 0+411.00 |
| 413 | 1,060,156.9435m | 299,181.6433m | 0+412.00 |
| 414 | 1,060,155.9441m | 299,181.6107m | 0+413.00 |
| 415 | 1,060,154.9446m | 299,181.5780m | 0+414.00 |
| 416 | 1,060,153.9451m | 299,181.5453m | 0+415.00 |
| 417 | 1,060,152.9457m | 299,181.5127m | 0+416.00 |
| 418 | 1,060,151.9462m | 299,181.4800m | 0+417.00 |
| 419 | 1,060,150.9467m | 299,181.4473m | 0+418.00 |
| 420 | 1,060,149.9473m | 299,181.4147m | 0+419.00 |
| 421 | 1,060,148.9478m | 299,181.3820m | 0+420.00 |
| 422 | 1,060,147.9483m | 299,181.3493m | 0+421.00 |
| 423 | 1,060,146.9489m | 299,181.3167m | 0+422.00 |
| 424 | 1,060,145.9494m | 299,181.2840m | 0+423.00 |
| 425 | 1,060,144.9500m | 299,181.2514m | 0+424.00 |
| 426 | 1,060,143.9505m | 299,181.2187m | 0+425.00 |
| 427 | 1,060,142.9510m | 299,181.1860m | 0+426.00 |
| 428 | 1,060,141.9516m | 299,181.1534m | 0+427.00 |
| 429 | 1,060,140.9521m | 299,181.1207m | 0+428.00 |
| 430 | 1,060,139.9526m | 299,181.0880m | 0+429.00 |
| 431 | 1,060,138.9532m | 299,181.0554m | 0+430.00 |
| 432 | 1,060,137.9537m | 299,181.0227m | 0+431.00 |
| 433 | 1,060,136.9542m | 299,180.9900m | 0+432.00 |
| 434 | 1,060,135.9548m | 299,180.9571m | 0+433.00 |
| 435 | 1,060,134.9554m | 299,180.9207m | 0+434.00 |
| 436 | 1,060,133.9562m | 299,180.8803m | 0+435.00 |
| 437 | 1,060,132.9572m | 299,180.8358m | 0+436.00 |
| 438 | 1,060,131.9584m | 299,180.7872m | 0+437.00 |
| 439 | 1,060,130.9598m | 299,180.7345m | 0+438.00 |
| 440 | 1,060,129.9614m | 299,180.6777m | 0+439.00 |
| 441 | 1,060,128.9633m | 299,180.6168m | 0+440.00 |
| 442 | 1,060,127.9654m | 299,180.5518m | 0+441.00 |
| 443 | 1,060,126.9678m | 299,180.4827m | 0+442.00 |
| 444 | 1,060,125.9705m | 299,180.4095m | 0+443.00 |
| 445 | 1,060,124.9735m | 299,180.3322m | 0+444.00 |
| 446 | 1,060,123.9768m | 299,180.2508m | 0+445.00 |
| 447 | 1,060,122.9804m | 299,180.1653m | 0+446.00 |
| 448 | 1,060,121.9845m | 299,180.0757m | 0+447.00 |
| 449 | 1,060,120.9889m | 299,179.9821m | 0+448.00 |
| 450 | 1,060,119.9936m | 299,179.8844m | 0+449.00 |
| 451 | 1,060,118.9988m | 299,179.7825m | 0+450.00 |
| 452 | 1,060,118.0045m | 299,179.6766m | 0+451.00 |
| 453 | 1,060,117.0105m | 299,179.5666m | 0+452.00 |
| 454 | 1,060,116.0171m | 299,179.4526m | 0+453.00 |
| 455 | 1,060,115.0241m | 299,179.3344m | 0+454.00 |
| 456 | 1,060,114.0316m | 299,179.2122m | 0+455.00 |
| 457 | 1,060,113.0396m | 299,179.0859m | 0+456.00 |
| 458 | 1,060,112.0481m | 299,178.9556m | 0+457.00 |
| 459 | 1,060,111.0572m | 299,178.8211m | 0+458.00 |
| 460 | 1,060,110.0668m | 299,178.6826m | 0+459.00 |
| 461 | 1,060,109.0770m | 299,178.5401m | 0+460.00 |
| 462 | 1,060,108.0878m | 299,178.3934m | 0+461.00 |
| 463 | 1,060,107.0993m | 299,178.2427m | 0+462.00 |
| 464 | 1,060,106.1113m | 299,178.0880m | 0+463.00 |
| 465 | 1,060,105.1240m | 299,177.9292m | 0+464.00 |
| 466 | 1,060,104.1374m | 299,177.7664m | 0+465.00 |
| 467 | 1,060,103.1514m | 299,177.5995m | 0+466.00 |
| 468 | 1,060,102.1661m | 299,177.4285m | 0+467.00 |
| 469 | 1,060,101.1815m | 299,177.2535m | 0+468.00 |
| 470 | 1,060,100.1977m | 299,177.0745m | 0+469.00 |
| 471 | 1,060,099.2146m | 299,176.8915m | 0+470.00 |
| 472 | 1,060,098.2322m | 299,176.7044m | 0+471.00 |
| 473 | 1,060,097.2503m | 299,176.5153m | 0+472.00 |
| 474 | 1,060,096.2683m | 299,176.3263m | 0+473.00 |
| 475 | 1,060,095.2863m | 299,176.1373m | 0+474.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 476 | 1,060,094.3044m | 299,175.9483m | 0+475.00 |
| 477 | 1,060,093.3224m | 299,175.7592m | 0+476.00 |
| 478 | 1,060,092.3404m | 299,175.5702m | 0+477.00 |
| 479 | 1,060,091.3584m | 299,175.3812m | 0+478.00 |
| 480 | 1,060,090.3765m | 299,175.1922m | 0+479.00 |
| 481 | 1,060,089.3945m | 299,175.0031m | 0+480.00 |
| 482 | 1,060,088.4125m | 299,174.8141m | 0+481.00 |
| 483 | 1,060,087.4305m | 299,174.6251m | 0+482.00 |
| 484 | 1,060,086.4486m | 299,174.4361m | 0+483.00 |
| 485 | 1,060,085.4666m | 299,174.2471m | 0+484.00 |
| 486 | 1,060,084.4846m | 299,174.0580m | 0+485.00 |
| 487 | 1,060,083.5027m | 299,173.8690m | 0+486.00 |
| 488 | 1,060,082.5207m | 299,173.6800m | 0+487.00 |
| 489 | 1,060,081.5387m | 299,173.4910m | 0+488.00 |
| 490 | 1,060,080.5567m | 299,173.3019m | 0+489.00 |
| 491 | 1,060,079.5748m | 299,173.1129m | 0+490.00 |
| 492 | 1,060,078.5928m | 299,172.9239m | 0+491.00 |
| 493 | 1,060,077.6108m | 299,172.7349m | 0+492.00 |
| 494 | 1,060,076.6288m | 299,172.5458m | 0+493.00 |
| 495 | 1,060,075.6469m | 299,172.3568m | 0+494.00 |
| 496 | 1,060,074.6649m | 299,172.1678m | 0+495.00 |
| 497 | 1,060,073.6829m | 299,171.9788m | 0+496.00 |
| 498 | 1,060,072.7010m | 299,171.7897m | 0+497.00 |
| 499 | 1,060,071.7190m | 299,171.6007m | 0+498.00 |
| 500 | 1,060,070.7370m | 299,171.4117m | 0+499.00 |
| 501 | 1,060,069.7550m | 299,171.2227m | 0+500.00 |
| 502 | 1,060,068.7731m | 299,171.0337m | 0+501.00 |
| 503 | 1,060,067.7911m | 299,170.8446m | 0+502.00 |
| 504 | 1,060,066.8091m | 299,170.6556m | 0+503.00 |
| 505 | 1,060,065.8271m | 299,170.4666m | 0+504.00 |
| 506 | 1,060,064.8452m | 299,170.2776m | 0+505.00 |
| 507 | 1,060,063.8632m | 299,170.0885m | 0+506.00 |
| 508 | 1,060,062.8812m | 299,169.8995m | 0+507.00 |
| 509 | 1,060,061.8993m | 299,169.7105m | 0+508.00 |
| 510 | 1,060,060.9173m | 299,169.5215m | 0+509.00 |
| 511 | 1,060,059.9353m | 299,169.3324m | 0+510.00 |
| 512 | 1,060,058.9533m | 299,169.1434m | 0+511.00 |
| 513 | 1,060,057.9714m | 299,168.9544m | 0+512.00 |
| 514 | 1,060,056.9894m | 299,168.7654m | 0+513.00 |
| 515 | 1,060,056.0074m | 299,168.5764m | 0+514.00 |
| 516 | 1,060,055.0254m | 299,168.3873m | 0+515.00 |
| 517 | 1,060,054.0435m | 299,168.1983m | 0+516.00 |
| 518 | 1,060,053.0615m | 299,168.0093m | 0+517.00 |
| 519 | 1,060,052.0795m | 299,167.8203m | 0+518.00 |
| 520 | 1,060,051.0976m | 299,167.6312m | 0+519.00 |
| 521 | 1,060,050.1156m | 299,167.4422m | 0+520.00 |
| 522 | 1,060,049.1336m | 299,167.2532m | 0+521.00 |
| 523 | 1,060,048.1516m | 299,167.0642m | 0+522.00 |
| 524 | 1,060,047.1697m | 299,166.8751m | 0+523.00 |
| 525 | 1,060,046.1877m | 299,166.6861m | 0+524.00 |
| 526 | 1,060,045.2057m | 299,166.4971m | 0+525.00 |
| 527 | 1,060,044.2237m | 299,166.3081m | 0+526.00 |
| 528 | 1,060,043.2418m | 299,166.1191m | 0+527.00 |
| 529 | 1,060,042.2598m | 299,165.9300m | 0+528.00 |
| 530 | 1,060,041.2778m | 299,165.7410m | 0+529.00 |
| 531 | 1,060,040.2959m | 299,165.5520m | 0+530.00 |
| 532 | 1,060,039.3139m | 299,165.3630m | 0+531.00 |
| 533 | 1,060,038.3319m | 299,165.1739m | 0+532.00 |
| 534 | 1,060,037.3499m | 299,164.9849m | 0+533.00 |
| 535 | 1,060,036.3680m | 299,164.7959m | 0+534.00 |
| 536 | 1,060,035.3860m | 299,164.6069m | 0+535.00 |
| 537 | 1,060,034.4040m | 299,164.4178m | 0+536.00 |
| 538 | 1,060,033.4220m | 299,164.2288m | 0+537.00 |
| 539 | 1,060,032.4401m | 299,164.0398m | 0+538.00 |
| 540 | 1,060,031.4590m | 299,163.8465m | 0+539.00 |
| 541 | 1,060,030.4855m | 299,163.6179m | 0+540.00 |
| 542 | 1,060,029.5226m | 299,163.3483m | 0+541.00 |
| 543 | 1,060,028.5720m | 299,163.0382m | 0+542.00 |
| 544 | 1,060,027.6354m | 299,162.6880m | 0+543.00 |
| 545 | 1,060,026.7144m | 299,162.2985m | 0+544.00 |
| 546 | 1,060,025.8108m | 299,161.8704m | 0+545.00 |
| 547 | 1,060,024.9261m | 299,161.4043m | 0+546.00 |
| 548 | 1,060,024.0620m | 299,160.9012m | 0+547.00 |
| 549 | 1,060,023.2200m | 299,160.3620m | 0+548.00 |
| 550 | 1,060,022.4015m | 299,159.7875m | 0+549.00 |
| 551 | 1,060,021.6081m | 299,159.1789m | 0+550.00 |
| 552 | 1,060,020.8412m | 299,158.5373m | 0+551.00 |
| 553 | 1,060,020.1022m | 299,157.8637m | 0+552.00 |
| 554 | 1,060,019.3924m | 299,157.1594m | 0+553.00 |
| 555 | 1,060,018.7130m | 299,156.4257m | 0+554.00 |
| 556 | 1,060,018.0654m | 299,155.6639m | 0+555.00 |
| 557 | 1,060,017.4505m | 299,154.8753m | 0+556.00 |
| 558 | 1,060,016.8697m | 299,154.0614m | 0+557.00 |
| 559 | 1,060,016.3238m | 299,153.2236m | 0+558.00 |
| 560 | 1,060,015.8118m | 299,152.3647m | 0+559.00 |
| 561 | 1,060,015.3076m | 299,151.5011m | 0+560.00 |
| 562 | 1,060,014.8034m | 299,150.6375m | 0+561.00 |
| 563 | 1,060,014.2992m | 299,149.7739m | 0+562.00 |
| 564 | 1,060,013.7938m | 299,148.9110m | 0+563.00 |
| 565 | 1,060,013.2701m | 299,148.0592m | 0+564.00 |
| 566 | 1,060,012.7232m | 299,147.2220m | 0+565.00 |
| 567 | 1,060,012.1535m | 299,146.4002m | 0+566.00 |
| 568 | 1,060,011.5614m | 299,145.5944m | 0+567.00 |
| 569 | 1,060,010.9474m | 299,144.8051m | 0+568.00 |
| 570 | 1,060,010.3120m | 299,144.0330m | 0+569.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 571 | 1,060,009.6556m | 299,143.2786m | 0+570.00 |
| 572 | 1,060,008.9787m | 299,142.5425m | 0+571.00 |
| 573 | 1,060,008.2819m | 299,141.8253m | 0+572.00 |
| 574 | 1,060,007.5656m | 299,141.1276m | 0+573.00 |
| 575 | 1,060,006.8305m | 299,140.4497m | 0+574.00 |
| 576 | 1,060,006.0770m | 299,139.7923m | 0+575.00 |
| 577 | 1,060,005.3057m | 299,139.1559m | 0+576.00 |
| 578 | 1,060,004.5172m | 299,138.5409m | 0+577.00 |
| 579 | 1,060,003.7121m | 299,137.9477m | 0+578.00 |
| 580 | 1,060,002.8911m | 299,137.3769m | 0+579.00 |
| 581 | 1,060,002.0546m | 299,136.8289m | 0+580.00 |
| 582 | 1,060,001.2035m | 299,136.3041m | 0+581.00 |
| 583 | 1,060,000.3382m | 299,135.8028m | 0+582.00 |
| 584 | 1,059,999.4595m | 299,135.3255m | 0+583.00 |
| 585 | 1,059,998.5680m | 299,134.8725m | 0+584.00 |
| 586 | 1,059,997.6644m | 299,134.4442m | 0+585.00 |
| 587 | 1,059,996.7494m | 299,134.0409m | 0+586.00 |
| 588 | 1,059,995.8237m | 299,133.6628m | 0+587.00 |
| 589 | 1,059,994.8879m | 299,133.3103m | 0+588.00 |
| 590 | 1,059,993.9428m | 299,132.9837m | 0+589.00 |
| 591 | 1,059,992.9918m | 299,132.6745m | 0+590.00 |
| 592 | 1,059,992.0406m | 299,132.3659m | 0+591.00 |
| 593 | 1,059,991.0894m | 299,132.0572m | 0+592.00 |
| 594 | 1,059,990.1383m | 299,131.7485m | 0+593.00 |
| 595 | 1,059,989.1871m | 299,131.4398m | 0+594.00 |
| 596 | 1,059,988.2359m | 299,131.1311m | 0+595.00 |
| 597 | 1,059,987.2848m | 299,130.8225m | 0+596.00 |
| 598 | 1,059,986.3336m | 299,130.5138m | 0+597.00 |
| 599 | 1,059,985.3824m | 299,130.2051m | 0+598.00 |
| 600 | 1,059,984.4313m | 299,129.8964m | 0+599.00 |
| 601 | 1,059,983.4801m | 299,129.5877m | 0+600.00 |
| 602 | 1,059,982.5289m | 299,129.2791m | 0+601.00 |
| 603 | 1,059,981.5778m | 299,128.9704m | 0+602.00 |
| 604 | 1,059,980.6266m | 299,128.6617m | 0+603.00 |
| 605 | 1,059,979.6754m | 299,128.3530m | 0+604.00 |
| 606 | 1,059,978.7243m | 299,128.0443m | 0+605.00 |
| 607 | 1,059,977.7731m | 299,127.7357m | 0+606.00 |
| 608 | 1,059,976.8219m | 299,127.4270m | 0+607.00 |
| 609 | 1,059,975.8708m | 299,127.1183m | 0+608.00 |
| 610 | 1,059,974.9196m | 299,126.8096m | 0+609.00 |
| 611 | 1,059,973.9684m | 299,126.5009m | 0+610.00 |
| 612 | 1,059,973.0173m | 299,126.1923m | 0+611.00 |
| 613 | 1,059,972.0661m | 299,125.8836m | 0+612.00 |
| 614 | 1,059,971.1150m | 299,125.5749m | 0+613.00 |
| 615 | 1,059,970.1638m | 299,125.2662m | 0+614.00 |
| 616 | 1,059,969.2126m | 299,124.9575m | 0+615.00 |
| 617 | 1,059,968.2615m | 299,124.6489m | 0+616.00 |
| 618 | 1,059,967.3103m | 299,124.3402m | 0+617.00 |
| 619 | 1,059,966.3591m | 299,124.0315m | 0+618.00 |
| 620 | 1,059,965.4080m | 299,123.7228m | 0+619.00 |
| 621 | 1,059,964.4568m | 299,123.4141m | 0+620.00 |
| 622 | 1,059,963.5056m | 299,123.1055m | 0+621.00 |
| 623 | 1,059,962.5545m | 299,122.7968m | 0+622.00 |
| 624 | 1,059,961.6033m | 299,122.4881m | 0+623.00 |
| 625 | 1,059,960.6521m | 299,122.1794m | 0+624.00 |
| 626 | 1,059,959.7010m | 299,121.8707m | 0+625.00 |
| 627 | 1,059,958.7498m | 299,121.5621m | 0+626.00 |
| 628 | 1,059,957.7986m | 299,121.2534m | 0+627.00 |
| 629 | 1,059,956.8475m | 299,120.9447m | 0+628.00 |
| 630 | 1,059,955.8963m | 299,120.6360m | 0+629.00 |
| 631 | 1,059,954.9451m | 299,120.3273m | 0+630.00 |
| 632 | 1,059,953.9940m | 299,120.0187m | 0+631.00 |
| 633 | 1,059,953.0428m | 299,119.7100m | 0+632.00 |
| 634 | 1,059,952.0916m | 299,119.4013m | 0+633.00 |
| 635 | 1,059,951.1405m | 299,119.0926m | 0+634.00 |
| 636 | 1,059,950.1893m | 299,118.7839m | 0+635.00 |
| 637 | 1,059,949.2381m | 299,118.4753m | 0+636.00 |
| 638 | 1,059,948.2870m | 299,118.1666m | 0+637.00 |
| 639 | 1,059,947.3358m | 299,117.8579m | 0+638.00 |
| 640 | 1,059,946.3846m | 299,117.5492m | 0+639.00 |
| 641 | 1,059,945.4335m | 299,117.2405m | 0+640.00 |
| 642 | 1,059,944.4823m | 299,116.9318m | 0+641.00 |
| 643 | 1,059,943.5311m | 299,116.6232m | 0+642.00 |
| 644 | 1,059,942.5800m | 299,116.3145m | 0+643.00 |
| 645 | 1,059,941.6288m | 299,116.0058m | 0+644.00 |
| 646 | 1,059,940.6776m | 299,115.6971m | 0+645.00 |
| 647 | 1,059,939.7265m | 299,115.3884m | 0+646.00 |
| 648 | 1,059,938.7753m | 299,115.0798m | 0+647.00 |
| 649 | 1,059,937.8241m | 299,114.7711m | 0+648.00 |
| 650 | 1,059,936.8730m | 299,114.4624m | 0+649.00 |
| 651 | 1,059,935.9218m | 299,114.1537m | 0+650.00 |
| 652 | 1,059,934.9706m | 299,113.8450m | 0+651.00 |
| 653 | 1,059,934.0195m | 299,113.5364m | 0+652.00 |
| 654 | 1,059,933.0683m | 299,113.2277m | 0+653.00 |
| 655 | 1,059,932.1172m | 299,112.9190m | 0+654.00 |
| 656 | 1,059,931.1660m | 299,112.6103m | 0+655.00 |
| 657 | 1,059,930.2148m | 299,112.3016m | 0+656.00 |
| 658 | 1,059,929.2637m | 299,111.9930m | 0+657.00 |
| 659 | 1,059,928.3125m | 299,111.6843m | 0+658.00 |
| 660 | 1,059,927.3613m | 299,111.3756m | 0+659.00 |
| 661 | 1,059,926.4102m | 299,111.0669m | 0+660.00 |
| 662 | 1,059,925.4590m | 299,110.7582m | 0+661.00 |
| 663 | 1,059,924.5078m | 299,110.4496m | 0+662.00 |
| 664 | 1,059,923.5567m | 299,110.1409m | 0+663.00 |
| 665 | 1,059,922.6055m | 299,109.8322m | 0+664.00 |
| 666 | 1,059,921.6543m | 299,109.5235m | 0+665.00 |
| 667 | 1,059,920.7032m | 299,109.2148m | 0+666.00 |
| 668 | 1,059,919.7520m | 299,108.9062m | 0+667.00 |
| 669 | 1,059,918.8008m | 299,108.5975m | 0+668.00 |
| 670 | 1,059,917.8497m | 299,108.2888m | 0+669.00 |
| 671 | 1,059,916.8985m | 299,107.9801m | 0+670.00 |
| 672 | 1,059,915.9473m | 299,107.6714m | 0+671.00 |
| 673 | 1,059,914.9962m | 299,107.3628m | 0+672.00 |
| 674 | 1,059,914.0450m | 299,107.0541m | 0+673.00 |
| 675 | 1,059,913.0938m | 299,106.7454m | 0+674.00 |
| 676 | 1,059,912.1427m | 299,106.4367m | 0+675.00 |
| 677 | 1,059,911.1915m | 299,106.1280m | 0+676.00 |
| 678 | 1,059,910.2403m | 299,105.8194m | 0+677.00 |
| 679 | 1,059,909.2892m | 299,105.5107m | 0+678.00 |
| 680 | 1,059,908.3380m | 299,105.2020m | 0+679.00 |
| 681 | 1,059,907.3868m | 299,104.8933m | 0+680.00 |
| 682 | 1,059,906.4357m | 299,104.5846m | 0+681.00 |
| 683 | 1,059,905.4845m | 299,104.2760m | 0+682.00 |
| 684 | 1,059,904.5333m | 299,103.9673m | 0+683.00 |
| 685 | 1,059,903.5822m | 299,103.6586m | 0+684.00 |
| 686 | 1,059,902.6310m | 299,103.3499m | 0+685.00 |
| 687 | 1,059,901.6798m | 299,103.0412m | 0+686.00 |
| 688 | 1,059,900.7287m | 299,102.7326m | 0+687.00 |
| 689 | 1,059,899.7775m | 299,102.4239m | 0+688.00 |
| 690 | 1,059,898.8263m | 299,102.1152m | 0+689.00 |
| 691 | 1,059,897.8752m | 299,101.8065m | 0+690.00 |
| 692 | 1,059,896.9240m | 299,101.4978m | 0+691.00 |
| 693 | 1,059,895.9728m | 299,101.1892m | 0+692.00 |
| 694 | 1,059,895.0217m | 299,100.8805m | 0+693.00 |
| 695 | 1,059,894.0705m | 299,100.5718m | 0+694.00 |
| 696 | 1,059,893.1194m | 299,100.2631m | 0+695.00 |
| 697 | 1,059,892.1682m | 299,099.9544m | 0+696.00 |
| 698 | 1,059,891.2170m | 299,099.6457m | 0+697.00 |
| 699 | 1,059,890.2659m | 299,099.3371m | 0+698.00 |
| 700 | 1,059,889.3147m | 299,099.0284m | 0+699.00 |
| 701 | 1,059,888.3635m | 299,098.7197m | 0+700.00 |
| 702 | 1,059,887.4124m | 299,098.4110m | 0+701.00 |
| 703 | 1,059,886.4612m | 299,098.1023m | 0+702.00 |
| 704 | 1,059,885.5100m | 299,097.7937m | 0+703.00 |
| 705 | 1,059,884.5589m | 299,097.4850m | 0+704.00 |
| 706 | 1,059,883.6077m | 299,097.1763m | 0+705.00 |
| 707 | 1,059,882.6565m | 299,096.8676m | 0+706.00 |
| 708 | 1,059,881.7054m | 299,096.5589m | 0+707.00 |
| 709 | 1,059,880.7542m | 299,096.2503m | 0+708.00 |
| 710 | 1,059,879.8030m | 299,095.9416m | 0+709.00 |
| 711 | 1,059,878.8519m | 299,095.6329m | 0+710.00 |
| 712 | 1,059,877.9007m | 299,095.3242m | 0+711.00 |
| 713 | 1,059,876.9495m | 299,095.0155m | 0+712.00 |
| 714 | 1,059,875.9984m | 299,094.7069m | 0+713.00 |
| 715 | 1,059,875.0472m | 299,094.3982m | 0+714.00 |
| 716 | 1,059,874.0960m | 299,094.0895m | 0+715.00 |
| 717 | 1,059,873.1449m | 299,093.7808m | 0+716.00 |
| 718 | 1,059,872.1937m | 299,093.4721m | 0+717.00 |
| 719 | 1,059,871.2425m | 299,093.1635m | 0+718.00 |
| 720 | 1,059,870.2914m | 299,092.8548m | 0+719.00 |
| 721 | 1,059,869.3402m | 299,092.5461m | 0+720.00 |
| 722 | 1,059,868.3890m | 299,092.2374m | 0+721.00 |
| 723 | 1,059,867.4379m | 299,091.9287m | 0+722.00 |
| 724 | 1,059,866.4867m | 299,091.6201m | 0+723.00 |
| 725 | 1,059,865.5355m | 299,091.3114m | 0+724.00 |
| 726 | 1,059,864.5844m | 299,091.0027m | 0+725.00 |
| 727 | 1,059,863.6332m | 299,090.6940m | 0+726.00 |
| 728 | 1,059,862.6820m | 299,090.3853m | 0+727.00 |
| 729 | 1,059,861.7309m | 299,090.0767m | 0+728.00 |
| 730 | 1,059,860.7797m | 299,089.7680m | 0+729.00 |
| 731 | 1,059,859.8285m | 299,089.4593m | 0+730.00 |
| 732 | 1,059,858.8774m | 299,089.1506m | 0+731.00 |
| 733 | 1,059,857.9262m | 299,088.8419m | 0+732.00 |
| 734 | 1,059,856.9751m | 299,088.5333m | 0+733.00 |
| 735 | 1,059,856.0239m | 299,088.2246m | 0+734.00 |
| 736 | 1,059,855.0727m | 299,087.9159m | 0+735.00 |
| 737 | 1,059,854.1216m | 299,087.6072m | 0+736.00 |
| 738 | 1,059,853.1704m | 299,087.2985m | 0+737.00 |
| 739 | 1,059,852.2192m | 299,086.9899m | 0+738.00 |
| 740 | 1,059,851.2681m | 299,086.6812m | 0+739.00 |
| 741 | 1,059,850.3169m | 299,086.3725m | 0+740.00 |
| 742 | 1,059,849.3657m | 299,086.0638m | 0+741.00 |
| 743 | 1,059,848.4146m | 299,085.7551m | 0+742.00 |
| 744 | 1,059,847.4634m | 299,085.4465m | 0+743.00 |
| 745 | 1,059,846.5122m | 299,085.1378m | 0+744.00 |
| 746 | 1,059,845.5611m | 299,084.8291m | 0+745.00 |
| 747 | 1,059,844.6099m | 299,084.5204m | 0+746.00 |
| 748 | 1,059,843.6587m | 299,084.2117m | 0+747.00 |
| 749 | 1,059,842.7076m | 299,083.9031m | 0+748.00 |
| 750 | 1,059,841.7564m | 299,083.5944m | 0+749.00 |
| 751 | 1,059,840.8052m | 299,083.2857m | 0+750.00 |
| 752 | 1,059,839.8541m | 299,082.9770m | 0+751.00 |
| 753 | 1,059,838.9029m | 299,082.6683m | 0+752.00 |
| 754 | 1,059,837.9517m | 299,082.3597m | 0+753.00 |
| 755 | 1,059,837.0006m | 299,082.0510m | 0+754.00 |
| 756 | 1,059,836.0494m | 299,081.7423m | 0+755.00 |
| 757 | 1,059,835.0982m | 299,081.4336m | 0+756.00 |
| 758 | 1,059,834.1471m | 299,081.1249m | 0+757.00 |
| 759 | 1,059,833.1959m | 299,080.8162m | 0+758.00 |
| 760 | 1,059,832.2447m | 299,080.5076m | 0+759.00 |
| 761 | 1,059,831.2937m | 299,080.1985m | 0+760.00 |
| 762 | 1,059,830.3435m | 299,079.8870m | 0+761.00 |
| 763 | 1,059,829.3941m | 299,079.5727m | 0+762.00 |
| 764 | 1,059,828.4457m | 299,079.2557m | 0+763.00 |
| 765 | 1,059,827.4982m | 299,078.9359m | 0+764.00 |
| 766 | 1,059,826.5517m | 299,078.6134m | 0+765.00 |
| 767 | 1,059,825.6061m | 299,078.2881m | 0+766.00 |
| 768 | 1,059,824.6614m | 299,077.9600m | 0+767.00 |
| 769 | 1,059,823.7177m | 299,077.6292m | 0+768.00 |
| 770 | 1,059,822.7750m | 299,077.2957m | 0+769.00 |
| 771 | 1,059,821.8332m | 299,076.9594m | 0+770.00 |
| 772 | 1,059,820.8924m | 299,076.6203m | 0+771.00 |
| 773 | 1,059,819.9526m | 299,076.2786m | 0+772.00 |
| 774 | 1,059,819.0139m | 299,075.9341m | 0+773.00 |
| 775 | 1,059,818.0761m | 299,075.5868m | 0+774.00 |
| 776 | 1,059,817.1393m | 299,075.2369m | 0+775.00 |
| 777 | 1,059,816.2036m | 299,074.8842m | 0+776.00 |
| 778 | 1,059,815.2689m | 299,074.5288m | 0+777.00 |
| 779 | 1,059,814.3352m | 299,074.1707m | 0+778.00 |
| 780 | 1,059,813.4026m | 299,073.8098m | 0+779.00 |
| 781 | 1,059,812.4710m | 299,073.4463m | 0+780.00 |
| 782 | 1,059,811.5405m | 299,073.0800m | 0+781.00 |
| 783 | 1,059,810.6110m | 299,072.7111m | 0+782.00 |
| 784 | 1,059,809.6827m | 299,072.3394m | 0+783.00 |
| 785 | 1,059,808.7554m | 299,071.9650m | 0+784.00 |
| 786 | 1,059,807.8292m | 299,071.5880m | 0+785.00 |
| 787 | 1,059,806.9041m | 299,071.2082m | 0+786.00 |
| 788 | 1,059,805.9801m | 299,070.8257m | 0+787.00 |
| 789 | 1,059,805.0573m | 299,070.4406m | 0+788.00 |
| 790 | 1,059,804.1355m | 299,070.0529m | 0+789.00 |
| 791 | 1,059,803.2140m | 299,069.6646m | 0+790.00 |
| 792 | 1,059,802.2925m | 299,069.2762m | 0+791.00 |
| 793 | 1,059,801.3709m | 299,068.8879m | 0+792.00 |
| 794 | 1,059,800.4494m | 299,068.4996m | 0+793.00 |
| 795 | 1,059,799.5279m | 299,068.1112m | 0+794.00 |
| 796 | 1,059,798.6064m | 299,067.7229m | 0+795.00 |
| 797 | 1,059,797.6849m | 299,067.3345m | 0+796.00 |
| 798 | 1,059,796.7634m | 299,066.9462m | 0+797.00 |
| 799 | 1,059,795.8418m | 299,066.5579m | 0+798.00 |
| 800 | 1,059,794.9203m | 299,066.1695m | 0+799.00 |
| 801 | 1,059,793.9988m | 299,065.7812m | 0+800.00 |
| 802 | 1,059,793.0773m | 299,065.3929m | 0+801.00 |
| 803 | 1,059,792.1558m | 299,065.0045m | 0+802.00 |
| 804 | 1,059,791.2343m | 299,064.6162m | 0+803.00 |
| 805 | 1,059,790.3127m | 299,064.2279m | 0+804.00 |
| 806 | 1,059,789.3912m | 299,063.8395m | 0+805.00 |
| 807 | 1,059,788.4697m | 299,063.4512m | 0+806.00 |
| 808 | 1,059,787.5482m | 299,063.0628m | 0+807.00 |
| 809 | 1,059,786.6267m | 299,062.6745m | 0+808.00 |
| 810 | 1,059,785.7051m | 299,062.2862m | 0+809.00 |
| 811 | 1,059,784.7836m | 299,061.8978m | 0+810.00 |
| 812 | 1,059,783.8621m | 299,061.5095m | 0+811.00 |
| 813 | 1,059,782.9406m | 299,061.1212m | 0+812.00 |
| 814 | 1,059,782.0191m | 299,060.7328m | 0+813.00 |
| 815 | 1,059,781.0976m | 299,060.3445m | 0+814.00 |
| 816 | 1,059,780.1760m | 299,059.9561m | 0+815.00 |
| 817 | 1,059,779.2545m | 299,059.5678m | 0+816.00 |
| 818 | 1,059,778.3330m | 299,059.1795m | 0+817.00 |
| 819 | 1,059,777.4113m | 299,058.7917m | 0+818.00 |
| 820 | 1,059,776.4814m | 299,058.4238m | 0+819.00 |
| 821 | 1,059,775.5404m | 299,058.0857m | 0+820.00 |
| 822 | 1,059,774.5890m | 299,057.7777m | 0+821.00 |
| 823 | 1,059,773.6284m | 299,057.5002m | 0+822.00 |
| 824 | 1,059,772.6593m | 299,057.2534m | 0+823.00 |
| 825 | 1,059,771.6829m | 299,057.0376m | 0+824.00 |
| 826 | 1,059,770.7002m | 299,056.8530m | 0+825.00 |
| 827 | 1,059,769.7120m | 299,056.6997m | 0+826.00 |
| 828 | 1,059,768.7195m | 299,056.5781m | 0+827.00 |
| 829 | 1,059,767.7236m | 299,056.4881m | 0+828.00 |
| 830 | 1,059,766.7253m | 299,056.4298m | 0+829.00 |
| 831 | 1,059,765.7257m | 299,056.4034m | 0+830.00 |
| 832 | 1,059,764.7258m | 299,056.4088m | 0+831.00 |
| 833 | 1,059,763.7265m | 299,056.4460m | 0+832.00 |
| 834 | 1,059,762.7289m | 299,056.5150m | 0+833.00 |
| 835 | 1,059,761.7341m | 299,056.6158m | 0+834.00 |
| 836 | 1,059,760.7429m | 299,056.7482m | 0+835.00 |
| 837 | 1,059,759.7565m | 299,056.9121m | 0+836.00 |
| 838 | 1,059,758.7758m | 299,057.1073m | 0+837.00 |
| 839 | 1,059,757.8018m | 299,057.3336m | 0+838.00 |
| 840 | 1,059,756.8355m | 299,057.5909m | 0+839.00 |
| 841 | 1,059,755.8778m | 299,057.8787m | 0+840.00 |
| 842 | 1,059,754.9299m | 299,058.1970m | 0+841.00 |
| 843 | 1,059,753.9925m | 299,058.5452m | 0+842.00 |
| 844 | 1,059,753.0667m | 299,058.9231m | 0+843.00 |
| 845 | 1,059,752.1534m | 299,059.3304m | 0+844.00 |
| 846 | 1,059,751.2536m | 299,059.7664m | 0+845.00 |
| 847 | 1,059,750.3681m | 299,060.2309m | 0+846.00 |
| 848 | 1,059,749.4978m | 299,060.7234m | 0+847.00 |
| 849 | 1,059,748.6436m | 299,061.2434m | 0+848.00 |
| 850 | 1,059,747.8064m | 299,061.7902m | 0+849.00 |
| 851 | 1,059,746.9871m | 299,062.3635m | 0+850.00 |
| 852 | 1,059,746.1865m | 299,062.9625m | 0+851.00 |
| 853 | 1,059,745.4053m | 299,063.5868m | 0+852.00 |
| 854 | 1,059,744.6444m | 299,064.2356m | 0+853.00 |
| 855 | 1,059,743.9045m | 299,064.9083m | 0+854.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 856 | 1,059,743.1864m | 299,065.6042m | 0+855.00 |
| 857 | 1,059,742.2699m | 299,065.9902m | 0+856.00 |
| 858 | 1,059,741.3378m | 299,066.3525m | 0+857.00 |
| 859 | 1,059,740.4058m | 299,066.7148m | 0+858.00 |
| 860 | 1,059,739.5728m | 299,067.2205m | 0+859.00 |
| 861 | 1,059,738.8996m | 299,067.9599m | 0+860.00 |
| 862 | 1,059,738.2074m | 299,068.6813m | 0+861.00 |
| 863 | 1,059,737.5027m | 299,069.3908m | 0+862.00 |
| 864 | 1,059,736.8190m | 299,070.1199m | 0+863.00 |
| 865 | 1,059,736.1271m | 299,070.8417m | 0+864.00 |
| 866 | 1,059,735.4457m | 299,071.5720m | 0+865.00 |
| 867 | 1,059,734.8107m | 299,072.3445m | 0+866.00 |
| 868 | 1,059,734.2059m | 299,073.1394m | 0+867.00 |
| 869 | 1,059,733.6762m | 299,073.9868m | 0+868.00 |
| 870 | 1,059,733.1504m | 299,074.8349m | 0+869.00 |
| 871 | 1,059,732.5521m | 299,075.6361m | 0+870.00 |
| 872 | 1,059,731.9525m | 299,076.4361m | 0+871.00 |
| 873 | 1,059,731.3363m | 299,077.2236m | 0+872.00 |
| 874 | 1,059,730.7420m | 299,078.0277m | 0+873.00 |
| 875 | 1,059,730.1320m | 299,078.8185m | 0+874.00 |
| 876 | 1,059,729.4595m | 299,079.5586m | 0+875.00 |
| 877 | 1,059,728.7962m | 299,080.3064m | 0+876.00 |
| 878 | 1,059,728.1665m | 299,081.0832m | 0+877.00 |
| 879 | 1,059,727.5332m | 299,081.8570m | 0+878.00 |
| 880 | 1,059,726.8724m | 299,082.6070m | 0+879.00 |
| 881 | 1,059,726.1869m | 299,083.3349m | 0+880.00 |
| 882 | 1,059,725.5148m | 299,084.0753m | 0+881.00 |
| 883 | 1,059,724.8276m | 299,084.8017m | 0+882.00 |
| 884 | 1,059,724.1423m | 299,085.5295m | 0+883.00 |
| 885 | 1,059,723.4809m | 299,086.2795m | 0+884.00 |
| 886 | 1,059,722.8066m | 299,087.0179m | 0+885.00 |
| 887 | 1,059,722.1286m | 299,087.7530m | 0+886.00 |
| 888 | 1,059,721.4475m | 299,088.4851m | 0+887.00 |
| 889 | 1,059,720.7416m | 299,089.1930m | 0+888.00 |
| 890 | 1,059,720.0131m | 299,089.8780m | 0+889.00 |
| 891 | 1,059,719.3024m | 299,090.5810m | 0+890.00 |
| 892 | 1,059,718.6094m | 299,091.3017m | 0+891.00 |
| 893 | 1,059,717.8985m | 299,092.0049m | 0+892.00 |
| 894 | 1,059,717.2064m | 299,092.7264m | 0+893.00 |
| 895 | 1,059,716.5395m | 299,093.4715m | 0+894.00 |
| 896 | 1,059,715.8699m | 299,094.2142m | 0+895.00 |
| 897 | 1,059,715.2026m | 299,094.9589m | 0+896.00 |
| 898 | 1,059,714.5214m | 299,095.6910m | 0+897.00 |
| 899 | 1,059,713.8371m | 299,096.4201m | 0+898.00 |
| 900 | 1,059,713.1565m | 299,097.1526m | 0+899.00 |
| 901 | 1,059,712.4614m | 299,097.8715m | 0+900.00 |
| 902 | 1,059,711.7776m | 299,098.6011m | 0+901.00 |
| 903 | 1,059,711.1009m | 299,099.3373m | 0+902.00 |
| 904 | 1,059,710.4306m | 299,100.0795m | 0+903.00 |
| 905 | 1,059,709.7663m | 299,100.8269m | 0+904.00 |
| 906 | 1,059,709.0960m | 299,101.5689m | 0+905.00 |
| 907 | 1,059,708.4045m | 299,102.2910m | 0+906.00 |
| 908 | 1,059,707.7024m | 299,103.0024m | 0+907.00 |
| 909 | 1,059,707.0366m | 299,103.7485m | 0+908.00 |
| 910 | 1,059,706.3767m | 299,104.4999m | 0+909.00 |
| 911 | 1,059,705.7064m | 299,105.2419m | 0+910.00 |
| 912 | 1,059,705.0198m | 299,105.9689m | 0+911.00 |
| 913 | 1,059,704.3357m | 299,106.6980m | 0+912.00 |
| 914 | 1,059,703.6710m | 299,107.4451m | 0+913.00 |
| 915 | 1,059,703.0025m | 299,108.1889m | 0+914.00 |
| 916 | 1,059,702.3401m | 299,108.9380m | 0+915.00 |
| 917 | 1,059,701.6746m | 299,109.6843m | 0+916.00 |
| 918 | 1,059,700.9965m | 299,110.4192m | 0+917.00 |
| 919 | 1,059,700.2962m | 299,111.1315m | 0+918.00 |
| 920 | 1,059,699.5147m | 299,111.7506m | 0+919.00 |
| 921 | 1,059,698.6576m | 299,112.2657m | 0+920.00 |
| 922 | 1,059,697.8239m | 299,112.8054m | 0+921.00 |
| 923 | 1,059,697.1594m | 299,113.5510m | 0+922.00 |
| 924 | 1,059,696.5687m | 299,114.3577m | 0+923.00 |
| 925 | 1,059,695.9439m | 299,115.1383m | 0+924.00 |
| 926 | 1,059,695.3027m | 299,115.9052m | 0+925.00 |
| 927 | 1,059,694.6937m | 299,116.6965m | 0+926.00 |
| 928 | 1,059,694.0084m | 299,117.4240m | 0+927.00 |
| 929 | 1,059,693.3856m | 299,118.2062m | 0+928.00 |
| 930 | 1,059,692.7951m | 299,119.0132m | 0+929.00 |
| 931 | 1,059,692.2131m | 299,119.8264m | 0+930.00 |
| 932 | 1,059,691.6269m | 299,120.6366m | 0+931.00 |
| 933 | 1,059,691.0325m | 299,121.4407m | 0+932.00 |
| 934 | 1,059,690.3686m | 299,122.1876m | 0+933.00 |
| 935 | 1,059,689.7373m | 299,122.9628m | 0+934.00 |
| 936 | 1,059,689.0979m | 299,123.7314m | 0+935.00 |
| 937 | 1,059,688.4401m | 299,124.4830m | 0+936.00 |
| 938 | 1,059,687.8412m | 299,125.2835m | 0+937.00 |
| 939 | 1,059,687.1581m | 299,126.0119m | 0+938.00 |
| 940 | 1,059,686.4917m | 299,126.7562m | 0+939.00 |
| 941 | 1,059,685.7629m | 299,127.4376m | 0+940.00 |
| 942 | 1,059,684.9910m | 299,128.0651m | 0+941.00 |
| 943 | 1,059,684.3607m | 299,128.8409m | 0+942.00 |
| 944 | 1,059,683.6482m | 299,129.5377m | 0+943.00 |
| 945 | 1,059,682.8407m | 299,130.1265m | 0+944.00 |
| 946 | 1,059,682.0907m | 299,130.7877m | 0+945.00 |
| 947 | 1,059,681.3776m | 299,131.4885m | 0+946.00 |
| 948 | 1,059,680.5981m | 299,132.1124m | 0+947.00 |
| 949 | 1,059,679.7962m | 299,132.7098m | 0+948.00 |
| 950 | 1,059,678.9914m | 299,133.3034m | 0+949.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 951 | 1,059,678.1960m | 299,133.9093m | 0+950.00 |
| 952 | 1,059,677.4121m | 299,134.5303m | 0+951.00 |
| 953 | 1,059,676.6194m | 299,135.1398m | 0+952.00 |
| 954 | 1,059,675.8104m | 299,135.7271m | 0+953.00 |
| 955 | 1,059,675.0444m | 299,136.3194m | 0+954.00 |
| 956 | 1,059,674.1585m | 299,136.7801m | 0+955.00 |
| 957 | 1,059,673.2604m | 299,137.2186m | 0+956.00 |
| 958 | 1,059,672.4687m | 299,137.8274m | 0+957.00 |
| 959 | 1,059,671.7751m | 299,138.5470m | 0+958.00 |
| 960 | 1,059,671.0847m | 299,139.2704m | 0+959.00 |
| 961 | 1,059,670.3668m | 299,139.9664m | 0+960.00 |
| 962 | 1,059,669.6125m | 299,140.6226m | 0+961.00 |
| 963 | 1,059,668.9483m | 299,141.3680m | 0+962.00 |
| 964 | 1,059,668.2952m | 299,142.1253m | 0+963.00 |
| 965 | 1,059,667.6238m | 299,142.8663m | 0+964.00 |
| 966 | 1,059,666.9455m | 299,143.6011m | 0+965.00 |
| 967 | 1,059,666.2502m | 299,144.3196m | 0+966.00 |
| 968 | 1,059,665.4422m | 299,144.8925m | 0+967.00 |
| 969 | 1,059,664.5276m | 299,145.2920m | 0+968.00 |
| 970 | 1,059,663.8493m | 299,144.8775m | 0+969.00 |
| 971 | 1,059,662.9753m | 299,145.1762m | 0+970.00 |
| 972 | 1,059,662.0714m | 299,145.6039m | 0+971.00 |
| 973 | 1,059,661.1998m | 299,146.0935m | 0+972.00 |
| 974 | 1,059,660.3179m | 299,146.5644m | 0+973.00 |
| 975 | 1,059,659.3901m | 299,146.9359m | 0+974.00 |
| 976 | 1,059,658.4638m | 299,147.3126m | 0+975.00 |
| 977 | 1,059,657.5502m | 299,147.7189m | 0+976.00 |
| 978 | 1,059,656.6357m | 299,148.1236m | 0+977.00 |
| 979 | 1,059,655.7137m | 299,148.5105m | 0+978.00 |
| 980 | 1,059,654.7630m | 299,148.8182m | 0+979.00 |
| 981 | 1,059,653.7893m | 299,149.0430m | 0+980.00 |
| 982 | 1,059,652.8344m | 299,149.3345m | 0+981.00 |
| 983 | 1,059,651.9600m | 299,149.8065m | 0+982.00 |
| 984 | 1,059,651.1094m | 299,150.3323m | 0+983.00 |
| 985 | 1,059,650.2533m | 299,150.8483m | 0+984.00 |
| 986 | 1,059,649.3337m | 299,151.2310m | 0+985.00 |
| 987 | 1,059,648.4072m | 299,151.6054m | 0+986.00 |
| 988 | 1,059,647.5067m | 299,152.0393m | 0+987.00 |
| 989 | 1,059,646.6378m | 299,152.5331m | 0+988.00 |
| 990 | 1,059,645.7688m | 299,153.0274m | 0+989.00 |
| 991 | 1,059,644.9062m | 299,153.5329m | 0+990.00 |
| 992 | 1,059,644.1139m | 299,154.1376m | 0+991.00 |
| 993 | 1,059,643.3030m | 299,154.7183m | 0+992.00 |
| 994 | 1,059,642.4334m | 299,155.2104m | 0+993.00 |
| 995 | 1,059,641.5270m | 299,155.6311m | 0+994.00 |
| 996 | 1,059,640.6044m | 299,156.0168m | 0+995.00 |
| 997 | 1,059,639.6732m | 299,156.3810m | 0+996.00 |
| 998 | 1,059,638.7439m | 299,156.7499m | 0+997.00 |
| 999 | 1,059,637.7993m | 299,157.0731m | 0+998.00 |
| 1000 | 1,059,636.8366m | 299,157.3435m | 0+999.00 |
| 1001 | 1,059,635.8649m | 299,157.5658m | 1+000.00 |
| 1002 | 1,059,635.0520m | 299,157.1421m | 1+001.00 |
| 1003 | 1,059,634.3293m | 299,156.4509m | 1+002.00 |
| 1004 | 1,059,633.6066m | 299,155.7597m | 1+003.00 |
| 1005 | 1,059,632.7498m | 299,155.9444m | 1+004.00 |
| 1006 | 1,059,631.8539m | 299,156.3883m | 1+005.00 |
| 1007 | 1,059,630.9514m | 299,156.8174m | 1+006.00 |
| 1008 | 1,059,630.0644m | 299,157.2783m | 1+007.00 |
| 1009 | 1,059,629.1585m | 299,157.7017m | 1+008.00 |
| 1010 | 1,059,628.2703m | 299,158.1603m | 1+009.00 |
| 1011 | 1,059,627.3589m | 299,158.5680m | 1+010.00 |
| 1012 | 1,059,626.4241m | 299,158.9227m | 1+011.00 |
| 1013 | 1,059,625.4701m | 299,159.2202m | 1+012.00 |
| 1014 | 1,059,624.5341m | 299,159.5723m | 1+013.00 |
| 1015 | 1,059,623.6248m | 299,159.9872m | 1+014.00 |
| 1016 | 1,059,622.7027m | 299,160.3737m | 1+015.00 |
| 1017 | 1,059,621.7931m | 299,160.7882m | 1+016.00 |
| 1018 | 1,059,620.8844m | 299,161.2057m | 1+017.00 |
| 1019 | 1,059,619.9852m | 299,161.6430m | 1+018.00 |
| 1020 | 1,059,619.0738m | 299,162.0543m | 1+019.00 |
| 1021 | 1,059,618.2064m | 299,162.5434m | 1+020.00 |
| 1022 | 1,059,617.3525m | 299,162.3125m | 1+021.00 |
| 1023 | 1,059,616.4879m | 299,161.8100m | 1+022.00 |
| 1024 | 1,059,615.6233m | 299,161.3076m | 1+023.00 |
| 1025 | 1,059,614.7582m | 299,160.8739m | 1+024.00 |
| 1026 | 1,059,613.8889m | 299,161.3682m | 1+025.00 |
| 1027 | 1,059,613.0471m | 299,161.9069m | 1+026.00 |
| 1028 | 1,059,612.2261m | 299,162.4777m | 1+027.00 |
| 1029 | 1,059,611.4500m | 299,163.0930m | 1+028.00 |
| 1030 | 1,059,610.9580m | 299,163.9520m | 1+029.00 |
| 1031 | 1,059,610.5695m | 299,164.8731m | 1+030.00 |
| 1032 | 1,059,610.1442m | 299,165.7743m | 1+031.00 |
| 1033 | 1,059,609.9169m | 299,166.7449m | 1+032.00 |
| 1034 | 1,059,609.7035m | 299,167.7210m | 1+033.00 |
| 1035 | 1,059,609.8039m | 299,168.6565m | 1+034.00 |
| 1036 | 1,059,610.5145m | 299,169.3601m | 1+035.00 |
| 1037 | 1,059,611.2250m | 299,170.0637m | 1+036.00 |
| 1038 | 1,059,611.9356m | 299,170.7673m | 1+037.00 |
| 1039 | 1,059,612.0278m | 299,171.7054m | 1+038.00 |
| 1040 | 1,059,611.9593m | 299,172.6985m | 1+039.00 |
| 1041 | 1,059,611.6928m | 299,173.6618m | 1+040.00 |
| 1042 | 1,059,611.7904m | 299,174.6450m | 1+041.00 |
| 1043 | 1,059,611.9381m | 299,175.6327m | 1+042.00 |
| 1044 | 1,059,611.9564m | 299,176.6324m | 1+043.00 |
| 1045 | 1,059,611.9745m | 299,177.6320m | 1+044.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1046 | 1,059,612.0439m | 299,178.6284m | 1+045.00 |
| 1047 | 1,059,612.0970m | 299,179.6255m | 1+046.00 |
| 1048 | 1,059,612.7673m | 299,180.3202m | 1+047.00 |
| 1049 | 1,059,613.5305m | 299,180.9676m | 1+048.00 |
| 1050 | 1,059,614.2930m | 299,181.6145m | 1+049.00 |
| 1051 | 1,059,615.0556m | 299,182.2613m | 1+050.00 |
| 1052 | 1,059,615.3973m | 299,183.1451m | 1+051.00 |
| 1053 | 1,059,615.4633m | 299,184.1350m | 1+052.00 |
| 1054 | 1,059,615.3431m | 299,185.1273m | 1+053.00 |
| 1055 | 1,059,615.3791m | 299,186.1122m | 1+054.00 |
| 1056 | 1,059,615.6478m | 299,187.0754m | 1+055.00 |
| 1057 | 1,059,615.5494m | 299,188.0627m | 1+056.00 |
| 1058 | 1,059,615.5514m | 299,189.0643m | 1+057.00 |
| 1059 | 1,059,615.2559m | 299,190.0024m | 1+058.00 |
| 1060 | 1,059,615.4044m | 299,190.3661m | 1+059.00 |
| 1061 | 1,059,615.9113m | 299,190.7277m | 1+060.00 |
| 1062 | 1,059,614.9120m | 299,190.7664m | 1+061.00 |
| 1063 | 1,059,613.9329m | 299,190.8811m | 1+062.00 |
| 1064 | 1,059,613.0445m | 299,191.3403m | 1+063.00 |
| 1065 | 1,059,612.2619m | 299,191.9609m | 1+064.00 |
| 1066 | 1,059,611.4516m | 299,192.5464m | 1+065.00 |
| 1067 | 1,059,610.5404m | 299,192.9308m | 1+066.00 |
| 1068 | 1,059,609.8786m | 299,193.5065m | 1+067.00 |
| 1069 | 1,059,609.7529m | 299,194.4978m | 1+068.00 |
| 1070 | 1,059,609.5592m | 299,195.4789m | 1+069.00 |
| 1071 | 1,059,609.4054m | 299,196.4610m | 1+070.00 |
| 1072 | 1,059,609.4786m | 299,197.4582m | 1+071.00 |
| 1073 | 1,059,609.4475m | 299,198.4577m | 1+072.00 |
| 1074 | 1,059,609.1393m | 299,199.4054m | 1+073.00 |
| 1075 | 1,059,608.8128m | 299,200.3506m | 1+074.00 |
| 1076 | 1,059,608.6476m | 299,201.3353m | 1+075.00 |
| 1077 | 1,059,608.5618m | 299,202.3313m | 1+076.00 |
| 1078 | 1,059,608.5789m | 299,203.3299m | 1+077.00 |
| 1079 | 1,059,608.7993m | 299,204.2956m | 1+078.00 |
| 1080 | 1,059,608.8805m | 299,205.1586m | 1+079.00 |
| 1081 | 1,059,608.0448m | 299,205.7077m | 1+080.00 |
| 1082 | 1,059,607.2932m | 299,206.2514m | 1+081.00 |
| 1083 | 1,059,606.3899m | 299,205.9390m | 1+082.00 |
| 1084 | 1,059,605.4418m | 299,206.2570m | 1+083.00 |
| 1085 | 1,059,604.4977m | 299,206.5865m | 1+084.00 |
| 1086 | 1,059,603.5537m | 299,206.9156m | 1+085.00 |
| 1087 | 1,059,602.5955m | 299,207.2018m | 1+086.00 |
| 1088 | 1,059,601.6397m | 299,207.0702m | 1+087.00 |
| 1089 | 1,059,600.6848m | 299,206.7733m | 1+088.00 |
| 1090 | 1,059,599.7298m | 299,206.4764m | 1+089.00 |
| 1091 | 1,059,598.7749m | 299,206.1795m | 1+090.00 |
| 1092 | 1,059,597.8200m | 299,205.8826m | 1+091.00 |
| 1093 | 1,059,596.8651m | 299,205.5857m | 1+092.00 |
| 1094 | 1,059,595.9124m | 299,205.5417m | 1+093.00 |
| 1095 | 1,059,594.9373m | 299,205.7633m | 1+094.00 |
| 1096 | 1,059,593.9659m | 299,205.5780m | 1+095.00 |
| 1097 | 1,059,592.9950m | 299,205.3385m | 1+096.00 |
| 1098 | 1,059,592.0241m | 299,205.0990m | 1+097.00 |
| 1099 | 1,059,591.0532m | 299,204.8595m | 1+098.00 |
| 1100 | 1,059,590.1414m | 299,204.8722m | 1+099.00 |
| 1101 | 1,059,589.4018m | 299,205.5417m | 1+100.00 |
| 1102 | 1,059,588.7595m | 299,206.3082m | 1+101.00 |
| 1103 | 1,059,588.1198m | 299,207.0769m | 1+102.00 |
| 1104 | 1,059,587.4728m | 299,207.8392m | 1+103.00 |
| 1105 | 1,059,586.8492m | 299,208.6207m | 1+104.00 |
| 1106 | 1,059,586.2915m | 299,209.4506m | 1+105.00 |
| 1107 | 1,059,585.7591m | 299,210.2965m | 1+106.00 |
| 1108 | 1,059,585.1365m | 299,211.0790m | 1+107.00 |
| 1109 | 1,059,584.5712m | 299,211.9029m | 1+108.00 |
| 1110 | 1,059,584.1932m | 299,212.8285m | 1+109.00 |
| 1111 | 1,059,583.9057m | 299,213.7862m | 1+110.00 |
| 1112 | 1,059,583.5920m | 299,214.7257m | 1+111.00 |
| 1113 | 1,059,583.2572m | 299,215.6760m | 1+112.00 |
| 1114 | 1,059,582.9277m | 299,216.6223m | 1+113.00 |
| 1115 | 1,059,582.5816m | 299,217.5605m | 1+114.00 |
| 1116 | 1,059,582.2054m | 299,218.4870m | 1+115.00 |
| 1117 | 1,059,581.8545m | 299,219.4232m | 1+116.00 |
| 1118 | 1,059,581.5151m | 299,220.3639m | 1+117.00 |
| 1119 | 1,059,581.3045m | 299,221.3412m | 1+118.00 |
| 1120 | 1,059,581.0937m | 299,222.3187m | 1+119.00 |
| 1121 | 1,059,580.8256m | 299,223.2819m | 1+120.00 |
| 1122 | 1,059,580.5425m | 299,224.2410m | 1+121.00 |
| 1123 | 1,059,580.2761m | 299,225.2049m | 1+122.00 |
| 1124 | 1,059,580.0518m | 299,226.1792m | 1+123.00 |
| 1125 | 1,059,579.8217m | 299,227.1524m | 1+124.00 |
| 1126 | 1,059,580.3590m | 299,227.8949m | 1+125.00 |
| 1127 | 1,059,581.0871m | 299,228.5804m | 1+126.00 |
| 1128 | 1,059,581.8152m | 299,229.2658m | 1+127.00 |
| 1129 | 1,059,582.2079m | 299,230.0531m | 1+128.00 |
| 1130 | 1,059,581.9631m | 299,231.0222m | 1+129.00 |
| 1131 | 1,059,581.6964m | 299,231.9854m | 1+130.00 |
| 1132 | 1,059,581.4737m | 299,232.9603m | 1+131.00 |
| 1133 | 1,059,581.2257m | 299,233.9282m | 1+132.00 |
| 1134 | 1,059,580.9000m | 299,234.8735m | 1+133.00 |
| 1135 | 1,059,580.5431m | 299,235.8075m | 1+134.00 |
| 1136 | 1,059,580.2180m | 299,236.7529m | 1+135.00 |
| 1137 | 1,059,579.9364m | 299,237.7124m | 1+136.00 |
| 1138 | 1,059,579.6379m | 299,238.6667m | 1+137.00 |
| 1139 | 1,059,579.3123m | 299,239.6122m | 1+138.00 |
| 1140 | 1,059,578.9735m | 299,240.5527m | 1+139.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1141 | 1,059,578.5803m | 299,241.4721m | 1+140.00 |
| 1142 | 1,059,578.1587m | 299,242.3788m | 1+141.00 |
| 1143 | 1,059,577.6947m | 299,243.2630m | 1+142.00 |
| 1144 | 1,059,577.1501m | 299,244.1005m | 1+143.00 |
| 1145 | 1,059,576.7245m | 299,245.0022m | 1+144.00 |
| 1146 | 1,059,576.3891m | 299,245.9433m | 1+145.00 |
| 1147 | 1,059,576.0165m | 299,246.8713m | 1+146.00 |
| 1148 | 1,059,575.6420m | 299,247.7985m | 1+147.00 |
| 1149 | 1,059,575.2701m | 299,248.7268m | 1+148.00 |
| 1150 | 1,059,574.9200m | 299,249.6635m | 1+149.00 |
| 1151 | 1,059,574.5399m | 299,250.5879m | 1+150.00 |
| 1152 | 1,059,574.0883m | 299,251.4802m | 1+151.00 |
| 1153 | 1,059,573.6564m | 299,252.3789m | 1+152.00 |
| 1154 | 1,059,573.5870m | 299,253.3735m | 1+153.00 |
| 1155 | 1,059,573.0485m | 299,254.2011m | 1+154.00 |
| 1156 | 1,059,572.3752m | 299,254.9405m | 1+155.00 |
| 1157 | 1,059,571.8204m | 299,255.7350m | 1+156.00 |
| 1158 | 1,059,571.5728m | 299,256.7037m | 1+157.00 |
| 1159 | 1,059,571.2523m | 299,257.6489m | 1+158.00 |
| 1160 | 1,059,570.8513m | 299,258.5650m | 1+159.00 |
| 1161 | 1,059,570.4475m | 299,259.4799m | 1+160.00 |
| 1162 | 1,059,570.0565m | 299,260.3999m | 1+161.00 |
| 1163 | 1,059,569.7647m | 299,261.3558m | 1+162.00 |
| 1164 | 1,059,569.4869m | 299,262.3164m | 1+163.00 |
| 1165 | 1,059,569.0951m | 299,263.2338m | 1+164.00 |
| 1166 | 1,059,568.6662m | 299,264.1362m | 1+165.00 |
| 1167 | 1,059,568.3411m | 299,265.0816m | 1+166.00 |
| 1168 | 1,059,568.0270m | 299,266.0310m | 1+167.00 |
| 1169 | 1,059,567.7100m | 299,266.9794m | 1+168.00 |
| 1170 | 1,059,567.3903m | 299,267.9269m | 1+169.00 |
| 1171 | 1,059,567.0678m | 299,268.8735m | 1+170.00 |
| 1172 | 1,059,566.7425m | 299,269.8191m | 1+171.00 |
| 1173 | 1,059,566.4144m | 299,270.7637m | 1+172.00 |
| 1174 | 1,059,566.0899m | 299,271.7096m | 1+173.00 |
| 1175 | 1,059,565.7749m | 299,272.6587m | 1+174.00 |
| 1176 | 1,059,565.4570m | 299,273.6068m | 1+175.00 |
| 1177 | 1,059,565.1362m | 299,274.5540m | 1+176.00 |
| 1178 | 1,059,565.1175m | 299,275.5194m | 1+177.00 |
| 1179 | 1,059,565.6300m | 299,276.3740m | 1+178.00 |
| 1180 | 1,059,566.3263m | 299,277.0918m | 1+179.00 |
| 1181 | 1,059,566.9783m | 299,277.8483m | 1+180.00 |
| 1182 | 1,059,567.2917m | 299,278.7265m | 1+181.00 |
| 1183 | 1,059,567.3718m | 299,279.7195m | 1+182.00 |
| 1184 | 1,059,567.4912m | 299,280.7058m | 1+183.00 |
| 1185 | 1,059,567.2857m | 299,281.6844m | 1+184.00 |
| 1186 | 1,059,567.0780m | 299,282.6626m | 1+185.00 |
| 1187 | 1,059,566.8957m | 299,283.6432m | 1+186.00 |
| 1188 | 1,059,566.7260m | 299,284.6312m | 1+187.00 |
| 1189 | 1,059,566.5035m | 299,285.6060m | 1+188.00 |
| 1190 | 1,059,566.5320m | 299,286.6013m | 1+189.00 |
| 1191 | 1,059,566.6012m | 299,287.5982m | 1+190.00 |
| 1192 | 1,059,566.5954m | 299,288.5975m | 1+191.00 |
| 1193 | 1,059,566.5135m | 299,289.5939m | 1+192.00 |
| 1194 | 1,059,566.3134m | 299,290.5737m | 1+193.00 |
| 1195 | 1,059,565.7697m | 299,291.2775m | 1+194.00 |
| 1196 | 1,059,565.4677m | 299,291.6437m | 1+195.00 |
| 1197 | 1,059,566.3265m | 299,292.0647m | 1+196.00 |
| 1198 | 1,059,565.4251m | 299,292.4803m | 1+197.00 |
| 1199 | 1,059,564.6766m | 299,293.1322m | 1+198.00 |
| 1200 | 1,059,563.9173m | 299,293.7942m | 1+199.00 |
| 1201 | 1,059,563.1638m | 299,294.4516m | 1+200.00 |
| 1202 | 1,059,562.4106m | 299,295.1095m | 1+201.00 |
| 1203 | 1,059,561.6578m | 299,295.7677m | 1+202.00 |
| 1204 | 1,059,560.9100m | 299,296.4315m | 1+203.00 |
| 1205 | 1,059,560.1879m | 299,297.1234m | 1+204.00 |
| 1206 | 1,059,559.4040m | 299,297.7442m | 1+205.00 |
| 1207 | 1,059,558.7626m | 299,298.5073m | 1+206.00 |
| 1208 | 1,059,558.2768m | 299,299.3635m | 1+207.00 |
| 1209 | 1,059,557.9493m | 299,300.2997m | 1+208.00 |
| 1210 | 1,059,557.3958m | 299,301.1314m | 1+209.00 |
| 1211 | 1,059,557.0579m | 299,302.0654m | 1+210.00 |
| 1212 | 1,059,556.8417m | 299,303.0416m | 1+211.00 |
| 1213 | 1,059,556.6329m | 299,304.0195m | 1+212.00 |
| 1214 | 1,059,556.4215m | 299,304.9969m | 1+213.00 |
| 1215 | 1,059,556.2075m | 299,305.9738m | 1+214.00 |
| 1216 | 1,059,555.9910m | 299,306.9500m | 1+215.00 |
| 1217 | 1,059,555.7719m | 299,307.9257m | 1+216.00 |
| 1218 | 1,059,555.5502m | 299,308.9009m | 1+217.00 |
| 1219 | 1,059,555.3260m | 299,309.8754m | 1+218.00 |
| 1220 | 1,059,555.0992m | 299,310.8493m | 1+219.00 |
| 1221 | 1,059,554.8697m | 299,311.8227m | 1+220.00 |
| 1222 | 1,059,554.6377m | 299,312.7954m | 1+221.00 |
| 1223 | 1,059,554.4031m | 299,313.7674m | 1+222.00 |
| 1224 | 1,059,554.1658m | 299,314.7389m | 1+223.00 |
| 1225 | 1,059,553.9260m | 299,315.7097m | 1+224.00 |
| 1226 | 1,059,553.6836m | 299,316.6799m | 1+225.00 |
| 1227 | 1,059,553.4385m | 299,317.6494m | 1+226.00 |
| 1228 | 1,059,553.1908m | 299,318.6182m | 1+227.00 |
| 1229 | 1,059,552.9405m | 299,319.5864m | 1+228.00 |
| 1230 | 1,059,552.8239m | 299,320.5716m | 1+229.00 |
| 1231 | 1,059,552.8595m | 299,321.5703m | 1+230.00 |
| 1232 | 1,059,552.1769m | 299,321.8945m | 1+231.00 |
| 1233 | 1,059,551.2228m | 299,321.6768m | 1+232.00 |
| 1234 | 1,059,550.3102m | 299,321.2680m | 1+233.00 |
| 1235 | 1,059,549.3858m | 299,321.0922m | 1+234.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1236 | 1,059,548.5865m | 299,321.6262m | 1+235.00 |
| 1237 | 1,059,548.1499m | 299,322.5240m | 1+236.00 |
| 1238 | 1,059,547.1870m | 299,322.7678m | 1+237.00 |
| 1239 | 1,059,546.2087m | 299,322.7937m | 1+238.00 |
| 1240 | 1,059,545.2708m | 299,322.4468m | 1+239.00 |
| 1241 | 1,059,544.3329m | 299,322.1000m | 1+240.00 |
| 1242 | 1,059,543.3949m | 299,321.7532m | 1+241.00 |
| 1243 | 1,059,542.7830m | 299,322.3398m | 1+242.00 |
| 1244 | 1,059,542.0342m | 299,323.0023m | 1+243.00 |
| 1245 | 1,059,541.2358m | 299,323.6037m | 1+244.00 |
| 1246 | 1,059,540.4797m | 299,324.2555m | 1+245.00 |
| 1247 | 1,059,539.7583m | 299,324.9478m | 1+246.00 |
| 1248 | 1,059,539.0701m | 299,325.6727m | 1+247.00 |
| 1249 | 1,059,538.4389m | 299,326.4470m | 1+248.00 |
| 1250 | 1,059,537.8793m | 299,327.2745m | 1+249.00 |
| 1251 | 1,059,537.3597m | 299,328.1289m | 1+250.00 |
| 1252 | 1,059,536.8964m | 299,329.0128m | 1+251.00 |
| 1253 | 1,059,536.6087m | 299,329.9621m | 1+252.00 |
| 1254 | 1,059,536.4544m | 299,330.9501m | 1+253.00 |
| 1255 | 1,059,536.3096m | 299,331.9395m | 1+254.00 |
| 1256 | 1,059,536.1510m | 299,332.9223m | 1+255.00 |
| 1257 | 1,059,535.4592m | 299,333.6367m | 1+256.00 |
| 1258 | 1,059,534.6852m | 299,334.2700m | 1+257.00 |
| 1259 | 1,059,533.9145m | 299,334.9071m | 1+258.00 |
| 1260 | 1,059,533.1470m | 299,335.5481m | 1+259.00 |
| 1261 | 1,059,533.0179m | 299,336.5345m | 1+260.00 |
| 1262 | 1,059,532.9511m | 299,337.5319m | 1+261.00 |
| 1263 | 1,059,533.0259m | 299,338.5289m | 1+262.00 |
| 1264 | 1,059,533.0452m | 299,339.5278m | 1+263.00 |
| 1265 | 1,059,532.6808m | 299,340.4127m | 1+264.00 |
| 1266 | 1,059,532.1819m | 299,341.2762m | 1+265.00 |
| 1267 | 1,059,532.2011m | 299,342.2021m | 1+266.00 |
| 1268 | 1,059,532.6398m | 299,343.0603m | 1+267.00 |
| 1269 | 1,059,533.4522m | 299,343.6434m | 1+268.00 |
| 1270 | 1,059,534.2646m | 299,344.2265m | 1+269.00 |
| 1271 | 1,059,535.0770m | 299,344.8096m | 1+270.00 |
| 1272 | 1,059,535.8894m | 299,345.3927m | 1+271.00 |
| 1273 | 1,059,536.5541m | 299,346.0829m | 1+272.00 |
| 1274 | 1,059,536.8560m | 299,347.0363m | 1+273.00 |
| 1275 | 1,059,537.1579m | 299,347.9896m | 1+274.00 |
| 1276 | 1,059,537.4599m | 299,348.9429m | 1+275.00 |
| 1277 | 1,059,537.7587m | 299,349.8972m | 1+276.00 |
| 1278 | 1,059,538.0117m | 299,350.8638m | 1+277.00 |
| 1279 | 1,059,538.2344m | 299,351.8379m | 1+278.00 |
| 1280 | 1,059,538.0815m | 299,352.7933m | 1+279.00 |
| 1281 | 1,059,537.2775m | 299,353.3816m | 1+280.00 |
| 1282 | 1,059,536.8892m | 299,354.2147m | 1+281.00 |
| 1283 | 1,059,537.0322m | 299,355.1793m | 1+282.00 |
| 1284 | 1,059,537.3638m | 299,356.0948m | 1+283.00 |
| 1285 | 1,059,536.5512m | 299,356.6777m | 1+284.00 |
| 1286 | 1,059,535.8776m | 299,357.3711m | 1+285.00 |
| 1287 | 1,059,534.9590m | 299,357.1241m | 1+286.00 |
| 1288 | 1,059,534.0614m | 299,357.5639m | 1+287.00 |
| 1289 | 1,059,533.1565m | 299,357.9892m | 1+288.00 |
| 1290 | 1,059,532.2442m | 299,358.3987m | 1+289.00 |
| 1291 | 1,059,531.3597m | 299,358.8587m | 1+290.00 |
| 1292 | 1,059,530.4892m | 299,359.3547m | 1+291.00 |
| 1293 | 1,059,529.5395m | 299,359.3046m | 1+292.00 |
| 1294 | 1,059,528.5643m | 299,359.0833m | 1+293.00 |
| 1295 | 1,059,527.5891m | 299,358.8621m | 1+294.00 |
| 1296 | 1,059,526.6138m | 299,358.6409m | 1+295.00 |
| 1297 | 1,059,525.6386m | 299,358.4196m | 1+296.00 |
| 1298 | 1,059,524.7793m | 299,358.7271m | 1+297.00 |
| 1299 | 1,059,523.9522m | 299,359.2860m | 1+298.00 |
| 1300 | 1,059,523.0915m | 299,359.7951m | 1+299.00 |
| 1301 | 1,059,522.1990m | 299,360.2437m | 1+300.00 |
| 1302 | 1,059,521.2192m | 299,360.0488m | 1+301.00 |
| 1303 | 1,059,520.2391m | 299,359.8507m | 1+302.00 |
| 1304 | 1,059,519.2589m | 299,359.6525m | 1+303.00 |
| 1305 | 1,059,518.2787m | 299,359.4543m | 1+304.00 |
| 1306 | 1,059,517.4934m | 299,359.6929m | 1+305.00 |
| 1307 | 1,059,516.9807m | 299,360.5514m | 1+306.00 |
| 1308 | 1,059,516.4877m | 299,361.4205m | 1+307.00 |
| 1309 | 1,059,516.0380m | 299,362.3137m | 1+308.00 |
| 1310 | 1,059,515.6580m | 299,363.2345m | 1+309.00 |
| 1311 | 1,059,515.4171m | 299,364.2044m | 1+310.00 |
| 1312 | 1,059,515.1816m | 299,365.1751m | 1+311.00 |
| 1313 | 1,059,514.7808m | 299,366.0779m | 1+312.00 |
| 1314 | 1,059,514.0870m | 299,366.7591m | 1+313.00 |
| 1315 | 1,059,513.1898m | 299,367.1798m | 1+314.00 |
| 1316 | 1,059,512.6290m | 299,367.9951m | 1+315.00 |
| 1317 | 1,059,513.4062m | 299,368.5892m | 1+316.00 |
| 1318 | 1,059,514.2168m | 299,369.1748m | 1+317.00 |
| 1319 | 1,059,515.0274m | 299,369.7604m | 1+318.00 |
| 1320 | 1,059,515.8380m | 299,370.3459m | 1+319.00 |
| 1321 | 1,059,516.5567m | 299,370.9647m | 1+320.00 |
| 1322 | 1,059,516.3037m | 299,371.9321m | 1+321.00 |
| 1323 | 1,059,516.0397m | 299,372.8943m | 1+322.00 |
| 1324 | 1,059,516.0310m | 299,373.8942m | 1+323.00 |
| 1325 | 1,059,516.3010m | 299,374.8559m | 1+324.00 |
| 1326 | 1,059,516.1407m | 299,375.7924m | 1+325.00 |
| 1327 | 1,059,515.8011m | 299,376.7324m | 1+326.00 |
| 1328 | 1,059,515.5436m | 299,377.6976m | 1+327.00 |
| 1329 | 1,059,515.2504m | 299,378.6523m | 1+328.00 |
| 1330 | 1,059,514.9154m | 299,379.5945m | 1+329.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1331 | 1,059,514.5640m | 299,380.5306m | 1+330.00 |
| 1332 | 1,059,514.3172m | 299,381.4956m | 1+331.00 |
| 1333 | 1,059,514.2594m | 299,382.4889m | 1+332.00 |
| 1334 | 1,059,514.2254m | 299,383.4866m | 1+333.00 |
| 1335 | 1,059,514.3115m | 299,384.4623m | 1+334.00 |
| 1336 | 1,059,514.5926m | 299,385.4173m | 1+335.00 |
| 1337 | 1,059,514.5795m | 299,386.4133m | 1+336.00 |
| 1338 | 1,059,514.3863m | 299,387.3984m | 1+337.00 |
| 1339 | 1,059,514.1609m | 299,388.3727m | 1+338.00 |
| 1340 | 1,059,513.9405m | 299,389.2691m | 1+339.00 |
| 1341 | 1,059,513.3305m | 299,390.0545m | 1+340.00 |
| 1342 | 1,059,512.8651m | 299,390.9376m | 1+341.00 |
| 1343 | 1,059,512.5879m | 299,391.8951m | 1+342.00 |
| 1344 | 1,059,512.8558m | 299,392.8271m | 1+343.00 |
| 1345 | 1,059,513.2511m | 299,393.7455m | 1+344.00 |
| 1346 | 1,059,513.6665m | 299,394.6551m | 1+345.00 |
| 1347 | 1,059,513.5079m | 299,395.6117m | 1+346.00 |
| 1348 | 1,059,512.8085m | 299,396.2874m | 1+347.00 |
| 1349 | 1,059,512.0430m | 299,396.9306m | 1+348.00 |
| 1350 | 1,059,512.1004m | 299,397.6724m | 1+349.00 |
| 1351 | 1,059,512.6994m | 299,398.4731m | 1+350.00 |
| 1352 | 1,059,512.9163m | 299,399.3806m | 1+351.00 |
| 1353 | 1,059,512.7347m | 299,400.3601m | 1+352.00 |
| 1354 | 1,059,512.5356m | 299,401.3375m | 1+353.00 |
| 1355 | 1,059,512.4554m | 299,402.3329m | 1+354.00 |
| 1356 | 1,059,512.3115m | 299,403.3080m | 1+355.00 |
| 1357 | 1,059,511.9469m | 299,404.2392m | 1+356.00 |
| 1358 | 1,059,511.6058m | 299,405.1788m | 1+357.00 |
| 1359 | 1,059,511.2915m | 299,406.1281m | 1+358.00 |
| 1360 | 1,059,511.0038m | 299,407.0840m | 1+359.00 |
| 1361 | 1,059,510.7407m | 299,408.0399m | 1+360.00 |
| 1362 | 1,059,510.2932m | 299,408.9342m | 1+361.00 |
| 1363 | 1,059,509.8271m | 299,409.8188m | 1+362.00 |
| 1364 | 1,059,509.3368m | 299,410.6903m | 1+363.00 |
| 1365 | 1,059,508.8692m | 299,411.5719m | 1+364.00 |
| 1366 | 1,059,508.5123m | 299,412.5052m | 1+365.00 |
| 1367 | 1,059,508.1960m | 299,413.4537m | 1+366.00 |
| 1368 | 1,059,507.8016m | 299,414.3691m | 1+367.00 |
| 1369 | 1,059,507.2798m | 299,415.2217m | 1+368.00 |
| 1370 | 1,059,506.7192m | 299,416.0497m | 1+369.00 |
| 1371 | 1,059,506.2508m | 299,416.9157m | 1+370.00 |
| 1372 | 1,059,506.0764m | 299,417.8997m | 1+371.00 |
| 1373 | 1,059,505.9421m | 299,418.8897m | 1+372.00 |
| 1374 | 1,059,505.8089m | 299,419.8582m | 1+373.00 |
| 1375 | 1,059,506.1512m | 299,420.7978m | 1+374.00 |
| 1376 | 1,059,506.0974m | 299,421.7727m | 1+375.00 |
| 1377 | 1,059,505.7211m | 299,422.6903m | 1+376.00 |
| 1378 | 1,059,505.3455m | 299,423.6158m | 1+377.00 |
| 1379 | 1,059,504.9949m | 299,424.5514m | 1+378.00 |
| 1380 | 1,059,504.5876m | 299,425.4647m | 1+379.00 |
| 1381 | 1,059,504.1803m | 299,426.3780m | 1+380.00 |
| 1382 | 1,059,503.7730m | 299,427.2913m | 1+381.00 |
| 1383 | 1,059,503.3657m | 299,428.2046m | 1+382.00 |
| 1384 | 1,059,502.9585m | 299,429.1179m | 1+383.00 |
| 1385 | 1,059,502.5512m | 299,430.0312m | 1+384.00 |
| 1386 | 1,059,502.1439m | 299,430.9445m | 1+385.00 |
| 1387 | 1,059,501.7366m | 299,431.8578m | 1+386.00 |
| 1388 | 1,059,501.3293m | 299,432.7711m | 1+387.00 |
| 1389 | 1,059,500.9220m | 299,433.6844m | 1+388.00 |
| 1390 | 1,059,500.5147m | 299,434.5977m | 1+389.00 |
| 1391 | 1,059,500.1075m | 299,435.5110m | 1+390.00 |
| 1392 | 1,059,499.7002m | 299,436.4243m | 1+391.00 |
| 1393 | 1,059,499.2929m | 299,437.3376m | 1+392.00 |
| 1394 | 1,059,498.8856m | 299,438.2509m | 1+393.00 |
| 1395 | 1,059,498.4783m | 299,439.1642m | 1+394.00 |
| 1396 | 1,059,498.0710m | 299,440.0775m | 1+395.00 |
| 1397 | 1,059,497.6638m | 299,440.9908m | 1+396.00 |
| 1398 | 1,059,497.2565m | 299,441.9041m | 1+397.00 |
| 1399 | 1,059,496.8492m | 299,442.8174m | 1+398.00 |
| 1400 | 1,059,496.4419m | 299,443.7307m | 1+399.00 |
| 1401 | 1,059,496.0346m | 299,444.6440m | 1+400.00 |
| 1402 | 1,059,495.6273m | 299,445.5573m | 1+401.00 |
| 1403 | 1,059,495.2200m | 299,446.4706m | 1+402.00 |
| 1404 | 1,059,494.8128m | 299,447.3839m | 1+403.00 |
| 1405 | 1,059,494.4055m | 299,448.2972m | 1+404.00 |
| 1406 | 1,059,493.9982m | 299,449.2105m | 1+405.00 |
| 1407 | 1,059,493.5909m | 299,450.1238m | 1+406.00 |
| 1408 | 1,059,493.1836m | 299,451.0371m | 1+407.00 |
| 1409 | 1,059,492.7763m | 299,451.9504m | 1+408.00 |
| 1410 | 1,059,492.3691m | 299,452.8637m | 1+409.00 |
| 1411 | 1,059,491.9618m | 299,453.7770m | 1+410.00 |
| 1412 | 1,059,491.5545m | 299,454.6903m | 1+411.00 |
| 1413 | 1,059,491.1472m | 299,455.6036m | 1+412.00 |
| 1414 | 1,059,490.7399m | 299,456.5169m | 1+413.00 |
| 1415 | 1,059,490.3326m | 299,457.4302m | 1+414.00 |
| 1416 | 1,059,489.9253m | 299,458.3435m | 1+415.00 |
| 1417 | 1,059,489.5181m | 299,459.2568m | 1+416.00 |
| 1418 | 1,059,489.1108m | 299,460.1701m | 1+417.00 |
| 1419 | 1,059,488.7035m | 299,461.0834m | 1+418.00 |
| 1420 | 1,059,488.2962m | 299,461.9967m | 1+419.00 |
| 1421 | 1,059,487.8889m | 299,462.9100m | 1+420.00 |
| 1422 | 1,059,487.4812m | 299,463.8231m | 1+421.00 |
| 1423 | 1,059,487.0660m | 299,464.7328m | 1+422.00 |
| 1424 | 1,059,486.6411m | 299,465.6381m | 1+423.00 |
| 1425 | 1,059,486.2066m | 299,466.5387m | 1+424.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1426 | 1,059,485.7624m | 299,467.4347m | 1+425.00 |
| 1427 | 1,059,485.3088m | 299,468.3259m | 1+426.00 |
| 1428 | 1,059,484.8456m | 299,469.2121m | 1+427.00 |
| 1429 | 1,059,484.3730m | 299,470.0934m | 1+428.00 |
| 1430 | 1,059,483.8910m | 299,470.9696m | 1+429.00 |
| 1431 | 1,059,483.3996m | 299,471.8405m | 1+430.00 |
| 1432 | 1,059,482.8990m | 299,472.7062m | 1+431.00 |
| 1433 | 1,059,482.3892m | 299,473.5665m | 1+432.00 |
| 1434 | 1,059,481.8702m | 299,474.4212m | 1+433.00 |
| 1435 | 1,059,481.3421m | 299,475.2704m | 1+434.00 |
| 1436 | 1,059,480.8050m | 299,476.1139m | 1+435.00 |
| 1437 | 1,059,480.2589m | 299,476.9516m | 1+436.00 |
| 1438 | 1,059,479.7038m | 299,477.7834m | 1+437.00 |
| 1439 | 1,059,479.1399m | 299,478.6093m | 1+438.00 |
| 1440 | 1,059,478.5673m | 299,479.4290m | 1+439.00 |
| 1441 | 1,059,477.9859m | 299,480.2427m | 1+440.00 |
| 1442 | 1,059,477.3958m | 299,481.0500m | 1+441.00 |
| 1443 | 1,059,476.7971m | 299,481.8510m | 1+442.00 |
| 1444 | 1,059,476.1900m | 299,482.6456m | 1+443.00 |
| 1445 | 1,059,475.5743m | 299,483.4336m | 1+444.00 |
| 1446 | 1,059,474.9503m | 299,484.2150m | 1+445.00 |
| 1447 | 1,059,474.3180m | 299,484.9897m | 1+446.00 |
| 1448 | 1,059,473.6544m | 299,485.7364m | 1+447.00 |
| 1449 | 1,059,472.8870m | 299,486.3775m | 1+448.00 |
| 1450 | 1,059,472.1447m | 299,487.0475m | 1+449.00 |
| 1451 | 1,059,471.4095m | 299,487.7251m | 1+450.00 |
| 1452 | 1,059,470.7008m | 299,488.4304m | 1+451.00 |
| 1453 | 1,059,469.9426m | 299,489.0805m | 1+452.00 |
| 1454 | 1,059,469.1586m | 299,489.7012m | 1+453.00 |
| 1455 | 1,059,468.4076m | 299,490.3613m | 1+454.00 |
| 1456 | 1,059,467.6713m | 299,491.0379m | 1+455.00 |
| 1457 | 1,059,466.8824m | 299,491.6511m | 1+456.00 |
| 1458 | 1,059,466.0532m | 299,492.2101m | 1+457.00 |
| 1459 | 1,059,465.2182m | 299,492.7594m | 1+458.00 |
| 1460 | 1,059,464.4191m | 299,493.3576m | 1+459.00 |
| 1461 | 1,059,463.5942m | 299,493.9203m | 1+460.00 |
| 1462 | 1,059,462.8568m | 299,494.5854m | 1+461.00 |
| 1463 | 1,059,462.1149m | 299,495.2639m | 1+462.00 |
| 1464 | 1,059,461.3198m | 299,495.8636m | 1+463.00 |
| 1465 | 1,059,460.4840m | 299,496.4119m | 1+464.00 |
| 1466 | 1,059,459.6250m | 299,496.9172m | 1+465.00 |
| 1467 | 1,059,458.7895m | 299,497.4642m | 1+466.00 |
| 1468 | 1,059,457.9517m | 299,498.0096m | 1+467.00 |
| 1469 | 1,059,457.1650m | 299,498.6264m | 1+468.00 |
| 1470 | 1,059,456.3929m | 299,499.2618m | 1+469.00 |
| 1471 | 1,059,455.6365m | 299,499.9159m | 1+470.00 |
| 1472 | 1,059,454.8796m | 299,500.5694m | 1+471.00 |
| 1473 | 1,059,454.0187m | 299,501.0724m | 1+472.00 |
| 1474 | 1,059,453.3859m | 299,501.8403m | 1+473.00 |
| 1475 | 1,059,452.7092m | 299,502.5760m | 1+474.00 |
| 1476 | 1,059,452.0077m | 299,503.2882m | 1+475.00 |
| 1477 | 1,059,451.3044m | 299,503.9987m | 1+476.00 |
| 1478 | 1,059,450.5420m | 299,504.6453m | 1+477.00 |
| 1479 | 1,059,449.8030m | 299,505.3175m | 1+478.00 |
| 1480 | 1,059,449.0871m | 299,506.0157m | 1+479.00 |
| 1481 | 1,059,448.3660m | 299,506.7085m | 1+480.00 |
| 1482 | 1,059,447.5399m | 299,507.2600m | 1+481.00 |
| 1483 | 1,059,446.6630m | 299,507.7406m | 1+482.00 |
| 1484 | 1,059,445.7809m | 299,508.2117m | 1+483.00 |
| 1485 | 1,059,444.8939m | 299,508.6734m | 1+484.00 |
| 1486 | 1,059,444.0020m | 299,509.1256m | 1+485.00 |
| 1487 | 1,059,443.1053m | 299,509.5682m | 1+486.00 |
| 1488 | 1,059,442.2039m | 299,510.0012m | 1+487.00 |
| 1489 | 1,059,441.2979m | 299,510.4246m | 1+488.00 |
| 1490 | 1,059,440.3875m | 299,510.8383m | 1+489.00 |
| 1491 | 1,059,439.4727m | 299,511.2422m | 1+490.00 |
| 1492 | 1,059,438.5537m | 299,511.6363m | 1+491.00 |
| 1493 | 1,059,437.6305m | 299,512.0206m | 1+492.00 |
| 1494 | 1,059,436.7032m | 299,512.3950m | 1+493.00 |
| 1495 | 1,059,435.7720m | 299,512.7595m | 1+494.00 |
| 1496 | 1,059,434.8369m | 299,513.1140m | 1+495.00 |
| 1497 | 1,059,433.8982m | 299,513.4585m | 1+496.00 |
| 1498 | 1,059,432.9558m | 299,513.7929m | 1+497.00 |
| 1499 | 1,059,432.0098m | 299,514.1173m | 1+498.00 |
| 1500 | 1,059,431.0605m | 299,514.4315m | 1+499.00 |
| 1501 | 1,059,430.1078m | 299,514.7356m | 1+500.00 |
| 1502 | 1,059,429.1520m | 299,515.0294m | 1+501.00 |
| 1503 | 1,059,428.1931m | 299,515.3131m | 1+502.00 |
| 1504 | 1,059,427.2312m | 299,515.5865m | 1+503.00 |
| 1505 | 1,059,426.2664m | 299,515.8496m | 1+504.00 |
| 1506 | 1,059,425.2989m | 299,516.1023m | 1+505.00 |
| 1507 | 1,059,424.3287m | 299,516.3448m | 1+506.00 |
| 1508 | 1,059,423.3560m | 299,516.5768m | 1+507.00 |
| 1509 | 1,059,422.3809m | 299,516.7984m | 1+508.00 |
| 1510 | 1,059,421.4035m | 299,517.0096m | 1+509.00 |
| 1511 | 1,059,420.4238m | 299,517.2104m | 1+510.00 |
| 1512 | 1,059,419.4421m | 299,517.4007m | 1+511.00 |
| 1513 | 1,059,418.4584m | 299,517.5804m | 1+512.00 |
| 1514 | 1,059,417.4728m | 299,517.7497m | 1+513.00 |
| 1515 | 1,059,416.4855m | 299,517.9084m | 1+514.00 |
| 1516 | 1,059,415.4965m | 299,518.0566m | 1+515.00 |
| 1517 | 1,059,414.5061m | 299,518.1941m | 1+516.00 |
| 1518 | 1,059,413.5142m | 299,518.3211m | 1+517.00 |
| 1519 | 1,059,412.5210m | 299,518.4375m | 1+518.00 |
| 1520 | 1,059,411.5266m | 299,518.5433m | 1+519.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1521 | 1,059,410.5311m | 299,518.6384m | 1+520.00 |
| 1522 | 1,059,409.5347m | 299,518.7229m | 1+521.00 |
| 1523 | 1,059,408.5374m | 299,518.7968m | 1+522.00 |
| 1524 | 1,059,407.5394m | 299,518.8600m | 1+523.00 |
| 1525 | 1,059,406.5408m | 299,518.9125m | 1+524.00 |
| 1526 | 1,059,405.5417m | 299,518.9552m | 1+525.00 |
| 1527 | 1,059,404.5426m | 299,518.9960m | 1+526.00 |
| 1528 | 1,059,403.5434m | 299,519.0367m | 1+527.00 |
| 1529 | 1,059,402.5442m | 299,519.0775m | 1+528.00 |
| 1530 | 1,059,401.5451m | 299,519.1183m | 1+529.00 |
| 1531 | 1,059,400.5459m | 299,519.1590m | 1+530.00 |
| 1532 | 1,059,399.5467m | 299,519.1998m | 1+531.00 |
| 1533 | 1,059,398.5476m | 299,519.2405m | 1+532.00 |
| 1534 | 1,059,397.5484m | 299,519.2814m | 1+533.00 |
| 1535 | 1,059,396.5493m | 299,519.3253m | 1+534.00 |
| 1536 | 1,059,395.5505m | 299,519.3738m | 1+535.00 |
| 1537 | 1,059,394.5519m | 299,519.4269m | 1+536.00 |
| 1538 | 1,059,393.5536m | 299,519.4846m | 1+537.00 |
| 1539 | 1,059,392.5556m | 299,519.5470m | 1+538.00 |
| 1540 | 1,059,391.5578m | 299,519.6139m | 1+539.00 |
| 1541 | 1,059,390.5604m | 299,519.6855m | 1+540.00 |
| 1542 | 1,059,389.5633m | 299,519.7617m | 1+541.00 |
| 1543 | 1,059,388.5665m | 299,519.8425m | 1+542.00 |
| 1544 | 1,059,387.5702m | 299,519.9279m | 1+543.00 |
| 1545 | 1,059,386.5743m | 299,520.0179m | 1+544.00 |
| 1546 | 1,059,385.5787m | 299,520.1125m | 1+545.00 |
| 1547 | 1,059,384.5837m | 299,520.2117m | 1+546.00 |
| 1548 | 1,059,383.5891m | 299,520.3155m | 1+547.00 |
| 1549 | 1,059,382.5950m | 299,520.4238m | 1+548.00 |
| 1550 | 1,059,381.6014m | 299,520.5368m | 1+549.00 |
| 1551 | 1,059,380.6083m | 299,520.6544m | 1+550.00 |
| 1552 | 1,059,379.6158m | 299,520.7765m | 1+551.00 |
| 1553 | 1,059,378.6239m | 299,520.9033m | 1+552.00 |
| 1554 | 1,059,377.6325m | 299,521.0346m | 1+553.00 |
| 1555 | 1,059,376.6418m | 299,521.1705m | 1+554.00 |
| 1556 | 1,059,375.6517m | 299,521.3110m | 1+555.00 |
| 1557 | 1,059,374.6623m | 299,521.4561m | 1+556.00 |
| 1558 | 1,059,373.6736m | 299,521.6057m | 1+557.00 |
| 1559 | 1,059,372.6855m | 299,521.7599m | 1+558.00 |
| 1560 | 1,059,371.6982m | 299,521.9186m | 1+559.00 |
| 1561 | 1,059,370.7116m | 299,522.0820m | 1+560.00 |
| 1562 | 1,059,369.7258m | 299,522.2498m | 1+561.00 |
| 1563 | 1,059,368.7408m | 299,522.4223m | 1+562.00 |
| 1564 | 1,059,367.7566m | 299,522.5992m | 1+563.00 |
| 1565 | 1,059,366.7732m | 299,522.7808m | 1+564.00 |
| 1566 | 1,059,365.7907m | 299,522.9668m | 1+565.00 |
| 1567 | 1,059,364.8090m | 299,523.1574m | 1+566.00 |
| 1568 | 1,059,363.8282m | 299,523.3526m | 1+567.00 |
| 1569 | 1,059,362.8484m | 299,523.5523m | 1+568.00 |
| 1570 | 1,059,361.8694m | 299,523.7565m | 1+569.00 |
| 1571 | 1,059,360.8915m | 299,523.9652m | 1+570.00 |
| 1572 | 1,059,359.9145m | 299,524.1784m | 1+571.00 |
| 1573 | 1,059,358.9385m | 299,524.3962m | 1+572.00 |
| 1574 | 1,059,357.9635m | 299,524.6184m | 1+573.00 |
| 1575 | 1,059,356.9895m | 299,524.8452m | 1+574.00 |
| 1576 | 1,059,356.0166m | 299,525.0764m | 1+575.00 |
| 1577 | 1,059,355.0448m | 299,525.3122m | 1+576.00 |
| 1578 | 1,059,354.0741m | 299,525.5524m | 1+577.00 |
| 1579 | 1,059,353.1045m | 299,525.7971m | 1+578.00 |
| 1580 | 1,059,352.1361m | 299,526.0463m | 1+579.00 |
| 1581 | 1,059,351.1688m | 299,526.3000m | 1+580.00 |
| 1582 | 1,059,350.2027m | 299,526.5581m | 1+581.00 |
| 1583 | 1,059,349.2378m | 299,526.8207m | 1+582.00 |
| 1584 | 1,059,348.2741m | 299,527.0878m | 1+583.00 |
| 1585 | 1,059,347.3116m | 299,527.3593m | 1+584.00 |
| 1586 | 1,059,346.3505m | 299,527.6353m | 1+585.00 |
| 1587 | 1,059,345.3906m | 299,527.9157m | 1+586.00 |
| 1588 | 1,059,344.4320m | 299,528.2005m | 1+587.00 |
| 1589 | 1,059,343.4748m | 299,528.4897m | 1+588.00 |
| 1590 | 1,059,342.5188m | 299,528.7834m | 1+589.00 |
| 1591 | 1,059,341.5643m | 299,529.0815m | 1+590.00 |
| 1592 | 1,059,340.6112m | 299,529.3840m | 1+591.00 |
| 1593 | 1,059,339.6594m | 299,529.6909m | 1+592.00 |
| 1594 | 1,059,338.7091m | 299,530.0022m | 1+593.00 |
| 1595 | 1,059,337.7602m | 299,530.3178m | 1+594.00 |
| 1596 | 1,059,336.8128m | 299,530.6379m | 1+595.00 |
| 1597 | 1,059,335.8669m | 299,530.9623m | 1+596.00 |
| 1598 | 1,059,334.9225m | 299,531.2911m | 1+597.00 |
| 1599 | 1,059,333.9797m | 299,531.6243m | 1+598.00 |
| 1600 | 1,059,333.0383m | 299,531.9618m | 1+599.00 |
| 1601 | 1,059,332.0986m | 299,532.3037m | 1+600.00 |
| 1602 | 1,059,331.1601m | 299,532.6490m | 1+601.00 |
| 1603 | 1,059,330.2218m | 299,532.9947m | 1+602.00 |
| 1604 | 1,059,329.2834m | 299,533.3404m | 1+603.00 |
| 1605 | 1,059,328.3451m | 299,533.6860m | 1+604.00 |
| 1606 | 1,059,327.4067m | 299,534.0317m | 1+605.00 |
| 1607 | 1,059,326.4683m | 299,534.3774m | 1+606.00 |
| 1608 | 1,059,325.5300m | 299,534.7230m | 1+607.00 |
| 1609 | 1,059,324.5916m | 299,535.0687m | 1+608.00 |
| 1610 | 1,059,323.6533m | 299,535.4143m | 1+609.00 |
| 1611 | 1,059,322.7149m | 299,535.7600m | 1+610.00 |
| 1612 | 1,059,321.7765m | 299,536.1057m | 1+611.00 |
| 1613 | 1,059,320.8382m | 299,536.4513m | 1+612.00 |
| 1614 | 1,059,319.8998m | 299,536.7970m | 1+613.00 |
| 1615 | 1,059,318.9615m | 299,537.1427m | 1+614.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1616 | 1,059,318.0231m | 299,537.4883m | 1+615.00 |
| 1617 | 1,059,317.0848m | 299,537.8340m | 1+616.00 |
| 1618 | 1,059,316.1464m | 299,538.1797m | 1+617.00 |
| 1619 | 1,059,315.2080m | 299,538.5253m | 1+618.00 |
| 1620 | 1,059,314.2697m | 299,538.8710m | 1+619.00 |
| 1621 | 1,059,313.3313m | 299,539.2167m | 1+620.00 |
| 1622 | 1,059,312.3930m | 299,539.5623m | 1+621.00 |
| 1623 | 1,059,311.4546m | 299,539.9080m | 1+622.00 |
| 1624 | 1,059,310.5163m | 299,540.2537m | 1+623.00 |
| 1625 | 1,059,309.5779m | 299,540.5993m | 1+624.00 |
| 1626 | 1,059,308.6395m | 299,540.9450m | 1+625.00 |
| 1627 | 1,059,307.7012m | 299,541.2907m | 1+626.00 |
| 1628 | 1,059,306.7628m | 299,541.6363m | 1+627.00 |
| 1629 | 1,059,305.8245m | 299,541.9820m | 1+628.00 |
| 1630 | 1,059,304.8861m | 299,542.3277m | 1+629.00 |
| 1631 | 1,059,303.9477m | 299,542.6733m | 1+630.00 |
| 1632 | 1,059,303.0094m | 299,543.0190m | 1+631.00 |
| 1633 | 1,059,302.0710m | 299,543.3647m | 1+632.00 |
| 1634 | 1,059,301.1327m | 299,543.7103m | 1+633.00 |
| 1635 | 1,059,300.1943m | 299,544.0560m | 1+634.00 |
| 1636 | 1,059,299.2560m | 299,544.4016m | 1+635.00 |
| 1637 | 1,059,298.3176m | 299,544.7473m | 1+636.00 |
| 1638 | 1,059,297.3792m | 299,545.0930m | 1+637.00 |
| 1639 | 1,059,296.4409m | 299,545.4386m | 1+638.00 |
| 1640 | 1,059,295.5025m | 299,545.7843m | 1+639.00 |
| 1641 | 1,059,294.5642m | 299,546.1300m | 1+640.00 |
| 1642 | 1,059,293.6258m | 299,546.4756m | 1+641.00 |
| 1643 | 1,059,292.6875m | 299,546.8213m | 1+642.00 |
| 1644 | 1,059,291.7491m | 299,547.1670m | 1+643.00 |
| 1645 | 1,059,290.8107m | 299,547.5126m | 1+644.00 |
| 1646 | 1,059,289.8724m | 299,547.8583m | 1+645.00 |
| 1647 | 1,059,288.9340m | 299,548.2040m | 1+646.00 |
| 1648 | 1,059,287.9957m | 299,548.5496m | 1+647.00 |
| 1649 | 1,059,287.0573m | 299,548.8953m | 1+648.00 |
| 1650 | 1,059,286.1189m | 299,549.2410m | 1+649.00 |
| 1651 | 1,059,285.1806m | 299,549.5866m | 1+650.00 |
| 1652 | 1,059,284.2422m | 299,549.9323m | 1+651.00 |
| 1653 | 1,059,283.3039m | 299,550.2780m | 1+652.00 |
| 1654 | 1,059,282.3655m | 299,550.6236m | 1+653.00 |
| 1655 | 1,059,281.4272m | 299,550.9693m | 1+654.00 |
| 1656 | 1,059,280.4888m | 299,551.3150m | 1+655.00 |
| 1657 | 1,059,279.5504m | 299,551.6606m | 1+656.00 |
| 1658 | 1,059,278.6121m | 299,552.0063m | 1+657.00 |
| 1659 | 1,059,277.6737m | 299,552.3520m | 1+658.00 |
| 1660 | 1,059,276.7354m | 299,552.6976m | 1+659.00 |
| 1661 | 1,059,275.7970m | 299,553.0433m | 1+660.00 |
| 1662 | 1,059,274.8587m | 299,553.3889m | 1+661.00 |
| 1663 | 1,059,273.9203m | 299,553.7346m | 1+662.00 |
| 1664 | 1,059,272.9819m | 299,554.0803m | 1+663.00 |
| 1665 | 1,059,272.0436m | 299,554.4259m | 1+664.00 |
| 1666 | 1,059,271.1052m | 299,554.7716m | 1+665.00 |
| 1667 | 1,059,270.1669m | 299,555.1173m | 1+666.00 |
| 1668 | 1,059,269.2285m | 299,555.4629m | 1+667.00 |
| 1669 | 1,059,268.2901m | 299,555.8086m | 1+668.00 |
| 1670 | 1,059,267.3518m | 299,556.1543m | 1+669.00 |
| 1671 | 1,059,266.4134m | 299,556.4999m | 1+670.00 |
| 1672 | 1,059,265.4751m | 299,556.8456m | 1+671.00 |
| 1673 | 1,059,264.5367m | 299,557.1913m | 1+672.00 |
| 1674 | 1,059,263.5984m | 299,557.5369m | 1+673.00 |
| 1675 | 1,059,262.6600m | 299,557.8826m | 1+674.00 |
| 1676 | 1,059,261.7216m | 299,558.2283m | 1+675.00 |
| 1677 | 1,059,260.7833m | 299,558.5739m | 1+676.00 |
| 1678 | 1,059,259.8449m | 299,558.9196m | 1+677.00 |
| 1679 | 1,059,258.9066m | 299,559.2653m | 1+678.00 |
| 1680 | 1,059,257.9682m | 299,559.6109m | 1+679.00 |
| 1681 | 1,059,257.0299m | 299,559.9566m | 1+680.00 |
| 1682 | 1,059,256.0915m | 299,560.3023m | 1+681.00 |
| 1683 | 1,059,255.1531m | 299,560.6479m | 1+682.00 |
| 1684 | 1,059,254.2148m | 299,560.9936m | 1+683.00 |
| 1685 | 1,059,253.2764m | 299,561.3393m | 1+684.00 |
| 1686 | 1,059,252.3381m | 299,561.6849m | 1+685.00 |
| 1687 | 1,059,251.3997m | 299,562.0306m | 1+686.00 |
| 1688 | 1,059,250.4614m | 299,562.3762m | 1+687.00 |
| 1689 | 1,059,249.5230m | 299,562.7219m | 1+688.00 |
| 1690 | 1,059,248.5846m | 299,563.0676m | 1+689.00 |
| 1691 | 1,059,247.6463m | 299,563.4132m | 1+690.00 |
| 1692 | 1,059,246.7079m | 299,563.7589m | 1+691.00 |
| 1693 | 1,059,245.7696m | 299,564.1046m | 1+692.00 |
| 1694 | 1,059,244.8312m | 299,564.4502m | 1+693.00 |
| 1695 | 1,059,243.8928m | 299,564.7959m | 1+694.00 |
| 1696 | 1,059,242.9545m | 299,565.1416m | 1+695.00 |
| 1697 | 1,059,242.0161m | 299,565.4872m | 1+696.00 |
| 1698 | 1,059,241.0778m | 299,565.8329m | 1+697.00 |
| 1699 | 1,059,240.1394m | 299,566.1786m | 1+698.00 |
| 1700 | 1,059,239.2011m | 299,566.5242m | 1+699.00 |
| 1701 | 1,059,238.2627m | 299,566.8699m | 1+700.00 |
| 1702 | 1,059,237.3243m | 299,567.2156m | 1+701.00 |
| 1703 | 1,059,236.3860m | 299,567.5612m | 1+702.00 |
| 1704 | 1,059,235.4476m | 299,567.9069m | 1+703.00 |
| 1705 | 1,059,234.5093m | 299,568.2526m | 1+704.00 |
| 1706 | 1,059,233.5709m | 299,568.5982m | 1+705.00 |
| 1707 | 1,059,232.6326m | 299,568.9439m | 1+706.00 |
| 1708 | 1,059,231.6942m | 299,569.2896m | 1+707.00 |
| 1709 | 1,059,230.7558m | 299,569.6352m | 1+708.00 |
| 1710 | 1,059,229.8175m | 299,569.9809m | 1+709.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1711 | 1,059,228.8791m | 299,570.3266m | 1+710.00 |
| 1712 | 1,059,227.9408m | 299,570.6722m | 1+711.00 |
| 1713 | 1,059,227.0024m | 299,571.0179m | 1+712.00 |
| 1714 | 1,059,226.0640m | 299,571.3635m | 1+713.00 |
| 1715 | 1,059,225.1257m | 299,571.7092m | 1+714.00 |
| 1716 | 1,059,224.1873m | 299,572.0549m | 1+715.00 |
| 1717 | 1,059,223.2490m | 299,572.4005m | 1+716.00 |
| 1718 | 1,059,222.3106m | 299,572.7462m | 1+717.00 |
| 1719 | 1,059,221.3723m | 299,573.0919m | 1+718.00 |
| 1720 | 1,059,220.4339m | 299,573.4375m | 1+719.00 |
| 1721 | 1,059,219.4955m | 299,573.7832m | 1+720.00 |
| 1722 | 1,059,218.5572m | 299,574.1289m | 1+721.00 |
| 1723 | 1,059,217.6188m | 299,574.4745m | 1+722.00 |
| 1724 | 1,059,216.6805m | 299,574.8202m | 1+723.00 |
| 1725 | 1,059,215.7421m | 299,575.1659m | 1+724.00 |
| 1726 | 1,059,214.8038m | 299,575.5115m | 1+725.00 |
| 1727 | 1,059,213.8654m | 299,575.8572m | 1+726.00 |
| 1728 | 1,059,212.9270m | 299,576.2029m | 1+727.00 |
| 1729 | 1,059,211.9887m | 299,576.5485m | 1+728.00 |
| 1730 | 1,059,211.0503m | 299,576.8942m | 1+729.00 |
| 1731 | 1,059,210.1120m | 299,577.2399m | 1+730.00 |
| 1732 | 1,059,209.1736m | 299,577.5855m | 1+731.00 |
| 1733 | 1,059,208.2352m | 299,577.9312m | 1+732.00 |
| 1734 | 1,059,207.2969m | 299,578.2769m | 1+733.00 |
| 1735 | 1,059,206.3585m | 299,578.6225m | 1+734.00 |
| 1736 | 1,059,205.4202m | 299,578.9682m | 1+735.00 |
| 1737 | 1,059,204.4818m | 299,579.3139m | 1+736.00 |
| 1738 | 1,059,203.5435m | 299,579.6595m | 1+737.00 |
| 1739 | 1,059,202.6051m | 299,580.0052m | 1+738.00 |
| 1740 | 1,059,201.6667m | 299,580.3508m | 1+739.00 |
| 1741 | 1,059,200.7284m | 299,580.6965m | 1+740.00 |
| 1742 | 1,059,199.7900m | 299,581.0422m | 1+741.00 |
| 1743 | 1,059,198.8517m | 299,581.3878m | 1+742.00 |
| 1744 | 1,059,197.9133m | 299,581.7335m | 1+743.00 |
| 1745 | 1,059,196.9750m | 299,582.0792m | 1+744.00 |
| 1746 | 1,059,196.0366m | 299,582.4248m | 1+745.00 |
| 1747 | 1,059,195.0982m | 299,582.7705m | 1+746.00 |
| 1748 | 1,059,194.1599m | 299,583.1162m | 1+747.00 |
| 1749 | 1,059,193.2215m | 299,583.4618m | 1+748.00 |
| 1750 | 1,059,192.2832m | 299,583.8075m | 1+749.00 |
| 1751 | 1,059,191.3448m | 299,584.1532m | 1+750.00 |
| 1752 | 1,059,190.4064m | 299,584.4988m | 1+751.00 |
| 1753 | 1,059,189.4681m | 299,584.8445m | 1+752.00 |
| 1754 | 1,059,188.5297m | 299,585.1902m | 1+753.00 |
| 1755 | 1,059,187.5914m | 299,585.5358m | 1+754.00 |
| 1756 | 1,059,186.6530m | 299,585.8815m | 1+755.00 |
| 1757 | 1,059,185.7147m | 299,586.2272m | 1+756.00 |
| 1758 | 1,059,184.7763m | 299,586.5728m | 1+757.00 |
| 1759 | 1,059,183.8379m | 299,586.9185m | 1+758.00 |
| 1760 | 1,059,182.8996m | 299,587.2642m | 1+759.00 |
| 1761 | 1,059,181.9612m | 299,587.6098m | 1+760.00 |
| 1762 | 1,059,181.0229m | 299,587.9555m | 1+761.00 |
| 1763 | 1,059,180.0845m | 299,588.3012m | 1+762.00 |
| 1764 | 1,059,179.1462m | 299,588.6468m | 1+763.00 |
| 1765 | 1,059,178.2078m | 299,588.9925m | 1+764.00 |
| 1766 | 1,059,177.2694m | 299,589.3381m | 1+765.00 |
| 1767 | 1,059,176.3311m | 299,589.6838m | 1+766.00 |
| 1768 | 1,059,175.3927m | 299,590.0295m | 1+767.00 |
| 1769 | 1,059,174.4544m | 299,590.3751m | 1+768.00 |
| 1770 | 1,059,173.5160m | 299,590.7208m | 1+769.00 |
| 1771 | 1,059,172.5776m | 299,591.0665m | 1+770.00 |
| 1772 | 1,059,171.6393m | 299,591.4121m | 1+771.00 |
| 1773 | 1,059,170.7009m | 299,591.7578m | 1+772.00 |
| 1774 | 1,059,169.7626m | 299,592.1035m | 1+773.00 |
| 1775 | 1,059,168.8242m | 299,592.4491m | 1+774.00 |
| 1776 | 1,059,167.8859m | 299,592.7948m | 1+775.00 |
| 1777 | 1,059,166.9475m | 299,593.1405m | 1+776.00 |
| 1778 | 1,059,166.0091m | 299,593.4861m | 1+777.00 |
| 1779 | 1,059,165.0708m | 299,593.8318m | 1+778.00 |
| 1780 | 1,059,164.1324m | 299,594.1775m | 1+779.00 |
| 1781 | 1,059,163.1941m | 299,594.5231m | 1+780.00 |
| 1782 | 1,059,162.2557m | 299,594.8688m | 1+781.00 |
| 1783 | 1,059,161.3174m | 299,595.2145m | 1+782.00 |
| 1784 | 1,059,160.3790m | 299,595.5601m | 1+783.00 |
| 1785 | 1,059,159.4406m | 299,595.9058m | 1+784.00 |
| 1786 | 1,059,158.5023m | 299,596.2515m | 1+785.00 |
| 1787 | 1,059,157.5639m | 299,596.5971m | 1+786.00 |
| 1788 | 1,059,156.6256m | 299,596.9428m | 1+787.00 |
| 1789 | 1,059,155.6872m | 299,597.2885m | 1+788.00 |
| 1790 | 1,059,154.7489m | 299,597.6341m | 1+789.00 |
| 1791 | 1,059,153.8105m | 299,597.9798m | 1+790.00 |
| 1792 | 1,059,152.8721m | 299,598.3254m | 1+791.00 |
| 1793 | 1,059,151.9338m | 299,598.6711m | 1+792.00 |
| 1794 | 1,059,150.9954m | 299,599.0168m | 1+793.00 |
| 1795 | 1,059,150.0571m | 299,599.3624m | 1+794.00 |
| 1796 | 1,059,149.1187m | 299,599.7081m | 1+795.00 |
| 1797 | 1,059,148.1803m | 299,600.0538m | 1+796.00 |
| 1798 | 1,059,147.2420m | 299,600.3994m | 1+797.00 |
| 1799 | 1,059,146.3036m | 299,600.7451m | 1+798.00 |
| 1800 | 1,059,145.3653m | 299,601.0908m | 1+799.00 |
| 1801 | 1,059,144.4269m | 299,601.4364m | 1+800.00 |
| 1802 | 1,059,143.4886m | 299,601.7821m | 1+801.00 |
| 1803 | 1,059,142.5502m | 299,602.1278m | 1+802.00 |
| 1804 | 1,059,141.6118m | 299,602.4734m | 1+803.00 |
| 1805 | 1,059,140.6735m | 299,602.8191m | 1+804.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1806 | 1,059,139.7351m | 299,603.1648m | 1+805.00 |
| 1807 | 1,059,138.7968m | 299,603.5104m | 1+806.00 |
| 1808 | 1,059,137.8584m | 299,603.8561m | 1+807.00 |
| 1809 | 1,059,136.9201m | 299,604.2018m | 1+808.00 |
| 1810 | 1,059,135.9817m | 299,604.5474m | 1+809.00 |
| 1811 | 1,059,135.0433m | 299,604.8931m | 1+810.00 |
| 1812 | 1,059,134.1050m | 299,605.2388m | 1+811.00 |
| 1813 | 1,059,133.1666m | 299,605.5844m | 1+812.00 |
| 1814 | 1,059,132.2283m | 299,605.9301m | 1+813.00 |
| 1815 | 1,059,131.2899m | 299,606.2758m | 1+814.00 |
| 1816 | 1,059,130.3515m | 299,606.6214m | 1+815.00 |
| 1817 | 1,059,129.4132m | 299,606.9671m | 1+816.00 |
| 1818 | 1,059,128.4748m | 299,607.3127m | 1+817.00 |
| 1819 | 1,059,127.5365m | 299,607.6584m | 1+818.00 |
| 1820 | 1,059,126.5981m | 299,608.0041m | 1+819.00 |
| 1821 | 1,059,125.6598m | 299,608.3497m | 1+820.00 |
| 1822 | 1,059,124.7214m | 299,608.6954m | 1+821.00 |
| 1823 | 1,059,123.7830m | 299,609.0411m | 1+822.00 |
| 1824 | 1,059,122.8447m | 299,609.3867m | 1+823.00 |
| 1825 | 1,059,121.9063m | 299,609.7324m | 1+824.00 |
| 1826 | 1,059,120.9680m | 299,610.0781m | 1+825.00 |
| 1827 | 1,059,120.0296m | 299,610.4237m | 1+826.00 |
| 1828 | 1,059,119.0913m | 299,610.7694m | 1+827.00 |
| 1829 | 1,059,118.1529m | 299,611.1151m | 1+828.00 |
| 1830 | 1,059,117.2145m | 299,611.4607m | 1+829.00 |
| 1831 | 1,059,116.2762m | 299,611.8064m | 1+830.00 |
| 1832 | 1,059,115.3378m | 299,612.1521m | 1+831.00 |
| 1833 | 1,059,114.3995m | 299,612.4977m | 1+832.00 |
| 1834 | 1,059,113.4611m | 299,612.8434m | 1+833.00 |
| 1835 | 1,059,112.5227m | 299,613.1891m | 1+834.00 |
| 1836 | 1,059,111.5844m | 299,613.5347m | 1+835.00 |
| 1837 | 1,059,110.6460m | 299,613.8804m | 1+836.00 |
| 1838 | 1,059,109.7077m | 299,614.2261m | 1+837.00 |
| 1839 | 1,059,108.7693m | 299,614.5717m | 1+838.00 |
| 1840 | 1,059,107.8311m | 299,614.9177m | 1+839.00 |
| 1841 | 1,059,106.8931m | 299,615.2645m | 1+840.00 |
| 1842 | 1,059,105.9555m | 299,615.6123m | 1+841.00 |
| 1843 | 1,059,105.0183m | 299,615.9610m | 1+842.00 |
| 1844 | 1,059,104.0814m | 299,616.3106m | 1+843.00 |
| 1845 | 1,059,103.1449m | 299,616.6611m | 1+844.00 |
| 1846 | 1,059,102.2087m | 299,617.0126m | 1+845.00 |
| 1847 | 1,059,101.2729m | 299,617.3650m | 1+846.00 |
| 1848 | 1,059,100.3374m | 299,617.7184m | 1+847.00 |
| 1849 | 1,059,099.4022m | 299,618.0727m | 1+848.00 |
| 1850 | 1,059,098.4674m | 299,618.4279m | 1+849.00 |
| 1851 | 1,059,097.5330m | 299,618.7840m | 1+850.00 |
| 1852 | 1,059,096.5989m | 299,619.1411m | 1+851.00 |
| 1853 | 1,059,095.6652m | 299,619.4991m | 1+852.00 |
| 1854 | 1,059,094.7318m | 299,619.8580m | 1+853.00 |
| 1855 | 1,059,093.7988m | 299,620.2178m | 1+854.00 |
| 1856 | 1,059,092.8662m | 299,620.5786m | 1+855.00 |
| 1857 | 1,059,091.9339m | 299,620.9403m | 1+856.00 |
| 1858 | 1,059,091.0019m | 299,621.3030m | 1+857.00 |
| 1859 | 1,059,090.0704m | 299,621.6665m | 1+858.00 |
| 1860 | 1,059,089.1392m | 299,622.0310m | 1+859.00 |
| 1861 | 1,059,088.2083m | 299,622.3964m | 1+860.00 |
| 1862 | 1,059,087.2778m | 299,622.7627m | 1+861.00 |
| 1863 | 1,059,086.3477m | 299,623.1300m | 1+862.00 |
| 1864 | 1,059,085.4179m | 299,623.4981m | 1+863.00 |
| 1865 | 1,059,084.4886m | 299,623.8672m | 1+864.00 |
| 1866 | 1,059,083.5595m | 299,624.2373m | 1+865.00 |
| 1867 | 1,059,082.6309m | 299,624.6082m | 1+866.00 |
| 1868 | 1,059,081.7026m | 299,624.9801m | 1+867.00 |
| 1869 | 1,059,080.7747m | 299,625.3529m | 1+868.00 |
| 1870 | 1,059,079.8471m | 299,625.7266m | 1+869.00 |
| 1871 | 1,059,078.9200m | 299,626.1012m | 1+870.00 |
| 1872 | 1,059,077.9932m | 299,626.4768m | 1+871.00 |
| 1873 | 1,059,077.0667m | 299,626.8533m | 1+872.00 |
| 1874 | 1,059,076.1407m | 299,627.2307m | 1+873.00 |
| 1875 | 1,059,075.2150m | 299,627.6090m | 1+874.00 |
| 1876 | 1,059,074.2897m | 299,627.9882m | 1+875.00 |
| 1877 | 1,059,073.3648m | 299,628.3684m | 1+876.00 |
| 1878 | 1,059,072.4402m | 299,628.7494m | 1+877.00 |
| 1879 | 1,059,071.5161m | 299,629.1314m | 1+878.00 |
| 1880 | 1,059,070.5923m | 299,629.5143m | 1+879.00 |
| 1881 | 1,059,069.6689m | 299,629.8982m | 1+880.00 |
| 1882 | 1,059,068.7459m | 299,630.2829m | 1+881.00 |
| 1883 | 1,059,067.8232m | 299,630.6686m | 1+882.00 |
| 1884 | 1,059,066.9010m | 299,631.0552m | 1+883.00 |
| 1885 | 1,059,065.9791m | 299,631.4427m | 1+884.00 |
| 1886 | 1,059,065.0576m | 299,631.8311m | 1+885.00 |
| 1887 | 1,059,064.1365m | 299,632.2204m | 1+886.00 |
| 1888 | 1,059,063.2158m | 299,632.6106m | 1+887.00 |
| 1889 | 1,059,062.2955m | 299,633.0018m | 1+888.00 |
| 1890 | 1,059,061.3755m | 299,633.3939m | 1+889.00 |
| 1891 | 1,059,060.4560m | 299,633.7869m | 1+890.00 |
| 1892 | 1,059,059.5368m | 299,634.1808m | 1+891.00 |
| 1893 | 1,059,058.6181m | 299,634.5756m | 1+892.00 |
| 1894 | 1,059,057.6997m | 299,634.9713m | 1+893.00 |
| 1895 | 1,059,056.7817m | 299,635.3679m | 1+894.00 |
| 1896 | 1,059,055.8642m | 299,635.7655m | 1+895.00 |
| 1897 | 1,059,054.9470m | 299,636.1639m | 1+896.00 |
| 1898 | 1,059,054.0302m | 299,636.5633m | 1+897.00 |
| 1899 | 1,059,053.1138m | 299,636.9636m | 1+898.00 |
| 1900 | 1,059,052.1978m | 299,637.3648m | 1+899.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1901 | 1,059,051.2822m | 299,637.7669m | 1+900.00 |
| 1902 | 1,059,050.3670m | 299,638.1699m | 1+901.00 |
| 1903 | 1,059,049.4522m | 299,638.5738m | 1+902.00 |
| 1904 | 1,059,048.5378m | 299,638.9787m | 1+903.00 |
| 1905 | 1,059,047.6238m | 299,639.3844m | 1+904.00 |
| 1906 | 1,059,046.7102m | 299,639.7910m | 1+905.00 |
| 1907 | 1,059,045.7971m | 299,640.1986m | 1+906.00 |
| 1908 | 1,059,044.8843m | 299,640.6071m | 1+907.00 |
| 1909 | 1,059,043.9719m | 299,641.0164m | 1+908.00 |
| 1910 | 1,059,043.0600m | 299,641.4267m | 1+909.00 |
| 1911 | 1,059,042.1484m | 299,641.8379m | 1+910.00 |
| 1912 | 1,059,041.2373m | 299,642.2500m | 1+911.00 |
| 1913 | 1,059,040.3265m | 299,642.6630m | 1+912.00 |
| 1914 | 1,059,039.4162m | 299,643.0769m | 1+913.00 |
| 1915 | 1,059,038.5063m | 299,643.4917m | 1+914.00 |
| 1916 | 1,059,037.5968m | 299,643.9074m | 1+915.00 |
| 1917 | 1,059,036.6877m | 299,644.3240m | 1+916.00 |
| 1918 | 1,059,035.7790m | 299,644.7415m | 1+917.00 |
| 1919 | 1,059,034.8708m | 299,645.1599m | 1+918.00 |
| 1920 | 1,059,033.9629m | 299,645.5792m | 1+919.00 |
| 1921 | 1,059,033.0555m | 299,645.9994m | 1+920.00 |
| 1922 | 1,059,032.1485m | 299,646.4205m | 1+921.00 |
| 1923 | 1,059,031.2419m | 299,646.8426m | 1+922.00 |
| 1924 | 1,059,030.3358m | 299,647.2655m | 1+923.00 |
| 1925 | 1,059,029.4300m | 299,647.6893m | 1+924.00 |
| 1926 | 1,059,028.5247m | 299,648.1140m | 1+925.00 |
| 1927 | 1,059,027.6198m | 299,648.5396m | 1+926.00 |
| 1928 | 1,059,026.7153m | 299,648.9662m | 1+927.00 |
| 1929 | 1,059,025.8112m | 299,649.3936m | 1+928.00 |
| 1930 | 1,059,024.9076m | 299,649.8219m | 1+929.00 |
| 1931 | 1,059,024.0044m | 299,650.2511m | 1+930.00 |
| 1932 | 1,059,023.1016m | 299,650.6812m | 1+931.00 |
| 1933 | 1,059,022.1993m | 299,651.1122m | 1+932.00 |
| 1934 | 1,059,021.2974m | 299,651.5441m | 1+933.00 |
| 1935 | 1,059,020.3959m | 299,651.9769m | 1+934.00 |
| 1936 | 1,059,019.4948m | 299,652.4106m | 1+935.00 |
| 1937 | 1,059,018.5942m | 299,652.8452m | 1+936.00 |
| 1938 | 1,059,017.6940m | 299,653.2807m | 1+937.00 |
| 1939 | 1,059,016.7942m | 299,653.7171m | 1+938.00 |
| 1940 | 1,059,015.8949m | 299,654.1544m | 1+939.00 |
| 1941 | 1,059,014.9960m | 299,654.5925m | 1+940.00 |
| 1942 | 1,059,014.0976m | 299,655.0316m | 1+941.00 |
| 1943 | 1,059,013.1995m | 299,655.4715m | 1+942.00 |
| 1944 | 1,059,012.3019m | 299,655.9124m | 1+943.00 |
| 1945 | 1,059,011.4048m | 299,656.3541m | 1+944.00 |
| 1946 | 1,059,010.5081m | 299,656.7967m | 1+945.00 |
| 1947 | 1,059,009.6118m | 299,657.2403m | 1+946.00 |
| 1948 | 1,059,008.7160m | 299,657.6847m | 1+947.00 |
| 1949 | 1,059,007.8206m | 299,658.1300m | 1+948.00 |
| 1950 | 1,059,006.9257m | 299,658.5762m | 1+949.00 |
| 1951 | 1,059,006.0312m | 299,659.0232m | 1+950.00 |
| 1952 | 1,059,005.1371m | 299,659.4712m | 1+951.00 |
| 1953 | 1,059,004.2435m | 299,659.9200m | 1+952.00 |
| 1954 | 1,059,003.3504m | 299,660.3698m | 1+953.00 |
| 1955 | 1,059,002.4577m | 299,660.8204m | 1+954.00 |
| 1956 | 1,059,001.5654m | 299,661.2719m | 1+955.00 |
| 1957 | 1,059,000.6736m | 299,661.7243m | 1+956.00 |
| 1958 | 1,058,999.7822m | 299,662.1776m | 1+957.00 |
| 1959 | 1,058,998.8913m | 299,662.6318m | 1+958.00 |
| 1960 | 1,058,998.0008m | 299,663.0868m | 1+959.00 |
| 1961 | 1,058,997.1108m | 299,663.5428m | 1+960.00 |
| 1962 | 1,058,996.2213m | 299,663.9996m | 1+961.00 |
| 1963 | 1,058,995.3322m | 299,664.4573m | 1+962.00 |
| 1964 | 1,058,994.4435m | 299,664.9159m | 1+963.00 |
| 1965 | 1,058,993.5553m | 299,665.3754m | 1+964.00 |
| 1966 | 1,058,992.6676m | 299,665.8358m | 1+965.00 |
| 1967 | 1,058,991.7803m | 299,666.2970m | 1+966.00 |
| 1968 | 1,058,990.8935m | 299,666.7591m | 1+967.00 |
| 1969 | 1,058,990.0072m | 299,667.2221m | 1+968.00 |
| 1970 | 1,058,989.1213m | 299,667.6860m | 1+969.00 |
| 1971 | 1,058,988.2358m | 299,668.1508m | 1+970.00 |
| 1972 | 1,058,987.3509m | 299,668.6164m | 1+971.00 |
| 1973 | 1,058,986.4663m | 299,669.0829m | 1+972.00 |
| 1974 | 1,058,985.5823m | 299,669.5503m | 1+973.00 |
| 1975 | 1,058,984.6987m | 299,670.0186m | 1+974.00 |
| 1976 | 1,058,983.8156m | 299,670.4878m | 1+975.00 |
| 1977 | 1,058,982.9330m | 299,670.9578m | 1+976.00 |
| 1978 | 1,058,982.0508m | 299,671.4287m | 1+977.00 |
| 1979 | 1,058,981.1691m | 299,671.9005m | 1+978.00 |
| 1980 | 1,058,980.2878m | 299,672.3732m | 1+979.00 |
| 1981 | 1,058,979.4070m | 299,672.8467m | 1+980.00 |
| 1982 | 1,058,978.5267m | 299,673.3211m | 1+981.00 |
| 1983 | 1,058,977.6469m | 299,673.7964m | 1+982.00 |
| 1984 | 1,058,976.7676m | 299,674.2726m | 1+983.00 |
| 1985 | 1,058,975.8887m | 299,674.7496m | 1+984.00 |
| 1986 | 1,058,975.0103m | 299,675.2275m | 1+985.00 |
| 1987 | 1,058,974.1323m | 299,675.7063m | 1+986.00 |
| 1988 | 1,058,973.2549m | 299,676.1859m | 1+987.00 |
| 1989 | 1,058,972.3779m | 299,676.6665m | 1+988.00 |
| 1990 | 1,058,971.5014m | 299,677.1479m | 1+989.00 |
| 1991 | 1,058,970.6254m | 299,677.6301m | 1+990.00 |
| 1992 | 1,058,969.7498m | 299,678.1133m | 1+991.00 |
| 1993 | 1,058,968.8748m | 299,678.5973m | 1+992.00 |
| 1994 | 1,058,968.0002m | 299,679.0821m | 1+993.00 |
| 1995 | 1,058,967.1261m | 299,679.5679m | 1+994.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1996 | 1,058,966.2524m | 299,680.0545m | 1+995.00 |
| 1997 | 1,058,965.3793m | 299,680.5420m | 1+996.00 |
| 1998 | 1,058,964.5067m | 299,681.0303m | 1+997.00 |
| 1999 | 1,058,963.6345m | 299,681.5195m | 1+998.00 |
| 2000 | 1,058,962.7628m | 299,682.0096m | 1+999.00 |
| 2001 | 1,058,961.8916m | 299,682.5006m | 2+000.00 |
| 2002 | 1,058,961.0209m | 299,682.9924m | 2+001.00 |
| 2003 | 1,058,960.1507m | 299,683.4851m | 2+002.00 |
| 2004 | 1,058,959.2810m | 299,683.9786m | 2+003.00 |
| 2005 | 1,058,958.4118m | 299,684.4730m | 2+004.00 |
| 2006 | 1,058,957.5430m | 299,684.9683m | 2+005.00 |
| 2007 | 1,058,956.6748m | 299,685.4644m | 2+006.00 |
| 2008 | 1,058,955.8070m | 299,685.9614m | 2+007.00 |
| 2009 | 1,058,954.9398m | 299,686.4593m | 2+008.00 |
| 2010 | 1,058,954.0730m | 299,686.9580m | 2+009.00 |
| 2011 | 1,058,953.2067m | 299,687.4576m | 2+010.00 |
| 2012 | 1,058,952.3410m | 299,687.9580m | 2+011.00 |
| 2013 | 1,058,951.4757m | 299,688.4593m | 2+012.00 |
| 2014 | 1,058,950.6109m | 299,688.9615m | 2+013.00 |
| 2015 | 1,058,949.7466m | 299,689.4645m | 2+014.00 |
| 2016 | 1,058,948.8829m | 299,689.9684m | 2+015.00 |
| 2017 | 1,058,948.0196m | 299,690.4731m | 2+016.00 |
| 2018 | 1,058,947.1568m | 299,690.9787m | 2+017.00 |
| 2019 | 1,058,946.2945m | 299,691.4851m | 2+018.00 |
| 2020 | 1,058,945.4328m | 299,691.9924m | 2+019.00 |
| 2021 | 1,058,944.5715m | 299,692.5006m | 2+020.00 |
| 2022 | 1,058,943.7108m | 299,693.0096m | 2+021.00 |
| 2023 | 1,058,942.8505m | 299,693.5195m | 2+022.00 |
| 2024 | 1,058,941.9908m | 299,694.0302m | 2+023.00 |
| 2025 | 1,058,941.1315m | 299,694.5418m | 2+024.00 |
| 2026 | 1,058,940.2728m | 299,695.0542m | 2+025.00 |
| 2027 | 1,058,939.4146m | 299,695.5675m | 2+026.00 |
| 2028 | 1,058,938.5569m | 299,696.0817m | 2+027.00 |
| 2029 | 1,058,937.6997m | 299,696.5966m | 2+028.00 |
| 2030 | 1,058,936.8430m | 299,697.1125m | 2+029.00 |
| 2031 | 1,058,935.9868m | 299,697.6292m | 2+030.00 |
| 2032 | 1,058,935.1312m | 299,698.1467m | 2+031.00 |
| 2033 | 1,058,934.2760m | 299,698.6651m | 2+032.00 |
| 2034 | 1,058,933.4214m | 299,699.1844m | 2+033.00 |
| 2035 | 1,058,932.5673m | 299,699.7045m | 2+034.00 |
| 2036 | 1,058,931.7137m | 299,700.2254m | 2+035.00 |
| 2037 | 1,058,930.8606m | 299,700.7472m | 2+036.00 |
| 2038 | 1,058,930.0081m | 299,701.2698m | 2+037.00 |
| 2039 | 1,058,929.1561m | 299,701.7933m | 2+038.00 |
| 2040 | 1,058,928.3045m | 299,702.3176m | 2+039.00 |
| 2041 | 1,058,927.4535m | 299,702.8428m | 2+040.00 |
| 2042 | 1,058,926.6031m | 299,703.3688m | 2+041.00 |
| 2043 | 1,058,925.7530m | 299,703.8955m | 2+042.00 |
| 2044 | 1,058,924.9029m | 299,704.4221m | 2+043.00 |
| 2045 | 1,058,924.0528m | 299,704.9487m | 2+044.00 |
| 2046 | 1,058,923.2027m | 299,705.4754m | 2+045.00 |
| 2047 | 1,058,922.3526m | 299,706.0020m | 2+046.00 |
| 2048 | 1,058,921.5025m | 299,706.5287m | 2+047.00 |
| 2049 | 1,058,920.6524m | 299,707.0553m | 2+048.00 |
| 2050 | 1,058,919.8023m | 299,707.5819m | 2+049.00 |
| 2051 | 1,058,918.9523m | 299,708.1086m | 2+050.00 |
| 2052 | 1,058,918.1022m | 299,708.6352m | 2+051.00 |
| 2053 | 1,058,917.2521m | 299,709.1618m | 2+052.00 |
| 2054 | 1,058,916.4020m | 299,709.6885m | 2+053.00 |
| 2055 | 1,058,915.5519m | 299,710.2151m | 2+054.00 |
| 2056 | 1,058,914.7018m | 299,710.7418m | 2+055.00 |
| 2057 | 1,058,913.8517m | 299,711.2684m | 2+056.00 |
| 2058 | 1,058,913.0016m | 299,711.7950m | 2+057.00 |
| 2059 | 1,058,912.1515m | 299,712.3217m | 2+058.00 |
| 2060 | 1,058,911.3015m | 299,712.8483m | 2+059.00 |
| 2061 | 1,058,910.4514m | 299,713.3750m | 2+060.00 |
| 2062 | 1,058,909.6013m | 299,713.9016m | 2+061.00 |
| 2063 | 1,058,908.7512m | 299,714.4282m | 2+062.00 |
| 2064 | 1,058,907.9011m | 299,714.9549m | 2+063.00 |
| 2065 | 1,058,907.0510m | 299,715.4815m | 2+064.00 |
| 2066 | 1,058,906.2009m | 299,716.0082m | 2+065.00 |
| 2067 | 1,058,905.3508m | 299,716.5348m | 2+066.00 |
| 2068 | 1,058,904.5007m | 299,717.0614m | 2+067.00 |
| 2069 | 1,058,903.6506m | 299,717.5881m | 2+068.00 |
| 2070 | 1,058,902.8006m | 299,718.1147m | 2+069.00 |
| 2071 | 1,058,901.9505m | 299,718.6413m | 2+070.00 |
| 2072 | 1,058,901.1004m | 299,719.1680m | 2+071.00 |
| 2073 | 1,058,900.2503m | 299,719.6946m | 2+072.00 |
| 2074 | 1,058,899.4002m | 299,720.2213m | 2+073.00 |
| 2075 | 1,058,898.5501m | 299,720.7479m | 2+074.00 |
| 2076 | 1,058,897.7000m | 299,721.2745m | 2+075.00 |
| 2077 | 1,058,896.8499m | 299,721.8012m | 2+076.00 |
| 2078 | 1,058,895.9998m | 299,722.3278m | 2+077.00 |
| 2079 | 1,058,895.1498m | 299,722.8545m | 2+078.00 |
| 2080 | 1,058,894.2997m | 299,723.3811m | 2+079.00 |
| 2081 | 1,058,893.4496m | 299,723.9077m | 2+080.00 |
| 2082 | 1,058,892.5995m | 299,724.4344m | 2+081.00 |
| 2083 | 1,058,891.7494m | 299,724.9610m | 2+082.00 |
| 2084 | 1,058,890.8993m | 299,725.4876m | 2+083.00 |
| 2085 | 1,058,890.0492m | 299,726.0143m | 2+084.00 |
| 2086 | 1,058,889.1991m | 299,726.5409m | 2+085.00 |
| 2087 | 1,058,888.3490m | 299,727.0676m | 2+086.00 |
| 2088 | 1,058,887.4990m | 299,727.5942m | 2+087.00 |
| 2089 | 1,058,886.6489m | 299,728.1208m | 2+088.00 |
| 2090 | 1,058,885.7988m | 299,728.6475m | 2+089.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2091 | 1,058,884.9487m | 299,729.1741m | 2+090.00 |
| 2092 | 1,058,884.0986m | 299,729.7008m | 2+091.00 |
| 2093 | 1,058,883.2485m | 299,730.2274m | 2+092.00 |
| 2094 | 1,058,882.3984m | 299,730.7540m | 2+093.00 |
| 2095 | 1,058,881.5483m | 299,731.2807m | 2+094.00 |
| 2096 | 1,058,880.6982m | 299,731.8073m | 2+095.00 |
| 2097 | 1,058,879.8482m | 299,732.3340m | 2+096.00 |
| 2098 | 1,058,878.9981m | 299,732.8606m | 2+097.00 |
| 2099 | 1,058,878.1480m | 299,733.3872m | 2+098.00 |
| 2100 | 1,058,877.2979m | 299,733.9139m | 2+099.00 |
| 2101 | 1,058,876.4478m | 299,734.4405m | 2+100.00 |
| 2102 | 1,058,875.5977m | 299,734.9671m | 2+101.00 |
| 2103 | 1,058,874.7476m | 299,735.4938m | 2+102.00 |
| 2104 | 1,058,873.8975m | 299,736.0204m | 2+103.00 |
| 2105 | 1,058,873.0474m | 299,736.5471m | 2+104.00 |
| 2106 | 1,058,872.1974m | 299,737.0737m | 2+105.00 |
| 2107 | 1,058,871.3473m | 299,737.6003m | 2+106.00 |
| 2108 | 1,058,870.4972m | 299,738.1270m | 2+107.00 |
| 2109 | 1,058,869.6471m | 299,738.6536m | 2+108.00 |
| 2110 | 1,058,868.7970m | 299,739.1803m | 2+109.00 |
| 2111 | 1,058,867.9469m | 299,739.7069m | 2+110.00 |
| 2112 | 1,058,867.0968m | 299,740.2335m | 2+111.00 |
| 2113 | 1,058,866.2467m | 299,740.7602m | 2+112.00 |
| 2114 | 1,058,865.3966m | 299,741.2868m | 2+113.00 |
| 2115 | 1,058,864.5465m | 299,741.8135m | 2+114.00 |
| 2116 | 1,058,863.6965m | 299,742.3401m | 2+115.00 |
| 2117 | 1,058,862.8464m | 299,742.8667m | 2+116.00 |
| 2118 | 1,058,861.9963m | 299,743.3934m | 2+117.00 |
| 2119 | 1,058,861.1462m | 299,743.9200m | 2+118.00 |
| 2120 | 1,058,860.2961m | 299,744.4466m | 2+119.00 |
| 2121 | 1,058,859.4460m | 299,744.9733m | 2+120.00 |
| 2122 | 1,058,858.5959m | 299,745.4999m | 2+121.00 |
| 2123 | 1,058,857.7458m | 299,746.0266m | 2+122.00 |
| 2124 | 1,058,856.8957m | 299,746.5532m | 2+123.00 |
| 2125 | 1,058,856.0457m | 299,747.0798m | 2+124.00 |
| 2126 | 1,058,855.1956m | 299,747.6065m | 2+125.00 |
| 2127 | 1,058,854.3455m | 299,748.1331m | 2+126.00 |
| 2128 | 1,058,853.4954m | 299,748.6598m | 2+127.00 |
| 2129 | 1,058,852.6453m | 299,749.1864m | 2+128.00 |
| 2130 | 1,058,851.7952m | 299,749.7130m | 2+129.00 |
| 2131 | 1,058,850.9451m | 299,750.2397m | 2+130.00 |
| 2132 | 1,058,850.0950m | 299,750.7663m | 2+131.00 |
| 2133 | 1,058,849.2449m | 299,751.2929m | 2+132.00 |
| 2134 | 1,058,848.3949m | 299,751.8196m | 2+133.00 |
| 2135 | 1,058,847.5448m | 299,752.3462m | 2+134.00 |
| 2136 | 1,058,846.6947m | 299,752.8729m | 2+135.00 |
| 2137 | 1,058,845.8446m | 299,753.3995m | 2+136.00 |
| 2138 | 1,058,844.9945m | 299,753.9261m | 2+137.00 |
| 2139 | 1,058,844.1444m | 299,754.4528m | 2+138.00 |
| 2140 | 1,058,843.2943m | 299,754.9794m | 2+139.00 |
| 2141 | 1,058,842.4442m | 299,755.5061m | 2+140.00 |
| 2142 | 1,058,841.5941m | 299,756.0327m | 2+141.00 |
| 2143 | 1,058,840.7441m | 299,756.5593m | 2+142.00 |
| 2144 | 1,058,839.8940m | 299,757.0860m | 2+143.00 |
| 2145 | 1,058,839.0439m | 299,757.6126m | 2+144.00 |
| 2146 | 1,058,838.1938m | 299,758.1393m | 2+145.00 |
| 2147 | 1,058,837.3437m | 299,758.6659m | 2+146.00 |
| 2148 | 1,058,836.4936m | 299,759.1925m | 2+147.00 |
| 2149 | 1,058,835.6435m | 299,759.7192m | 2+148.00 |
| 2150 | 1,058,834.7934m | 299,760.2458m | 2+149.00 |
| 2151 | 1,058,833.9433m | 299,760.7724m | 2+150.00 |
| 2152 | 1,058,833.0932m | 299,761.2991m | 2+151.00 |
| 2153 | 1,058,832.2432m | 299,761.8257m | 2+152.00 |
| 2154 | 1,058,831.3931m | 299,762.3524m | 2+153.00 |
| 2155 | 1,058,830.5430m | 299,762.8790m | 2+154.00 |
| 2156 | 1,058,829.6929m | 299,763.4056m | 2+155.00 |
| 2157 | 1,058,828.8428m | 299,763.9323m | 2+156.00 |
| 2158 | 1,058,827.9927m | 299,764.4589m | 2+157.00 |
| 2159 | 1,058,827.1426m | 299,764.9856m | 2+158.00 |
| 2160 | 1,058,826.2925m | 299,765.5122m | 2+159.00 |
| 2161 | 1,058,825.4424m | 299,766.0388m | 2+160.00 |
| 2162 | 1,058,824.5924m | 299,766.5655m | 2+161.00 |
| 2163 | 1,058,823.7423m | 299,767.0921m | 2+162.00 |
| 2164 | 1,058,822.8922m | 299,767.6188m | 2+163.00 |
| 2165 | 1,058,822.0421m | 299,768.1454m | 2+164.00 |
| 2166 | 1,058,821.1920m | 299,768.6720m | 2+165.00 |
| 2167 | 1,058,820.3419m | 299,769.1987m | 2+166.00 |
| 2168 | 1,058,819.4918m | 299,769.7253m | 2+167.00 |
| 2169 | 1,058,818.6417m | 299,770.2519m | 2+168.00 |
| 2170 | 1,058,817.7916m | 299,770.7786m | 2+169.00 |
| 2171 | 1,058,816.9416m | 299,771.3052m | 2+170.00 |
| 2172 | 1,058,816.0915m | 299,771.8319m | 2+171.00 |
| 2173 | 1,058,815.2414m | 299,772.3585m | 2+172.00 |
| 2174 | 1,058,814.3913m | 299,772.8851m | 2+173.00 |
| 2175 | 1,058,813.5412m | 299,773.4118m | 2+174.00 |
| 2176 | 1,058,812.6911m | 299,773.9384m | 2+175.00 |
| 2177 | 1,058,811.8410m | 299,774.4651m | 2+176.00 |
| 2178 | 1,058,810.9909m | 299,774.9917m | 2+177.00 |
| 2179 | 1,058,810.1408m | 299,775.5183m | 2+178.00 |
| 2180 | 1,058,809.2908m | 299,776.0450m | 2+179.00 |
| 2181 | 1,058,808.4407m | 299,776.5716m | 2+180.00 |
| 2182 | 1,058,807.5906m | 299,777.0982m | 2+181.00 |
| 2183 | 1,058,806.7405m | 299,777.6249m | 2+182.00 |
| 2184 | 1,058,805.8892m | 299,778.1496m | 2+183.00 |
| 2185 | 1,058,805.0328m | 299,778.6658m | 2+184.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2186 | 1,058,804.1708m | 299,779.1729m | 2+185.00 |
| 2187 | 1,058,803.3035m | 299,779.6706m | 2+186.00 |
| 2188 | 1,058,802.4310m | 299,780.1591m | 2+187.00 |
| 2189 | 1,058,801.5532m | 299,780.6383m | 2+188.00 |
| 2190 | 1,058,800.6704m | 299,781.1080m | 2+189.00 |
| 2191 | 1,058,799.7827m | 299,781.5683m | 2+190.00 |
| 2192 | 1,058,798.8900m | 299,782.0190m | 2+191.00 |
| 2193 | 1,058,797.9926m | 299,782.4602m | 2+192.00 |
| 2194 | 1,058,797.0906m | 299,782.8918m | 2+193.00 |
| 2195 | 1,058,796.1839m | 299,783.3138m | 2+194.00 |
| 2196 | 1,058,795.2729m | 299,783.7260m | 2+195.00 |
| 2197 | 1,058,794.3574m | 299,784.1284m | 2+196.00 |
| 2198 | 1,058,793.4378m | 299,784.5211m | 2+197.00 |
| 2199 | 1,058,792.5139m | 299,784.9039m | 2+198.00 |
| 2200 | 1,058,791.5861m | 299,785.2768m | 2+199.00 |
| 2201 | 1,058,790.6543m | 299,785.6398m | 2+200.00 |
| 2202 | 1,058,789.7187m | 299,785.9928m | 2+201.00 |
| 2203 | 1,058,788.7793m | 299,786.3358m | 2+202.00 |
| 2204 | 1,058,787.8364m | 299,786.6688m | 2+203.00 |
| 2205 | 1,058,786.8899m | 299,786.9916m | 2+204.00 |
| 2206 | 1,058,785.9401m | 299,787.3043m | 2+205.00 |
| 2207 | 1,058,784.9870m | 299,787.6069m | 2+206.00 |
| 2208 | 1,058,784.0307m | 299,787.8992m | 2+207.00 |
| 2209 | 1,058,783.0713m | 299,788.1813m | 2+208.00 |
| 2210 | 1,058,782.1090m | 299,788.4532m | 2+209.00 |
| 2211 | 1,058,781.1438m | 299,788.7147m | 2+210.00 |
| 2212 | 1,058,780.1758m | 299,788.9660m | 2+211.00 |
| 2213 | 1,058,779.2053m | 299,789.2068m | 2+212.00 |
| 2214 | 1,058,778.2322m | 299,789.4373m | 2+213.00 |
| 2215 | 1,058,777.2568m | 299,789.6574m | 2+214.00 |
| 2216 | 1,058,776.2790m | 299,789.8671m | 2+215.00 |
| 2217 | 1,058,775.2990m | 299,790.0662m | 2+216.00 |
| 2218 | 1,058,774.3170m | 299,790.2549m | 2+217.00 |
| 2219 | 1,058,773.3330m | 299,790.4332m | 2+218.00 |
| 2220 | 1,058,772.3472m | 299,790.6008m | 2+219.00 |
| 2221 | 1,058,771.3596m | 299,790.7580m | 2+220.00 |
| 2222 | 1,058,770.3704m | 299,790.9046m | 2+221.00 |
| 2223 | 1,058,769.3797m | 299,791.0406m | 2+222.00 |
| 2224 | 1,058,768.3876m | 299,791.1660m | 2+223.00 |
| 2225 | 1,058,767.3942m | 299,791.2808m | 2+224.00 |
| 2226 | 1,058,766.3997m | 299,791.3850m | 2+225.00 |
| 2227 | 1,058,765.4041m | 299,791.4785m | 2+226.00 |
| 2228 | 1,058,764.4075m | 299,791.5614m | 2+227.00 |
| 2229 | 1,058,763.4101m | 299,791.6337m | 2+228.00 |
| 2230 | 1,058,762.4120m | 299,791.6953m | 2+229.00 |
| 2231 | 1,058,761.4133m | 299,791.7462m | 2+230.00 |
| 2232 | 1,058,760.4141m | 299,791.7865m | 2+231.00 |
| 2233 | 1,058,759.4146m | 299,791.8161m | 2+232.00 |
| 2234 | 1,058,758.4148m | 299,791.8350m | 2+233.00 |
| 2235 | 1,058,757.4148m | 299,791.8432m | 2+234.00 |
| 2236 | 1,058,756.4148m | 299,791.8408m | 2+235.00 |
| 2237 | 1,058,755.4149m | 299,791.8276m | 2+236.00 |
| 2238 | 1,058,754.4152m | 299,791.8038m | 2+237.00 |
| 2239 | 1,058,753.4158m | 299,791.7693m | 2+238.00 |
| 2240 | 1,058,752.4168m | 299,791.7241m | 2+239.00 |
| 2241 | 1,058,751.4184m | 299,791.6682m | 2+240.00 |
| 2242 | 1,058,750.4206m | 299,791.6017m | 2+241.00 |
| 2243 | 1,058,749.4236m | 299,791.5246m | 2+242.00 |
| 2244 | 1,058,748.4275m | 299,791.4367m | 2+243.00 |
| 2245 | 1,058,747.4323m | 299,791.3383m | 2+244.00 |
| 2246 | 1,058,746.4383m | 299,791.2292m | 2+245.00 |
| 2247 | 1,058,745.4455m | 299,791.1095m | 2+246.00 |
| 2248 | 1,058,744.4540m | 299,790.9792m | 2+247.00 |
| 2249 | 1,058,743.4640m | 299,790.8383m | 2+248.00 |
| 2250 | 1,058,742.4755m | 299,790.6869m | 2+249.00 |
| 2251 | 1,058,741.4888m | 299,790.5249m | 2+250.00 |
| 2252 | 1,058,740.5038m | 299,790.3524m | 2+251.00 |
| 2253 | 1,058,739.5207m | 299,790.1693m | 2+252.00 |
| 2254 | 1,058,738.5396m | 299,789.9758m | 2+253.00 |
| 2255 | 1,058,737.5606m | 299,789.7718m | 2+254.00 |
| 2256 | 1,058,736.5839m | 299,789.5573m | 2+255.00 |
| 2257 | 1,058,735.6095m | 299,789.3324m | 2+256.00 |
| 2258 | 1,058,734.6376m | 299,789.0972m | 2+257.00 |
| 2259 | 1,058,733.6682m | 299,788.8515m | 2+258.00 |
| 2260 | 1,058,732.7015m | 299,788.5955m | 2+259.00 |
| 2261 | 1,058,731.7377m | 299,788.3292m | 2+260.00 |
| 2262 | 1,058,730.7767m | 299,788.0526m | 2+261.00 |
| 2263 | 1,058,729.8187m | 299,787.7658m | 2+262.00 |
| 2264 | 1,058,728.8638m | 299,787.4688m | 2+263.00 |
| 2265 | 1,058,727.9122m | 299,787.1615m | 2+264.00 |
| 2266 | 1,058,726.9639m | 299,786.8441m | 2+265.00 |
| 2267 | 1,058,726.0191m | 299,786.5166m | 2+266.00 |
| 2268 | 1,058,725.0778m | 299,786.1791m | 2+267.00 |
| 2269 | 1,058,724.1401m | 299,785.8314m | 2+268.00 |
| 2270 | 1,058,723.2063m | 299,785.4738m | 2+269.00 |
| 2271 | 1,058,722.2763m | 299,785.1063m | 2+270.00 |
| 2272 | 1,058,721.3503m | 299,784.7288m | 2+271.00 |
| 2273 | 1,058,720.4283m | 299,784.3414m | 2+272.00 |
| 2274 | 1,058,719.5106m | 299,783.9443m | 2+273.00 |
| 2275 | 1,058,718.5972m | 299,783.5373m | 2+274.00 |
| 2276 | 1,058,717.6881m | 299,783.1206m | 2+275.00 |
| 2277 | 1,058,716.7836m | 299,782.6942m | 2+276.00 |
| 2278 | 1,058,715.8837m | 299,782.2582m | 2+277.00 |
| 2279 | 1,058,714.9884m | 299,781.8126m | 2+278.00 |
| 2280 | 1,058,714.0980m | 299,781.3574m | 2+279.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2281 | 1,058,713.2125m | 299,780.8928m | 2+280.00 |
| 2282 | 1,058,712.3321m | 299,780.4187m | 2+281.00 |
| 2283 | 1,058,711.4567m | 299,779.9353m | 2+282.00 |
| 2284 | 1,058,710.5865m | 299,779.4425m | 2+283.00 |
| 2285 | 1,058,709.7217m | 299,778.9404m | 2+284.00 |
| 2286 | 1,058,708.8623m | 299,778.4292m | 2+285.00 |
| 2287 | 1,058,708.0084m | 299,777.9088m | 2+286.00 |
| 2288 | 1,058,707.1601m | 299,777.3793m | 2+287.00 |
| 2289 | 1,058,706.3175m | 299,776.8407m | 2+288.00 |
| 2290 | 1,058,705.4807m | 299,776.2932m | 2+289.00 |
| 2291 | 1,058,704.6498m | 299,775.7368m | 2+290.00 |
| 2292 | 1,058,703.8249m | 299,775.1715m | 2+291.00 |
| 2293 | 1,058,703.0061m | 299,774.5975m | 2+292.00 |
| 2294 | 1,058,702.1934m | 299,774.0147m | 2+293.00 |
| 2295 | 1,058,701.3870m | 299,773.4233m | 2+294.00 |
| 2296 | 1,058,700.5869m | 299,772.8235m | 2+295.00 |
| 2297 | 1,058,699.7891m | 299,772.2206m | 2+296.00 |
| 2298 | 1,058,698.9912m | 299,771.6178m | 2+297.00 |
| 2299 | 1,058,698.1934m | 299,771.0150m | 2+298.00 |
| 2300 | 1,058,697.3955m | 299,770.4121m | 2+299.00 |
| 2301 | 1,058,696.5976m | 299,769.8093m | 2+300.00 |
| 2302 | 1,058,695.7998m | 299,769.2065m | 2+301.00 |
| 2303 | 1,058,695.0019m | 299,768.6036m | 2+302.00 |
| 2304 | 1,058,694.2040m | 299,768.0008m | 2+303.00 |
| 2305 | 1,058,693.4062m | 299,767.3980m | 2+304.00 |
| 2306 | 1,058,692.6083m | 299,766.7951m | 2+305.00 |
| 2307 | 1,058,691.8104m | 299,766.1923m | 2+306.00 |
| 2308 | 1,058,691.0126m | 299,765.5894m | 2+307.00 |
| 2309 | 1,058,690.2147m | 299,764.9866m | 2+308.00 |
| 2310 | 1,058,689.4168m | 299,764.3838m | 2+309.00 |
| 2311 | 1,058,688.6190m | 299,763.7809m | 2+310.00 |
| 2312 | 1,058,687.8211m | 299,763.1781m | 2+311.00 |
| 2313 | 1,058,687.0232m | 299,762.5753m | 2+312.00 |
| 2314 | 1,058,686.2254m | 299,761.9724m | 2+313.00 |
| 2315 | 1,058,685.4275m | 299,761.3696m | 2+314.00 |
| 2316 | 1,058,684.6296m | 299,760.7668m | 2+315.00 |
| 2317 | 1,058,683.8318m | 299,760.1639m | 2+316.00 |
| 2318 | 1,058,683.0339m | 299,759.5611m | 2+317.00 |
| 2319 | 1,058,682.2361m | 299,758.9582m | 2+318.00 |
| 2320 | 1,058,681.4382m | 299,758.3554m | 2+319.00 |
| 2321 | 1,058,680.6403m | 299,757.7526m | 2+320.00 |
| 2322 | 1,058,679.8425m | 299,757.1497m | 2+321.00 |
| 2323 | 1,058,679.0446m | 299,756.5469m | 2+322.00 |
| 2324 | 1,058,678.2467m | 299,755.9441m | 2+323.00 |
| 2325 | 1,058,677.4489m | 299,755.3412m | 2+324.00 |
| 2326 | 1,058,676.6510m | 299,754.7384m | 2+325.00 |
| 2327 | 1,058,675.8531m | 299,754.1356m | 2+326.00 |
| 2328 | 1,058,675.0553m | 299,753.5327m | 2+327.00 |
| 2329 | 1,058,674.2574m | 299,752.9299m | 2+328.00 |
| 2330 | 1,058,673.4595m | 299,752.3270m | 2+329.00 |
| 2331 | 1,058,672.6617m | 299,751.7242m | 2+330.00 |
| 2332 | 1,058,671.8638m | 299,751.1214m | 2+331.00 |
| 2333 | 1,058,671.0659m | 299,750.5185m | 2+332.00 |
| 2334 | 1,058,670.2681m | 299,749.9157m | 2+333.00 |
| 2335 | 1,058,669.4702m | 299,749.3129m | 2+334.00 |
| 2336 | 1,058,668.6724m | 299,748.7100m | 2+335.00 |
| 2337 | 1,058,667.8745m | 299,748.1072m | 2+336.00 |
| 2338 | 1,058,667.0766m | 299,747.5044m | 2+337.00 |
| 2339 | 1,058,666.2788m | 299,746.9015m | 2+338.00 |
| 2340 | 1,058,665.4809m | 299,746.2987m | 2+339.00 |
| 2341 | 1,058,664.6830m | 299,745.6958m | 2+340.00 |
| 2342 | 1,058,663.8852m | 299,745.0930m | 2+341.00 |
| 2343 | 1,058,663.0873m | 299,744.4902m | 2+342.00 |
| 2344 | 1,058,662.2894m | 299,743.8873m | 2+343.00 |
| 2345 | 1,058,661.4916m | 299,743.2845m | 2+344.00 |
| 2346 | 1,058,660.6937m | 299,742.6817m | 2+345.00 |
| 2347 | 1,058,659.8958m | 299,742.0788m | 2+346.00 |
| 2348 | 1,058,659.0980m | 299,741.4760m | 2+347.00 |
| 2349 | 1,058,658.3001m | 299,740.8732m | 2+348.00 |
| 2350 | 1,058,657.5022m | 299,740.2703m | 2+349.00 |
| 2351 | 1,058,656.7044m | 299,739.6675m | 2+350.00 |
| 2352 | 1,058,655.9065m | 299,739.0646m | 2+351.00 |
| 2353 | 1,058,655.1086m | 299,738.4618m | 2+352.00 |
| 2354 | 1,058,654.3108m | 299,737.8590m | 2+353.00 |
| 2355 | 1,058,653.5129m | 299,737.2561m | 2+354.00 |
| 2356 | 1,058,652.7151m | 299,736.6533m | 2+355.00 |
| 2357 | 1,058,651.9172m | 299,736.0505m | 2+356.00 |
| 2358 | 1,058,651.1193m | 299,735.4476m | 2+357.00 |
| 2359 | 1,058,650.3215m | 299,734.8448m | 2+358.00 |
| 2360 | 1,058,649.5236m | 299,734.2420m | 2+359.00 |
| 2361 | 1,058,648.7257m | 299,733.6391m | 2+360.00 |
| 2362 | 1,058,647.9279m | 299,733.0363m | 2+361.00 |
| 2363 | 1,058,647.1300m | 299,732.4335m | 2+362.00 |
| 2364 | 1,058,646.3321m | 299,731.8306m | 2+363.00 |
| 2365 | 1,058,645.5343m | 299,731.2278m | 2+364.00 |
| 2366 | 1,058,644.7364m | 299,730.6249m | 2+365.00 |
| 2367 | 1,058,643.9386m | 299,730.0220m | 2+366.00 |
| 2368 | 1,058,643.1414m | 299,729.4183m | 2+367.00 |
| 2369 | 1,058,642.3448m | 299,728.8138m | 2+368.00 |
| 2370 | 1,058,641.5487m | 299,728.2086m | 2+369.00 |
| 2371 | 1,058,640.7532m | 299,727.6026m | 2+370.00 |
| 2372 | 1,058,639.9583m | 299,726.9959m | 2+371.00 |
| 2373 | 1,058,639.1640m | 299,726.3884m | 2+372.00 |
| 2374 | 1,058,638.3703m | 299,725.7801m | 2+373.00 |
| 2375 | 1,058,637.5771m | 299,725.1711m | 2+374.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2376 | 1,058,636.7845m | 299,724.5613m | 2+375.00 |
| 2377 | 1,058,635.9926m | 299,723.9508m | 2+376.00 |
| 2378 | 1,058,635.2012m | 299,723.3395m | 2+377.00 |
| 2379 | 1,058,634.4103m | 299,722.7275m | 2+378.00 |
| 2380 | 1,058,633.6201m | 299,722.1146m | 2+379.00 |
| 2381 | 1,058,632.8305m | 299,721.5011m | 2+380.00 |
| 2382 | 1,058,632.0414m | 299,720.8867m | 2+381.00 |
| 2383 | 1,058,631.2530m | 299,720.2717m | 2+382.00 |
| 2384 | 1,058,630.4651m | 299,719.6558m | 2+383.00 |
| 2385 | 1,058,629.6778m | 299,719.0392m | 2+384.00 |
| 2386 | 1,058,628.8911m | 299,718.4219m | 2+385.00 |
| 2387 | 1,058,628.1050m | 299,717.8038m | 2+386.00 |
| 2388 | 1,058,627.3195m | 299,717.1849m | 2+387.00 |
| 2389 | 1,058,626.5346m | 299,716.5653m | 2+388.00 |
| 2390 | 1,058,625.7503m | 299,715.9450m | 2+389.00 |
| 2391 | 1,058,624.9665m | 299,715.3239m | 2+390.00 |
| 2392 | 1,058,624.1834m | 299,714.7020m | 2+391.00 |
| 2393 | 1,058,623.4009m | 299,714.0794m | 2+392.00 |
| 2394 | 1,058,622.6190m | 299,713.4560m | 2+393.00 |
| 2395 | 1,058,621.8376m | 299,712.8319m | 2+394.00 |
| 2396 | 1,058,621.0569m | 299,712.2071m | 2+395.00 |
| 2397 | 1,058,620.2767m | 299,711.5815m | 2+396.00 |
| 2398 | 1,058,619.4972m | 299,710.9551m | 2+397.00 |
| 2399 | 1,058,618.7183m | 299,710.3280m | 2+398.00 |
| 2400 | 1,058,617.9399m | 299,709.7002m | 2+399.00 |
| 2401 | 1,058,617.1622m | 299,709.0716m | 2+400.00 |
| 2402 | 1,058,616.3850m | 299,708.4422m | 2+401.00 |
| 2403 | 1,058,615.6085m | 299,707.8122m | 2+402.00 |
| 2404 | 1,058,614.8326m | 299,707.1813m | 2+403.00 |
| 2405 | 1,058,614.0573m | 299,706.5498m | 2+404.00 |
| 2406 | 1,058,613.2825m | 299,705.9175m | 2+405.00 |
| 2407 | 1,058,612.5084m | 299,705.2844m | 2+406.00 |
| 2408 | 1,058,611.7349m | 299,704.6506m | 2+407.00 |
| 2409 | 1,058,610.9620m | 299,704.0161m | 2+408.00 |
| 2410 | 1,058,610.1897m | 299,703.3808m | 2+409.00 |
| 2411 | 1,058,609.4181m | 299,702.7448m | 2+410.00 |
| 2412 | 1,058,608.6470m | 299,702.1081m | 2+411.00 |
| 2413 | 1,058,607.8765m | 299,701.4706m | 2+412.00 |
| 2414 | 1,058,607.1067m | 299,700.8323m | 2+413.00 |
| 2415 | 1,058,606.3375m | 299,700.1934m | 2+414.00 |
| 2416 | 1,058,605.5688m | 299,699.5537m | 2+415.00 |
| 2417 | 1,058,604.8008m | 299,698.9132m | 2+416.00 |
| 2418 | 1,058,604.0334m | 299,698.2721m | 2+417.00 |
| 2419 | 1,058,603.2667m | 299,697.6301m | 2+418.00 |
| 2420 | 1,058,602.5005m | 299,696.9875m | 2+419.00 |
| 2421 | 1,058,601.7349m | 299,696.3441m | 2+420.00 |
| 2422 | 1,058,600.9700m | 299,695.7000m | 2+421.00 |
| 2423 | 1,058,600.2057m | 299,695.0552m | 2+422.00 |
| 2424 | 1,058,599.4420m | 299,694.4096m | 2+423.00 |
| 2425 | 1,058,598.6789m | 299,693.7633m | 2+424.00 |
| 2426 | 1,058,597.9165m | 299,693.1162m | 2+425.00 |
| 2427 | 1,058,597.1546m | 299,692.4685m | 2+426.00 |
| 2428 | 1,058,596.3934m | 299,691.8200m | 2+427.00 |
| 2429 | 1,058,595.6328m | 299,691.1708m | 2+428.00 |
| 2430 | 1,058,594.8728m | 299,690.5208m | 2+429.00 |
| 2431 | 1,058,594.1135m | 299,689.8701m | 2+430.00 |
| 2432 | 1,058,593.3548m | 299,689.2187m | 2+431.00 |
| 2433 | 1,058,592.5967m | 299,688.5666m | 2+432.00 |
| 2434 | 1,058,591.8392m | 299,687.9137m | 2+433.00 |
| 2435 | 1,058,591.0823m | 299,687.2601m | 2+434.00 |
| 2436 | 1,058,590.3261m | 299,686.6058m | 2+435.00 |
| 2437 | 1,058,589.5705m | 299,685.9508m | 2+436.00 |
| 2438 | 1,058,588.8156m | 299,685.2950m | 2+437.00 |
| 2439 | 1,058,588.0612m | 299,684.6385m | 2+438.00 |
| 2440 | 1,058,587.3075m | 299,683.9813m | 2+439.00 |
| 2441 | 1,058,586.5544m | 299,683.3234m | 2+440.00 |
| 2442 | 1,058,585.8020m | 299,682.6647m | 2+441.00 |
| 2443 | 1,058,585.0502m | 299,682.0053m | 2+442.00 |
| 2444 | 1,058,584.2990m | 299,681.3453m | 2+443.00 |
| 2445 | 1,058,583.5484m | 299,680.6844m | 2+444.00 |
| 2446 | 1,058,582.7985m | 299,680.0229m | 2+445.00 |
| 2447 | 1,058,582.0492m | 299,679.3607m | 2+446.00 |
| 2448 | 1,058,581.3006m | 299,678.6977m | 2+447.00 |
| 2449 | 1,058,580.5526m | 299,678.0340m | 2+448.00 |
| 2450 | 1,058,579.8052m | 299,677.3696m | 2+449.00 |
| 2451 | 1,058,579.0585m | 299,676.7045m | 2+450.00 |
| 2452 | 1,058,578.3124m | 299,676.0387m | 2+451.00 |
| 2453 | 1,058,577.5669m | 299,675.3721m | 2+452.00 |
| 2454 | 1,058,576.8221m | 299,674.7049m | 2+453.00 |
| 2455 | 1,058,576.0779m | 299,674.0369m | 2+454.00 |
| 2456 | 1,058,575.3343m | 299,673.3682m | 2+455.00 |
| 2457 | 1,058,574.5914m | 299,672.6988m | 2+456.00 |
| 2458 | 1,058,573.8492m | 299,672.0287m | 2+457.00 |
| 2459 | 1,058,573.1075m | 299,671.3579m | 2+458.00 |
| 2460 | 1,058,572.3666m | 299,670.6863m | 2+459.00 |
| 2461 | 1,058,571.6262m | 299,670.0141m | 2+460.00 |
| 2462 | 1,058,570.8866m | 299,669.3411m | 2+461.00 |
| 2463 | 1,058,570.1475m | 299,668.6675m | 2+462.00 |
| 2464 | 1,058,569.4091m | 299,667.9931m | 2+463.00 |
| 2465 | 1,058,568.6714m | 299,667.3180m | 2+464.00 |
| 2466 | 1,058,567.9343m | 299,666.6423m | 2+465.00 |
| 2467 | 1,058,567.1978m | 299,665.9658m | 2+466.00 |
| 2468 | 1,058,566.4620m | 299,665.2886m | 2+467.00 |
| 2469 | 1,058,565.7268m | 299,664.6107m | 2+468.00 |
| 2470 | 1,058,564.9923m | 299,663.9321m | 2+469.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2471 | 1,058,564.2585m | 299,663.2528m | 2+470.00 |
| 2472 | 1,058,563.5253m | 299,662.5728m | 2+471.00 |
| 2473 | 1,058,562.7927m | 299,661.8921m | 2+472.00 |
| 2474 | 1,058,562.0608m | 299,661.2107m | 2+473.00 |
| 2475 | 1,058,561.3296m | 299,660.5286m | 2+474.00 |
| 2476 | 1,058,560.5990m | 299,659.8457m | 2+475.00 |
| 2477 | 1,058,559.8690m | 299,659.1622m | 2+476.00 |
| 2478 | 1,058,559.1397m | 299,658.4780m | 2+477.00 |
| 2479 | 1,058,558.4111m | 299,657.7931m | 2+478.00 |
| 2480 | 1,058,557.6832m | 299,657.1075m | 2+479.00 |
| 2481 | 1,058,556.9558m | 299,656.4212m | 2+480.00 |
| 2482 | 1,058,556.2292m | 299,655.7342m | 2+481.00 |
| 2483 | 1,058,555.5032m | 299,655.0465m | 2+482.00 |
| 2484 | 1,058,554.7778m | 299,654.3581m | 2+483.00 |
| 2485 | 1,058,554.0532m | 299,653.6690m | 2+484.00 |
| 2486 | 1,058,553.3291m | 299,652.9792m | 2+485.00 |
| 2487 | 1,058,552.6058m | 299,652.2888m | 2+486.00 |
| 2488 | 1,058,551.8831m | 299,651.5976m | 2+487.00 |
| 2489 | 1,058,551.1611m | 299,650.9057m | 2+488.00 |
| 2490 | 1,058,550.4397m | 299,650.2132m | 2+489.00 |
| 2491 | 1,058,549.7190m | 299,649.5199m | 2+490.00 |
| 2492 | 1,058,548.9990m | 299,648.8260m | 2+491.00 |
| 2493 | 1,058,548.2796m | 299,648.1314m | 2+492.00 |
| 2494 | 1,058,547.5609m | 299,647.4361m | 2+493.00 |
| 2495 | 1,058,546.8428m | 299,646.7401m | 2+494.00 |
| 2496 | 1,058,546.1255m | 299,646.0434m | 2+495.00 |
| 2497 | 1,058,545.4087m | 299,645.3460m | 2+496.00 |
| 2498 | 1,058,544.6927m | 299,644.6480m | 2+497.00 |
| 2499 | 1,058,543.9773m | 299,643.9492m | 2+498.00 |
| 2500 | 1,058,543.2626m | 299,643.2498m | 2+499.00 |
| 2501 | 1,058,542.5486m | 299,642.5497m | 2+500.00 |
| 2502 | 1,058,541.8353m | 299,641.8489m | 2+501.00 |
| 2503 | 1,058,541.1226m | 299,641.1474m | 2+502.00 |
| 2504 | 1,058,540.4102m | 299,640.4455m | 2+503.00 |
| 2505 | 1,058,539.6979m | 299,639.7437m | 2+504.00 |
| 2506 | 1,058,538.9855m | 299,639.0419m | 2+505.00 |
| 2507 | 1,058,538.2732m | 299,638.3400m | 2+506.00 |
| 2508 | 1,058,537.5609m | 299,637.6382m | 2+507.00 |
| 2509 | 1,058,536.8485m | 299,636.9364m | 2+508.00 |
| 2510 | 1,058,536.1362m | 299,636.2345m | 2+509.00 |
| 2511 | 1,058,535.4238m | 299,635.5327m | 2+510.00 |
| 2512 | 1,058,534.7115m | 299,634.8309m | 2+511.00 |
| 2513 | 1,058,533.9992m | 299,634.1290m | 2+512.00 |
| 2514 | 1,058,533.2868m | 299,633.4272m | 2+513.00 |
| 2515 | 1,058,532.5745m | 299,632.7254m | 2+514.00 |
| 2516 | 1,058,531.8621m | 299,632.0235m | 2+515.00 |
| 2517 | 1,058,531.1498m | 299,631.3217m | 2+516.00 |
| 2518 | 1,058,530.4374m | 299,630.6199m | 2+517.00 |
| 2519 | 1,058,529.7251m | 299,629.9180m | 2+518.00 |
| 2520 | 1,058,529.0128m | 299,629.2162m | 2+519.00 |
| 2521 | 1,058,528.3004m | 299,628.5144m | 2+520.00 |
| 2522 | 1,058,527.5881m | 299,627.8125m | 2+521.00 |
| 2523 | 1,058,526.8757m | 299,627.1107m | 2+522.00 |
| 2524 | 1,058,526.1634m | 299,626.4089m | 2+523.00 |
| 2525 | 1,058,525.4511m | 299,625.7070m | 2+524.00 |
| 2526 | 1,058,524.7387m | 299,625.0052m | 2+525.00 |
| 2527 | 1,058,524.0264m | 299,624.3034m | 2+526.00 |
| 2528 | 1,058,523.3140m | 299,623.6015m | 2+527.00 |
| 2529 | 1,058,522.6017m | 299,622.8997m | 2+528.00 |
| 2530 | 1,058,521.8893m | 299,622.1979m | 2+529.00 |
| 2531 | 1,058,521.1770m | 299,621.4960m | 2+530.00 |
| 2532 | 1,058,520.4647m | 299,620.7942m | 2+531.00 |
| 2533 | 1,058,519.7523m | 299,620.0924m | 2+532.00 |
| 2534 | 1,058,519.0400m | 299,619.3906m | 2+533.00 |
| 2535 | 1,058,518.3276m | 299,618.6887m | 2+534.00 |
| 2536 | 1,058,517.6153m | 299,617.9869m | 2+535.00 |
| 2537 | 1,058,516.9030m | 299,617.2851m | 2+536.00 |
| 2538 | 1,058,516.1906m | 299,616.5832m | 2+537.00 |
| 2539 | 1,058,515.4783m | 299,615.8814m | 2+538.00 |
| 2540 | 1,058,514.7659m | 299,615.1796m | 2+539.00 |
| 2541 | 1,058,514.0536m | 299,614.4777m | 2+540.00 |
| 2542 | 1,058,513.3412m | 299,613.7759m | 2+541.00 |
| 2543 | 1,058,512.6289m | 299,613.0741m | 2+542.00 |
| 2544 | 1,058,511.9166m | 299,612.3722m | 2+543.00 |
| 2545 | 1,058,511.2042m | 299,611.6704m | 2+544.00 |
| 2546 | 1,058,510.4919m | 299,610.9686m | 2+545.00 |
| 2547 | 1,058,509.7764m | 299,610.2699m | 2+546.00 |
| 2548 | 1,058,509.0545m | 299,609.5780m | 2+547.00 |
| 2549 | 1,058,508.3260m | 299,608.8929m | 2+548.00 |
| 2550 | 1,058,507.5912m | 299,608.2146m | 2+549.00 |
| 2551 | 1,058,506.8500m | 299,607.5434m | 2+550.00 |
| 2552 | 1,058,506.1025m | 299,606.8791m | 2+551.00 |
| 2553 | 1,058,505.3488m | 299,606.2218m | 2+552.00 |
| 2554 | 1,058,504.5890m | 299,605.5717m | 2+553.00 |
| 2555 | 1,058,503.8231m | 299,604.9287m | 2+554.00 |
| 2556 | 1,058,503.0512m | 299,604.2930m | 2+555.00 |
| 2557 | 1,058,502.2734m | 299,603.6646m | 2+556.00 |
| 2558 | 1,058,501.4896m | 299,603.0435m | 2+557.00 |
| 2559 | 1,058,500.7001m | 299,602.4297m | 2+558.00 |
| 2560 | 1,058,499.9049m | 299,601.8235m | 2+559.00 |
| 2561 | 1,058,499.1040m | 299,601.2247m | 2+560.00 |
| 2562 | 1,058,498.2974m | 299,600.6335m | 2+561.00 |
| 2563 | 1,058,497.4854m | 299,600.0499m | 2+562.00 |
| 2564 | 1,058,496.6679m | 299,599.4739m | 2+563.00 |
| 2565 | 1,058,495.8451m | 299,598.9057m | 2+564.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2566 | 1,058,495.0169m | 299,598.3452m | 2+565.00 |
| 2567 | 1,058,494.1835m | 299,597.7925m | 2+566.00 |
| 2568 | 1,058,493.3450m | 299,597.2477m | 2+567.00 |
| 2569 | 1,058,492.5013m | 299,596.7108m | 2+568.00 |
| 2570 | 1,058,491.6527m | 299,596.1818m | 2+569.00 |
| 2571 | 1,058,490.7991m | 299,595.6609m | 2+570.00 |
| 2572 | 1,058,489.9407m | 299,595.1480m | 2+571.00 |
| 2573 | 1,058,489.0775m | 299,594.6431m | 2+572.00 |
| 2574 | 1,058,488.2095m | 299,594.1464m | 2+573.00 |
| 2575 | 1,058,487.3370m | 299,593.6579m | 2+574.00 |
| 2576 | 1,058,486.4599m | 299,593.1776m | 2+575.00 |
| 2577 | 1,058,485.5783m | 299,592.7056m | 2+576.00 |
| 2578 | 1,058,484.6923m | 299,592.2419m | 2+577.00 |
| 2579 | 1,058,483.8020m | 299,591.7865m | 2+578.00 |
| 2580 | 1,058,482.9075m | 299,591.3395m | 2+579.00 |
| 2581 | 1,058,482.0088m | 299,590.9010m | 2+580.00 |
| 2582 | 1,058,481.1060m | 299,590.4709m | 2+581.00 |
| 2583 | 1,058,480.1992m | 299,590.0493m | 2+582.00 |
| 2584 | 1,058,479.2885m | 299,589.6363m | 2+583.00 |
| 2585 | 1,058,478.3740m | 299,589.2318m | 2+584.00 |
| 2586 | 1,058,477.4557m | 299,588.8359m | 2+585.00 |
| 2587 | 1,058,476.5337m | 299,588.4487m | 2+586.00 |
| 2588 | 1,058,475.6081m | 299,588.0702m | 2+587.00 |
| 2589 | 1,058,474.6790m | 299,587.7004m | 2+588.00 |
| 2590 | 1,058,473.7464m | 299,587.3393m | 2+589.00 |
| 2591 | 1,058,472.8106m | 299,586.9870m | 2+590.00 |
| 2592 | 1,058,471.8714m | 299,586.6436m | 2+591.00 |
| 2593 | 1,058,470.9290m | 299,586.3090m | 2+592.00 |
| 2594 | 1,058,469.9836m | 299,585.9832m | 2+593.00 |
| 2595 | 1,058,469.0351m | 299,585.6663m | 2+594.00 |
| 2596 | 1,058,468.0837m | 299,585.3584m | 2+595.00 |
| 2597 | 1,058,467.1295m | 299,585.0594m | 2+596.00 |
| 2598 | 1,058,466.1724m | 299,584.7694m | 2+597.00 |
| 2599 | 1,058,465.2127m | 299,584.4885m | 2+598.00 |
| 2600 | 1,058,464.2504m | 299,584.2165m | 2+599.00 |
| 2601 | 1,058,463.2856m | 299,583.9536m | 2+600.00 |
| 2602 | 1,058,462.3184m | 299,583.6998m | 2+601.00 |
| 2603 | 1,058,461.3488m | 299,583.4551m | 2+602.00 |
| 2604 | 1,058,460.3769m | 299,583.2195m | 2+603.00 |
| 2605 | 1,058,459.4029m | 299,582.9930m | 2+604.00 |
| 2606 | 1,058,458.4268m | 299,582.7757m | 2+605.00 |
| 2607 | 1,058,457.4487m | 299,582.5676m | 2+606.00 |
| 2608 | 1,058,456.4687m | 299,582.3688m | 2+607.00 |
| 2609 | 1,058,455.4868m | 299,582.1791m | 2+608.00 |
| 2610 | 1,058,454.5033m | 299,581.9986m | 2+609.00 |
| 2611 | 1,058,453.5180m | 299,581.8274m | 2+610.00 |
| 2612 | 1,058,452.5312m | 299,581.6655m | 2+611.00 |
| 2613 | 1,058,451.5429m | 299,581.5129m | 2+612.00 |
| 2614 | 1,058,450.5533m | 299,581.3695m | 2+613.00 |
| 2615 | 1,058,449.5623m | 299,581.2355m | 2+614.00 |
| 2616 | 1,058,448.5701m | 299,581.1108m | 2+615.00 |
| 2617 | 1,058,447.5768m | 299,580.9954m | 2+616.00 |
| 2618 | 1,058,446.5824m | 299,580.8893m | 2+617.00 |
| 2619 | 1,058,445.5871m | 299,580.7926m | 2+618.00 |
| 2620 | 1,058,444.5910m | 299,580.7053m | 2+619.00 |
| 2621 | 1,058,443.5940m | 299,580.6273m | 2+620.00 |
| 2622 | 1,058,442.5964m | 299,580.5587m | 2+621.00 |
| 2623 | 1,058,441.5981m | 299,580.4995m | 2+622.00 |
| 2624 | 1,058,440.5994m | 299,580.4496m | 2+623.00 |
| 2625 | 1,058,439.7696m | 299,579.9468m | 2+624.00 |
| 2626 | 1,058,438.9551m | 299,579.3716m | 2+625.00 |
| 2627 | 1,058,437.9701m | 299,579.5530m | 2+626.00 |
| 2628 | 1,058,436.9718m | 299,579.5957m | 2+627.00 |
| 2629 | 1,058,435.9725m | 299,579.6329m | 2+628.00 |
| 2630 | 1,058,434.9735m | 299,579.6763m | 2+629.00 |
| 2631 | 1,058,433.9771m | 299,579.7510m | 2+630.00 |
| 2632 | 1,058,433.0392m | 299,580.0795m | 2+631.00 |
| 2633 | 1,058,432.0899m | 299,580.3228m | 2+632.00 |
| 2634 | 1,058,431.0900m | 299,580.3374m | 2+633.00 |
| 2635 | 1,058,430.0903m | 299,580.3583m | 2+634.00 |
| 2636 | 1,058,429.0906m | 299,580.3857m | 2+635.00 |
| 2637 | 1,058,428.0912m | 299,580.4194m | 2+636.00 |
| 2638 | 1,058,427.0920m | 299,580.4595m | 2+637.00 |
| 2639 | 1,058,426.0931m | 299,580.5060m | 2+638.00 |
| 2640 | 1,058,425.0945m | 299,580.5589m | 2+639.00 |
| 2641 | 1,058,424.0963m | 299,580.6182m | 2+640.00 |
| 2642 | 1,058,423.0984m | 299,580.6839m | 2+641.00 |
| 2643 | 1,058,422.1010m | 299,580.7559m | 2+642.00 |
| 2644 | 1,058,421.1041m | 299,580.8343m | 2+643.00 |
| 2645 | 1,058,420.1077m | 299,580.9191m | 2+644.00 |
| 2646 | 1,058,419.1119m | 299,581.0102m | 2+645.00 |
| 2647 | 1,058,418.1166m | 299,581.1078m | 2+646.00 |
| 2648 | 1,058,417.1220m | 299,581.2117m | 2+647.00 |
| 2649 | 1,058,416.1281m | 299,581.3219m | 2+648.00 |
| 2650 | 1,058,415.1350m | 299,581.4385m | 2+649.00 |
| 2651 | 1,058,414.1426m | 299,581.5614m | 2+650.00 |
| 2652 | 1,058,413.1509m | 299,581.6907m | 2+651.00 |
| 2653 | 1,058,412.1602m | 299,581.8263m | 2+652.00 |
| 2654 | 1,058,411.1703m | 299,581.9683m | 2+653.00 |
| 2655 | 1,058,410.1814m | 299,582.1166m | 2+654.00 |
| 2656 | 1,058,409.1934m | 299,582.2712m | 2+655.00 |
| 2657 | 1,058,408.2064m | 299,582.4321m | 2+656.00 |
| 2658 | 1,058,407.2205m | 299,582.5993m | 2+657.00 |
| 2659 | 1,058,406.2357m | 299,582.7728m | 2+658.00 |
| 2660 | 1,058,405.2520m | 299,582.9526m | 2+659.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2661 | 1,058,404.2695m | 299,583.1387m | 2+660.00 |
| 2662 | 1,058,403.2881m | 299,583.3311m | 2+661.00 |
| 2663 | 1,058,402.3081m | 299,583.5297m | 2+662.00 |
| 2664 | 1,058,401.3293m | 299,583.7347m | 2+663.00 |
| 2665 | 1,058,400.3518m | 299,583.9458m | 2+664.00 |
| 2666 | 1,058,399.3758m | 299,584.1632m | 2+665.00 |
| 2667 | 1,058,398.4011m | 299,584.3869m | 2+666.00 |
| 2668 | 1,058,397.4279m | 299,584.6167m | 2+667.00 |
| 2669 | 1,058,396.4561m | 299,584.8528m | 2+668.00 |
| 2670 | 1,058,395.4859m | 299,585.0951m | 2+669.00 |
| 2671 | 1,058,394.5173m | 299,585.3436m | 2+670.00 |
| 2672 | 1,058,393.5503m | 299,585.5983m | 2+671.00 |
| 2673 | 1,058,392.5849m | 299,585.8592m | 2+672.00 |
| 2674 | 1,058,391.6212m | 299,586.1262m | 2+673.00 |
| 2675 | 1,058,390.6593m | 299,586.3994m | 2+674.00 |
| 2676 | 1,058,389.6991m | 299,586.6787m | 2+675.00 |
| 2677 | 1,058,388.7407m | 299,586.9642m | 2+676.00 |
| 2678 | 1,058,387.7841m | 299,587.2558m | 2+677.00 |
| 2679 | 1,058,386.8295m | 299,587.5535m | 2+678.00 |
| 2680 | 1,058,385.8768m | 299,587.8573m | 2+679.00 |
| 2681 | 1,058,384.9260m | 299,588.1672m | 2+680.00 |
| 2682 | 1,058,383.9772m | 299,588.4831m | 2+681.00 |
| 2683 | 1,058,383.0305m | 299,588.8051m | 2+682.00 |
| 2684 | 1,058,382.0858m | 299,589.1332m | 2+683.00 |
| 2685 | 1,058,381.1433m | 299,589.4673m | 2+684.00 |
| 2686 | 1,058,380.2027m | 299,589.8068m | 2+685.00 |
| 2687 | 1,058,379.2624m | 299,590.1472m | 2+686.00 |
| 2688 | 1,058,378.3218m | 299,590.4868m | 2+687.00 |
| 2689 | 1,058,377.3800m | 299,590.8230m | 2+688.00 |
| 2690 | 1,058,376.4369m | 299,591.1553m | 2+689.00 |
| 2691 | 1,058,375.4923m | 299,591.4837m | 2+690.00 |
| 2692 | 1,058,374.5464m | 299,591.8082m | 2+691.00 |
| 2693 | 1,058,373.5992m | 299,592.1288m | 2+692.00 |
| 2694 | 1,058,372.6507m | 299,592.4455m | 2+693.00 |
| 2695 | 1,058,371.7009m | 299,592.7584m | 2+694.00 |
| 2696 | 1,058,370.7498m | 299,593.0673m | 2+695.00 |
| 2697 | 1,058,369.7975m | 299,593.3724m | 2+696.00 |
| 2698 | 1,058,368.8439m | 299,593.6735m | 2+697.00 |
| 2699 | 1,058,367.8891m | 299,593.9707m | 2+698.00 |
| 2700 | 1,058,366.9331m | 299,594.2640m | 2+699.00 |
| 2701 | 1,058,365.9759m | 299,594.5533m | 2+700.00 |
| 2702 | 1,058,365.0175m | 299,594.8388m | 2+701.00 |
| 2703 | 1,058,364.0579m | 299,595.1202m | 2+702.00 |
| 2704 | 1,058,363.0972m | 299,595.3978m | 2+703.00 |
| 2705 | 1,058,362.1353m | 299,595.6714m | 2+704.00 |
| 2706 | 1,058,361.1724m | 299,595.9410m | 2+705.00 |
| 2707 | 1,058,360.2083m | 299,596.2067m | 2+706.00 |
| 2708 | 1,058,359.2432m | 299,596.4685m | 2+707.00 |
| 2709 | 1,058,358.2770m | 299,596.7262m | 2+708.00 |
| 2710 | 1,058,357.3097m | 299,596.9800m | 2+709.00 |
| 2711 | 1,058,356.3414m | 299,597.2299m | 2+710.00 |
| 2712 | 1,058,355.3721m | 299,597.4757m | 2+711.00 |
| 2713 | 1,058,354.4018m | 299,597.7176m | 2+712.00 |
| 2714 | 1,058,353.4305m | 299,597.9555m | 2+713.00 |
| 2715 | 1,058,352.4583m | 299,598.1894m | 2+714.00 |
| 2716 | 1,058,351.4851m | 299,598.4193m | 2+715.00 |
| 2717 | 1,058,350.5109m | 299,598.6452m | 2+716.00 |
| 2718 | 1,058,349.5358m | 299,598.8671m | 2+717.00 |
| 2719 | 1,058,348.5599m | 299,599.0850m | 2+718.00 |
| 2720 | 1,058,347.5830m | 299,599.2989m | 2+719.00 |
| 2721 | 1,058,346.6053m | 299,599.5088m | 2+720.00 |
| 2722 | 1,058,345.6267m | 299,599.7146m | 2+721.00 |
| 2723 | 1,058,344.6473m | 299,599.9165m | 2+722.00 |
| 2724 | 1,058,343.6671m | 299,600.1143m | 2+723.00 |
| 2725 | 1,058,342.6865m | 299,600.3104m | 2+724.00 |
| 2726 | 1,058,341.7059m | 299,600.5065m | 2+725.00 |
| 2727 | 1,058,340.7253m | 299,600.7025m | 2+726.00 |
| 2728 | 1,058,339.7447m | 299,600.8986m | 2+727.00 |
| 2729 | 1,058,338.7641m | 299,601.0947m | 2+728.00 |
| 2730 | 1,058,337.7835m | 299,601.2908m | 2+729.00 |
| 2731 | 1,058,336.8029m | 299,601.4868m | 2+730.00 |
| 2732 | 1,058,335.8223m | 299,601.6829m | 2+731.00 |
| 2733 | 1,058,334.8417m | 299,601.8790m | 2+732.00 |
| 2734 | 1,058,333.8612m | 299,602.0750m | 2+733.00 |
| 2735 | 1,058,332.8806m | 299,602.2711m | 2+734.00 |
| 2736 | 1,058,331.9000m | 299,602.4672m | 2+735.00 |
| 2737 | 1,058,330.9194m | 299,602.6633m | 2+736.00 |
| 2738 | 1,058,329.9388m | 299,602.8593m | 2+737.00 |
| 2739 | 1,058,328.9582m | 299,603.0554m | 2+738.00 |
| 2740 | 1,058,327.9776m | 299,603.2515m | 2+739.00 |
| 2741 | 1,058,326.9970m | 299,603.4475m | 2+740.00 |
| 2742 | 1,058,326.0170m | 299,603.6466m | 2+741.00 |
| 2743 | 1,058,325.0411m | 299,603.8644m | 2+742.00 |
| 2744 | 1,058,324.0700m | 299,604.1032m | 2+743.00 |
| 2745 | 1,058,323.1044m | 299,604.3629m | 2+744.00 |
| 2746 | 1,058,322.1445m | 299,604.6433m | 2+745.00 |
| 2747 | 1,058,321.1909m | 299,604.9443m | 2+746.00 |
| 2748 | 1,058,320.2440m | 299,605.2659m | 2+747.00 |
| 2749 | 1,058,319.3043m | 299,605.6077m | 2+748.00 |
| 2750 | 1,058,318.3721m | 299,605.9697m | 2+749.00 |
| 2751 | 1,058,317.4480m | 299,606.3517m | 2+750.00 |
| 2752 | 1,058,316.5323m | 299,606.7536m | 2+751.00 |
| 2753 | 1,058,315.6255m | 299,607.1751m | 2+752.00 |
| 2754 | 1,058,314.7280m | 299,607.6160m | 2+753.00 |
| 2755 | 1,058,313.8402m | 299,608.0762m | 2+754.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2756 | 1,058,312.9625m | 299,608.5554m | 2+755.00 |
| 2757 | 1,058,312.0953m | 299,609.0534m | 2+756.00 |
| 2758 | 1,058,311.2391m | 299,609.5700m | 2+757.00 |
| 2759 | 1,058,310.3942m | 299,610.1049m | 2+758.00 |
| 2760 | 1,058,309.5611m | 299,610.6579m | 2+759.00 |
| 2761 | 1,058,308.7400m | 299,611.2287m | 2+760.00 |
| 2762 | 1,058,307.9315m | 299,611.8171m | 2+761.00 |
| 2763 | 1,058,307.1358m | 299,612.4227m | 2+762.00 |
| 2764 | 1,058,306.3533m | 299,613.0454m | 2+763.00 |
| 2765 | 1,058,305.5844m | 299,613.6848m | 2+764.00 |
| 2766 | 1,058,304.8295m | 299,614.3406m | 2+765.00 |
| 2767 | 1,058,304.0889m | 299,615.0125m | 2+766.00 |
| 2768 | 1,058,303.3630m | 299,615.7002m | 2+767.00 |
| 2769 | 1,058,302.6520m | 299,616.4035m | 2+768.00 |
| 2770 | 1,058,301.9554m | 299,617.1209m | 2+769.00 |
| 2771 | 1,058,301.2620m | 299,617.8414m | 2+770.00 |
| 2772 | 1,058,300.5686m | 299,618.5619m | 2+771.00 |
| 2773 | 1,058,299.8751m | 299,619.2824m | 2+772.00 |
| 2774 | 1,058,299.1817m | 299,620.0030m | 2+773.00 |
| 2775 | 1,058,298.4883m | 299,620.7235m | 2+774.00 |
| 2776 | 1,058,297.7948m | 299,621.4440m | 2+775.00 |
| 2777 | 1,058,297.1014m | 299,622.1645m | 2+776.00 |
| 2778 | 1,058,296.4080m | 299,622.8850m | 2+777.00 |
| 2779 | 1,058,295.7145m | 299,623.6056m | 2+778.00 |
| 2780 | 1,058,295.0211m | 299,624.3261m | 2+779.00 |
| 2781 | 1,058,294.3277m | 299,625.0466m | 2+780.00 |
| 2782 | 1,058,293.6342m | 299,625.7671m | 2+781.00 |
| 2783 | 1,058,292.9408m | 299,626.4877m | 2+782.00 |
| 2784 | 1,058,292.2474m | 299,627.2082m | 2+783.00 |
| 2785 | 1,058,291.5539m | 299,627.9287m | 2+784.00 |
| 2786 | 1,058,290.8613m | 299,628.6500m | 2+785.00 |
| 2787 | 1,058,290.1744m | 299,629.3768m | 2+786.00 |
| 2788 | 1,058,289.4945m | 299,630.1100m | 2+787.00 |
| 2789 | 1,058,288.8214m | 299,630.8496m | 2+788.00 |
| 2790 | 1,058,288.1554m | 299,631.5955m | 2+789.00 |
| 2791 | 1,058,287.4964m | 299,632.3476m | 2+790.00 |
| 2792 | 1,058,286.8445m | 299,633.1059m | 2+791.00 |
| 2793 | 1,058,286.1997m | 299,633.8703m | 2+792.00 |
| 2794 | 1,058,285.5621m | 299,634.6407m | 2+793.00 |
| 2795 | 1,058,284.9319m | 299,635.4171m | 2+794.00 |
| 2796 | 1,058,284.3089m | 299,636.1993m | 2+795.00 |
| 2797 | 1,058,283.6933m | 299,636.9874m | 2+796.00 |
| 2798 | 1,058,283.0852m | 299,637.7812m | 2+797.00 |
| 2799 | 1,058,282.4845m | 299,638.5807m | 2+798.00 |
| 2800 | 1,058,281.8914m | 299,639.3858m | 2+799.00 |
| 2801 | 1,058,281.3059m | 299,640.1965m | 2+800.00 |
| 2802 | 1,058,280.7280m | 299,641.0126m | 2+801.00 |
| 2803 | 1,058,280.1578m | 299,641.8341m | 2+802.00 |
| 2804 | 1,058,279.5954m | 299,642.6609m | 2+803.00 |
| 2805 | 1,058,279.0407m | 299,643.4930m | 2+804.00 |
| 2806 | 1,058,278.4939m | 299,644.3303m | 2+805.00 |
| 2807 | 1,058,277.9550m | 299,645.1726m | 2+806.00 |
| 2808 | 1,058,277.4241m | 299,646.0200m | 2+807.00 |
| 2809 | 1,058,276.9011m | 299,646.8724m | 2+808.00 |
| 2810 | 1,058,276.3861m | 299,647.7296m | 2+809.00 |
| 2811 | 1,058,275.8793m | 299,648.5916m | 2+810.00 |
| 2812 | 1,058,275.3805m | 299,649.4584m | 2+811.00 |
| 2813 | 1,058,274.8900m | 299,650.3298m | 2+812.00 |
| 2814 | 1,058,274.4076m | 299,651.2057m | 2+813.00 |
| 2815 | 1,058,273.9335m | 299,652.0862m | 2+814.00 |
| 2816 | 1,058,273.4677m | 299,652.9711m | 2+815.00 |
| 2817 | 1,058,273.0102m | 299,653.8603m | 2+816.00 |
| 2818 | 1,058,272.5611m | 299,654.7538m | 2+817.00 |
| 2819 | 1,058,272.1204m | 299,655.6514m | 2+818.00 |
| 2820 | 1,058,271.6882m | 299,656.5532m | 2+819.00 |
| 2821 | 1,058,271.2645m | 299,657.4590m | 2+820.00 |
| 2822 | 1,058,270.8493m | 299,658.3687m | 2+821.00 |
| 2823 | 1,058,270.4427m | 299,659.2823m | 2+822.00 |
| 2824 | 1,058,270.0446m | 299,660.1997m | 2+823.00 |
| 2825 | 1,058,269.6552m | 299,661.1207m | 2+824.00 |
| 2826 | 1,058,269.2745m | 299,662.0454m | 2+825.00 |
| 2827 | 1,058,268.9025m | 299,662.9736m | 2+826.00 |
| 2828 | 1,058,268.5393m | 299,663.9053m | 2+827.00 |
| 2829 | 1,058,268.1848m | 299,664.8404m | 2+828.00 |
| 2830 | 1,058,267.8391m | 299,665.7787m | 2+829.00 |
| 2831 | 1,058,267.5022m | 299,666.7203m | 2+830.00 |
| 2832 | 1,058,267.1742m | 299,667.6650m | 2+831.00 |
| 2833 | 1,058,266.8551m | 299,668.6127m | 2+832.00 |
| 2834 | 1,058,266.5450m | 299,669.5634m | 2+833.00 |
| 2835 | 1,058,266.2437m | 299,670.5169m | 2+834.00 |
| 2836 | 1,058,265.9515m | 299,671.4732m | 2+835.00 |
| 2837 | 1,058,265.6682m | 299,672.4323m | 2+836.00 |
| 2838 | 1,058,265.3940m | 299,673.3939m | 2+837.00 |
| 2839 | 1,058,265.1288m | 299,674.3581m | 2+838.00 |
| 2840 | 1,058,264.8211m | 299,675.3022m | 2+839.00 |
| 2841 | 1,058,264.2833m | 299,676.1453m | 2+840.00 |
| 2842 | 1,058,263.7491m | 299,676.9906m | 2+841.00 |
| 2843 | 1,058,263.2187m | 299,677.8384m | 2+842.00 |
| 2844 | 1,058,262.7566m | 299,678.7180m | 2+843.00 |
| 2845 | 1,058,262.5648m | 299,679.6970m | 2+844.00 |
| 2846 | 1,058,262.3514m | 299,680.6735m | 2+845.00 |
| 2847 | 1,058,262.2084m | 299,681.6631m | 2+846.00 |
| 2848 | 1,058,262.3366m | 299,682.6347m | 2+847.00 |
| 2849 | 1,058,262.7420m | 299,683.5404m | 2+848.00 |
| 2850 | 1,058,262.9272m | 299,684.4291m | 2+849.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2851 | 1,058,262.7658m | 299,685.4160m | 2+850.00 |
| 2852 | 1,058,262.6138m | 299,686.4044m | 2+851.00 |
| 2853 | 1,058,262.4710m | 299,687.3941m | 2+852.00 |
| 2854 | 1,058,262.3375m | 299,688.3852m | 2+853.00 |
| 2855 | 1,058,262.2134m | 299,689.3774m | 2+854.00 |
| 2856 | 1,058,262.0986m | 299,690.3708m | 2+855.00 |
| 2857 | 1,058,261.9931m | 299,691.3652m | 2+856.00 |
| 2858 | 1,058,261.8970m | 299,692.3606m | 2+857.00 |
| 2859 | 1,058,261.8102m | 299,693.3568m | 2+858.00 |
| 2860 | 1,058,261.7328m | 299,694.3538m | 2+859.00 |
| 2861 | 1,058,261.6648m | 299,695.3515m | 2+860.00 |
| 2862 | 1,058,261.6061m | 299,696.3498m | 2+861.00 |
| 2863 | 1,058,261.5569m | 299,697.3486m | 2+862.00 |
| 2864 | 1,058,261.5170m | 299,698.3478m | 2+863.00 |
| 2865 | 1,058,261.4865m | 299,699.3473m | 2+864.00 |
| 2866 | 1,058,261.4654m | 299,700.3471m | 2+865.00 |
| 2867 | 1,058,261.4537m | 299,701.3470m | 2+866.00 |
| 2868 | 1,058,261.4515m | 299,702.3470m | 2+867.00 |
| 2869 | 1,058,261.4586m | 299,703.3470m | 2+868.00 |
| 2870 | 1,058,261.4751m | 299,704.3468m | 2+869.00 |
| 2871 | 1,058,261.5010m | 299,705.3465m | 2+870.00 |
| 2872 | 1,058,261.5334m | 299,706.3459m | 2+871.00 |
| 2873 | 1,058,261.5661m | 299,707.3454m | 2+872.00 |
| 2874 | 1,058,261.5988m | 299,708.3449m | 2+873.00 |
| 2875 | 1,058,261.6315m | 299,709.3443m | 2+874.00 |
| 2876 | 1,058,261.6642m | 299,710.3438m | 2+875.00 |
| 2877 | 1,058,261.6969m | 299,711.3433m | 2+876.00 |
| 2878 | 1,058,261.7296m | 299,712.3427m | 2+877.00 |
| 2879 | 1,058,261.7624m | 299,713.3422m | 2+878.00 |
| 2880 | 1,058,261.7951m | 299,714.3417m | 2+879.00 |
| 2881 | 1,058,261.8278m | 299,715.3411m | 2+880.00 |
| 2882 | 1,058,261.8605m | 299,716.3406m | 2+881.00 |
| 2883 | 1,058,261.8932m | 299,717.3401m | 2+882.00 |
| 2884 | 1,058,261.9259m | 299,718.3395m | 2+883.00 |
| 2885 | 1,058,261.9586m | 299,719.3390m | 2+884.00 |
| 2886 | 1,058,261.9913m | 299,720.3385m | 2+885.00 |
| 2887 | 1,058,262.0240m | 299,721.3379m | 2+886.00 |
| 2888 | 1,058,262.0567m | 299,722.3374m | 2+887.00 |
| 2889 | 1,058,262.0894m | 299,723.3369m | 2+888.00 |
| 2890 | 1,058,262.1221m | 299,724.3363m | 2+889.00 |
| 2891 | 1,058,262.1548m | 299,725.3358m | 2+890.00 |
| 2892 | 1,058,262.1875m | 299,726.3352m | 2+891.00 |
| 2893 | 1,058,262.2202m | 299,727.3347m | 2+892.00 |
| 2894 | 1,058,262.2529m | 299,728.3342m | 2+893.00 |
| 2895 | 1,058,262.2856m | 299,729.3336m | 2+894.00 |
| 2896 | 1,058,262.3183m | 299,730.3331m | 2+895.00 |
| 2897 | 1,058,262.3510m | 299,731.3326m | 2+896.00 |
| 2898 | 1,058,262.3837m | 299,732.3320m | 2+897.00 |
| 2899 | 1,058,262.4164m | 299,733.3315m | 2+898.00 |
| 2900 | 1,058,262.4491m | 299,734.3310m | 2+899.00 |
| 2901 | 1,058,262.4818m | 299,735.3304m | 2+900.00 |
| 2902 | 1,058,262.5145m | 299,736.3299m | 2+901.00 |
| 2903 | 1,058,262.5472m | 299,737.3294m | 2+902.00 |
| 2904 | 1,058,262.5799m | 299,738.3288m | 2+903.00 |
| 2905 | 1,058,262.6126m | 299,739.3283m | 2+904.00 |
| 2906 | 1,058,262.6453m | 299,740.3278m | 2+905.00 |
| 2907 | 1,058,262.6780m | 299,741.3272m | 2+906.00 |
| 2908 | 1,058,262.7107m | 299,742.3267m | 2+907.00 |
| 2909 | 1,058,262.7434m | 299,743.3262m | 2+908.00 |
| 2910 | 1,058,262.7761m | 299,744.3256m | 2+909.00 |
| 2911 | 1,058,262.8088m | 299,745.3251m | 2+910.00 |
| 2912 | 1,058,262.8415m | 299,746.3246m | 2+911.00 |
| 2913 | 1,058,262.8742m | 299,747.3240m | 2+912.00 |
| 2914 | 1,058,262.9069m | 299,748.3235m | 2+913.00 |
| 2915 | 1,058,262.9396m | 299,749.3229m | 2+914.00 |
| 2916 | 1,058,262.9559m | 299,750.3227m | 2+915.00 |
| 2917 | 1,058,262.9302m | 299,751.3223m | 2+916.00 |
| 2918 | 1,058,262.8622m | 299,752.3199m | 2+917.00 |
| 2919 | 1,058,262.7519m | 299,753.3138m | 2+918.00 |
| 2920 | 1,058,262.5997m | 299,754.3020m | 2+919.00 |
| 2921 | 1,058,262.4058m | 299,755.2830m | 2+920.00 |
| 2922 | 1,058,262.1704m | 299,756.2548m | 2+921.00 |
| 2923 | 1,058,261.8941m | 299,757.2158m | 2+922.00 |
| 2924 | 1,058,261.5774m | 299,758.1642m | 2+923.00 |
| 2925 | 1,058,261.2207m | 299,759.0984m | 2+924.00 |
| 2926 | 1,058,260.8248m | 299,760.0166m | 2+925.00 |
| 2927 | 1,058,260.3904m | 299,760.9172m | 2+926.00 |
| 2928 | 1,058,259.9182m | 299,761.7986m | 2+927.00 |
| 2929 | 1,058,259.4091m | 299,762.6593m | 2+928.00 |
| 2930 | 1,058,258.8640m | 299,763.4975m | 2+929.00 |
| 2931 | 1,058,258.2838m | 299,764.3120m | 2+930.00 |
| 2932 | 1,058,257.6697m | 299,765.1011m | 2+931.00 |
| 2933 | 1,058,257.0227m | 299,765.8635m | 2+932.00 |
| 2934 | 1,058,256.3440m | 299,766.5978m | 2+933.00 |
| 2935 | 1,058,255.6348m | 299,767.3027m | 2+934.00 |
| 2936 | 1,058,254.8964m | 299,767.9769m | 2+935.00 |
| 2937 | 1,058,254.1301m | 299,768.6193m | 2+936.00 |
| 2938 | 1,058,253.3373m | 299,769.2286m | 2+937.00 |
| 2939 | 1,058,252.5193m | 299,769.8038m | 2+938.00 |
| 2940 | 1,058,251.6778m | 299,770.3438m | 2+939.00 |
| 2941 | 1,058,250.8141m | 299,770.8477m | 2+940.00 |
| 2942 | 1,058,249.9298m | 299,771.3145m | 2+941.00 |
| 2943 | 1,058,249.0266m | 299,771.7435m | 2+942.00 |
| 2944 | 1,058,248.1060m | 299,772.1338m | 2+943.00 |
| 2945 | 1,058,247.1697m | 299,772.4847m | 2+944.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 2946 | 1,058,246.2193m | 299,772.7957m | 2+945.00 |
| 2947 | 1,058,245.2567m | 299,773.0662m | 2+946.00 |
| 2948 | 1,058,244.2834m | 299,773.2956m | 2+947.00 |
| 2949 | 1,058,243.3013m | 299,773.4836m | 2+948.00 |
| 2950 | 1,058,242.3122m | 299,773.6299m | 2+949.00 |
| 2951 | 1,058,241.3177m | 299,773.7341m | 2+950.00 |
| 2952 | 1,058,240.3197m | 299,773.7960m | 2+951.00 |
| 2953 | 1,058,239.3202m | 299,773.8295m | 2+952.00 |
| 2954 | 1,058,238.3208m | 299,773.8622m | 2+953.00 |
| 2955 | 1,058,237.3213m | 299,773.8949m | 2+954.00 |
| 2956 | 1,058,236.3218m | 299,773.9276m | 2+955.00 |
| 2957 | 1,058,235.3224m | 299,773.9603m | 2+956.00 |
| 2958 | 1,058,234.3229m | 299,773.9930m | 2+957.00 |
| 2959 | 1,058,233.3234m | 299,774.0257m | 2+958.00 |
| 2960 | 1,058,232.3255m | 299,774.0179m | 2+959.00 |
| 2961 | 1,058,231.3315m | 299,773.9086m | 2+960.00 |
| 2962 | 1,058,230.3392m | 299,773.7994m | 2+961.00 |
| 2963 | 1,058,229.3435m | 299,773.6900m | 2+962.00 |
| 2964 | 1,058,228.3491m | 299,773.5855m | 2+963.00 |
| 2965 | 1,058,227.3503m | 299,773.6313m | 2+964.00 |
| 2966 | 1,058,226.3514m | 299,773.6789m | 2+965.00 |
| 2967 | 1,058,225.3525m | 299,773.7265m | 2+966.00 |
| 2968 | 1,058,224.3537m | 299,773.7741m | 2+967.00 |
| 2969 | 1,058,223.3585m | 299,773.8652m | 2+968.00 |
| 2970 | 1,058,222.3852m | 299,774.0911m | 2+969.00 |
| 2971 | 1,058,221.4539m | 299,774.4527m | 2+970.00 |
| 2972 | 1,058,220.5818m | 299,774.9403m | 2+971.00 |
| 2973 | 1,058,219.7858m | 299,775.5443m | 2+972.00 |
| 2974 | 1,058,219.0722m | 299,776.2443m | 2+973.00 |
| 2975 | 1,058,218.4143m | 299,776.9960m | 2+974.00 |
| 2976 | 1,058,217.8781m | 299,777.8322m | 2+975.00 |
| 2977 | 1,058,217.4608m | 299,778.7464m | 2+976.00 |
| 2978 | 1,058,217.1719m | 299,779.7031m | 2+977.00 |
| 2979 | 1,058,216.9731m | 299,780.6824m | 2+978.00 |
| 2980 | 1,058,217.0573m | 299,781.6748m | 2+979.00 |
| 2981 | 1,058,217.1339m | 299,782.5603m | 2+980.00 |
| 2982 | 1,058,216.1605m | 299,782.7894m | 2+981.00 |
| 2983 | 1,058,215.1871m | 299,783.0186m | 2+982.00 |
| 2984 | 1,058,214.2137m | 299,783.2478m | 2+983.00 |
| 2985 | 1,058,213.2484m | 299,783.5062m | 2+984.00 |
| 2986 | 1,058,212.2947m | 299,783.8070m | 2+985.00 |
| 2987 | 1,058,211.3410m | 299,784.1077m | 2+986.00 |
| 2988 | 1,058,210.3872m | 299,784.4084m | 2+987.00 |
| 2989 | 1,058,209.4335m | 299,784.7091m | 2+988.00 |
| 2990 | 1,058,208.4798m | 299,785.0098m | 2+989.00 |
| 2991 | 1,058,207.5261m | 299,785.3105m | 2+990.00 |
| 2992 | 1,058,206.5724m | 299,785.6112m | 2+991.00 |
| 2993 | 1,058,205.6187m | 299,785.9120m | 2+992.00 |
| 2994 | 1,058,204.6650m | 299,786.2127m | 2+993.00 |
| 2995 | 1,058,203.7112m | 299,786.5134m | 2+994.00 |
| 2996 | 1,058,202.7575m | 299,786.8141m | 2+995.00 |
| 2997 | 1,058,201.8038m | 299,787.1148m | 2+996.00 |
| 2998 | 1,058,200.8501m | 299,787.4155m | 2+997.00 |
| 2999 | 1,058,199.8964m | 299,787.7162m | 2+998.00 |
| 3000 | 1,058,198.9427m | 299,788.0170m | 2+999.00 |
| 3001 | 1,058,197.9890m | 299,788.3177m | 3+000.00 |
| 3002 | 1,058,197.0352m | 299,788.6184m | 3+001.00 |
| 3003 | 1,058,196.0815m | 299,788.9191m | 3+002.00 |
| 3004 | 1,058,195.1278m | 299,789.2198m | 3+003.00 |
| 3005 | 1,058,194.1741m | 299,789.5205m | 3+004.00 |
| 3006 | 1,058,193.2204m | 299,789.8212m | 3+005.00 |
| 3007 | 1,058,192.2667m | 299,790.1220m | 3+006.00 |
| 3008 | 1,058,191.3130m | 299,790.4227m | 3+007.00 |
| 3009 | 1,058,190.3593m | 299,790.7234m | 3+008.00 |
| 3010 | 1,058,189.4055m | 299,791.0241m | 3+009.00 |
| 3011 | 1,058,189.2767m | 299,791.9202m | 3+010.00 |
| 3012 | 1,058,189.2916m | 299,792.9201m | 3+011.00 |
| 3013 | 1,058,189.3066m | 299,793.9200m | 3+012.00 |
| 3014 | 1,058,189.3215m | 299,794.9199m | 3+013.00 |
| 3015 | 1,058,189.3365m | 299,795.9198m | 3+014.00 |
| 3016 | 1,058,189.3514m | 299,796.9196m | 3+015.00 |
| 3017 | 1,058,189.3663m | 299,797.9195m | 3+016.00 |
| 3018 | 1,058,189.3813m | 299,798.9194m | 3+017.00 |
| 3019 | 1,058,189.3962m | 299,799.9193m | 3+018.00 |
| 3020 | 1,058,189.4112m | 299,800.9192m | 3+019.00 |
| 3021 | 1,058,189.4261m | 299,801.9191m | 3+020.00 |
| 3022 | 1,058,189.4411m | 299,802.9190m | 3+021.00 |
| 3023 | 1,058,189.4560m | 299,803.9189m | 3+022.00 |
| 3024 | 1,058,189.4709m | 299,804.9187m | 3+023.00 |
| 3025 | 1,058,189.4859m | 299,805.9186m | 3+024.00 |
| 3026 | 1,058,189.5008m | 299,806.9185m | 3+025.00 |
| 3027 | 1,058,189.5158m | 299,807.9184m | 3+026.00 |
| 3028 | 1,058,189.5307m | 299,808.9183m | 3+027.00 |
| 3029 | 1,058,189.5457m | 299,809.9182m | 3+028.00 |
| 3030 | 1,058,189.5606m | 299,810.9181m | 3+029.00 |
| 3031 | 1,058,189.5755m | 299,811.9180m | 3+030.00 |
| 3032 | 1,058,189.5905m | 299,812.9179m | 3+031.00 |
| 3033 | 1,058,189.6054m | 299,813.9177m | 3+032.00 |
| 3034 | 1,058,189.6204m | 299,814.9176m | 3+033.00 |
| 3035 | 1,058,189.6353m | 299,815.9175m | 3+034.00 |
| 3036 | 1,058,189.6503m | 299,816.9174m | 3+035.00 |
| 3037 | 1,058,189.8409m | 299,817.8231m | 3+036.00 |
| 3038 | 1,058,190.6657m | 299,818.3885m | 3+037.00 |
| 3039 | 1,058,191.4905m | 299,818.9539m | 3+038.00 |
| 3040 | 1,058,192.3153m | 299,819.5193m | 3+039.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 3041 | 1,058,193.1401m | 299,820.0847m | 3+040.00 |
| 3042 | 1,058,193.9649m | 299,820.6502m | 3+041.00 |
| 3043 | 1,058,194.7897m | 299,821.2156m | 3+042.00 |
| 3044 | 1,058,195.6145m | 299,821.7810m | 3+043.00 |
| 3045 | 1,058,196.4393m | 299,822.3464m | 3+044.00 |
| 3046 | 1,058,197.2641m | 299,822.9119m | 3+045.00 |
| 3047 | 1,058,198.0889m | 299,823.4773m | 3+046.00 |
| 3048 | 1,058,198.9137m | 299,824.0427m | 3+047.00 |
| 3049 | 1,058,199.7385m | 299,824.6081m | 3+048.00 |
| 3050 | 1,058,200.5633m | 299,825.1736m | 3+049.00 |
| 3051 | 1,058,201.3881m | 299,825.7390m | 3+050.00 |
| 3052 | 1,058,202.2129m | 299,826.3044m | 3+051.00 |
| 3053 | 1,058,203.0377m | 299,826.8698m | 3+052.00 |
| 3054 | 1,058,203.8625m | 299,827.4353m | 3+053.00 |
| 3055 | 1,058,204.6873m | 299,828.0007m | 3+054.00 |
| 3056 | 1,058,205.5121m | 299,828.5661m | 3+055.00 |
| 3057 | 1,058,206.3369m | 299,829.1315m | 3+056.00 |
| 3058 | 1,058,207.1617m | 299,829.6970m | 3+057.00 |
| 3059 | 1,058,207.9865m | 299,830.2624m | 3+058.00 |
| 3060 | 1,058,208.8113m | 299,830.8278m | 3+059.00 |
| 3061 | 1,058,209.6361m | 299,831.3932m | 3+060.00 |
| 3062 | 1,058,210.4609m | 299,831.9586m | 3+061.00 |
| 3063 | 1,058,211.2857m | 299,832.5241m | 3+062.00 |
| 3064 | 1,058,212.1105m | 299,833.0895m | 3+063.00 |
| 3065 | 1,058,212.9353m | 299,833.6549m | 3+064.00 |
| 3066 | 1,058,213.7601m | 299,834.2203m | 3+065.00 |
| 3067 | 1,058,214.5849m | 299,834.7858m | 3+066.00 |
| 3068 | 1,058,215.4097m | 299,835.3512m | 3+067.00 |
| 3069 | 1,058,216.2345m | 299,835.9166m | 3+068.00 |
| 3070 | 1,058,217.0939m | 299,836.4036m | 3+069.00 |
| 3071 | 1,058,218.0674m | 299,836.6326m | 3+070.00 |
| 3072 | 1,058,219.0408m | 299,836.8616m | 3+071.00 |
| 3073 | 1,058,220.0142m | 299,837.0905m | 3+072.00 |
| 3074 | 1,058,220.9877m | 299,837.3195m | 3+073.00 |
| 3075 | 1,058,221.9611m | 299,837.5485m | 3+074.00 |
| 3076 | 1,058,222.9345m | 299,837.7774m | 3+075.00 |
| 3077 | 1,058,223.9080m | 299,838.0064m | 3+076.00 |
| 3078 | 1,058,224.8814m | 299,838.2354m | 3+077.00 |
| 3079 | 1,058,225.8548m | 299,838.4643m | 3+078.00 |
| 3080 | 1,058,226.8283m | 299,838.6933m | 3+079.00 |
| 3081 | 1,058,227.8017m | 299,838.9223m | 3+080.00 |
| 3082 | 1,058,228.7751m | 299,839.1512m | 3+081.00 |
| 3083 | 1,058,229.7486m | 299,839.3802m | 3+082.00 |
| 3084 | 1,058,230.7220m | 299,839.6092m | 3+083.00 |
| 3085 | 1,058,231.6954m | 299,839.8381m | 3+084.00 |
| 3086 | 1,058,232.6689m | 299,840.0671m | 3+085.00 |
| 3087 | 1,058,233.6423m | 299,840.2961m | 3+086.00 |
| 3088 | 1,058,234.6157m | 299,840.5250m | 3+087.00 |
| 3089 | 1,058,235.5892m | 299,840.7540m | 3+088.00 |
| 3090 | 1,058,236.5626m | 299,840.9830m | 3+089.00 |
| 3091 | 1,058,237.5361m | 299,841.2119m | 3+090.00 |
| 3092 | 1,058,238.5095m | 299,841.4409m | 3+091.00 |
| 3093 | 1,058,239.4829m | 299,841.6699m | 3+092.00 |
| 3094 | 1,058,240.4564m | 299,841.8988m | 3+093.00 |
| 3095 | 1,058,241.4341m | 299,842.0746m | 3+094.00 |
| 3096 | 1,058,242.4318m | 299,842.0065m | 3+095.00 |
| 3097 | 1,058,243.4295m | 299,841.9383m | 3+096.00 |
| 3098 | 1,058,244.4272m | 299,841.8702m | 3+097.00 |
| 3099 | 1,058,245.4248m | 299,841.8020m | 3+098.00 |
| 3100 | 1,058,246.4225m | 299,841.7339m | 3+099.00 |
| 3101 | 1,058,247.4202m | 299,841.6657m | 3+100.00 |
| 3102 | 1,058,248.4179m | 299,841.5976m | 3+101.00 |
| 3103 | 1,058,249.4155m | 299,841.5295m | 3+102.00 |
| 3104 | 1,058,250.4132m | 299,841.4613m | 3+103.00 |
| 3105 | 1,058,251.4109m | 299,841.3932m | 3+104.00 |
| 3106 | 1,058,252.4086m | 299,841.3250m | 3+105.00 |
| 3107 | 1,058,253.4062m | 299,841.2569m | 3+106.00 |
| 3108 | 1,058,254.4039m | 299,841.1888m | 3+107.00 |
| 3109 | 1,058,255.4016m | 299,841.1206m | 3+108.00 |
| 3110 | 1,058,256.3993m | 299,841.0525m | 3+109.00 |
| 3111 | 1,058,257.3969m | 299,840.9843m | 3+110.00 |
| 3112 | 1,058,258.3946m | 299,840.9162m | 3+111.00 |
| 3113 | 1,058,259.3923m | 299,840.8480m | 3+112.00 |
| 3114 | 1,058,260.3900m | 299,840.7799m | 3+113.00 |
| 3115 | 1,058,261.3876m | 299,840.7118m | 3+114.00 |
| 3116 | 1,058,262.3853m | 299,840.6436m | 3+115.00 |
| 3117 | 1,058,263.3830m | 299,840.5755m | 3+116.00 |
| 3118 | 1,058,264.3807m | 299,840.5073m | 3+117.00 |
| 3119 | 1,058,265.3783m | 299,840.4392m | 3+118.00 |
| 3120 | 1,058,266.3760m | 299,840.3710m | 3+119.00 |
| 3121 | 1,058,267.3737m | 299,840.3029m | 3+120.00 |
| 3122 | 1,058,268.3714m | 299,840.2348m | 3+121.00 |
| 3123 | 1,058,268.8545m | 299,839.6370m | 3+122.00 |
| 3124 | 1,058,268.9515m | 299,838.6417m | 3+123.00 |
| 3125 | 1,058,269.0485m | 299,837.6464m | 3+124.00 |
| 3126 | 1,058,269.1455m | 299,836.6511m | 3+125.00 |
| 3127 | 1,058,269.2425m | 299,835.6558m | 3+126.00 |
| 3128 | 1,058,269.3395m | 299,834.6606m | 3+127.00 |
| 3129 | 1,058,269.4365m | 299,833.6653m | 3+128.00 |
| 3130 | 1,058,269.5335m | 299,832.6700m | 3+129.00 |
| 3131 | 1,058,269.6305m | 299,831.6747m | 3+130.00 |
| 3132 | 1,058,269.7275m | 299,830.6794m | 3+131.00 |
| 3133 | 1,058,269.8245m | 299,829.6841m | 3+132.00 |
| 3134 | 1,058,269.9214m | 299,828.6888m | 3+133.00 |
| 3135 | 1,058,270.0184m | 299,827.6936m | 3+134.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 3136 | 1,058,270.1154m | 299,826.6983m | 3+135.00 |
| 3137 | 1,058,270.2124m | 299,825.7030m | 3+136.00 |
| 3138 | 1,058,270.3094m | 299,824.7077m | 3+137.00 |
| 3139 | 1,058,270.4064m | 299,823.7124m | 3+138.00 |
| 3140 | 1,058,270.5034m | 299,822.7171m | 3+139.00 |
| 3141 | 1,058,270.6004m | 299,821.7218m | 3+140.00 |
| 3142 | 1,058,270.6974m | 299,820.7266m | 3+141.00 |
| 3143 | 1,058,270.7944m | 299,819.7313m | 3+142.00 |
| 3144 | 1,058,270.8914m | 299,818.7360m | 3+143.00 |
| 3145 | 1,058,270.9884m | 299,817.7407m | 3+144.00 |
| 3146 | 1,058,271.0854m | 299,816.7454m | 3+145.00 |
| 3147 | 1,058,271.1823m | 299,815.7501m | 3+146.00 |
| 3148 | 1,058,271.2793m | 299,814.7549m | 3+147.00 |
| 3149 | 1,058,271.3763m | 299,813.7596m | 3+148.00 |
| 3150 | 1,058,271.4733m | 299,812.7643m | 3+149.00 |
| 3151 | 1,058,271.5703m | 299,811.7690m | 3+150.00 |
| 3152 | 1,058,271.6673m | 299,810.7737m | 3+151.00 |
| 3153 | 1,058,271.7643m | 299,809.7784m | 3+152.00 |
| 3154 | 1,058,271.8613m | 299,808.7831m | 3+153.00 |
| 3155 | 1,058,271.9583m | 299,807.7879m | 3+154.00 |
| 3156 | 1,058,272.0553m | 299,806.7926m | 3+155.00 |
| 3157 | 1,058,272.1523m | 299,805.7973m | 3+156.00 |
| 3158 | 1,058,272.2493m | 299,804.8020m | 3+157.00 |
| 3159 | 1,058,272.3463m | 299,803.8067m | 3+158.00 |
| 3160 | 1,058,272.4433m | 299,802.8114m | 3+159.00 |
| 3161 | 1,058,272.5402m | 299,801.8161m | 3+160.00 |
| 3162 | 1,058,272.6372m | 299,800.8209m | 3+161.00 |
| 3163 | 1,058,272.7342m | 299,799.8256m | 3+162.00 |
| 3164 | 1,058,272.8312m | 299,798.8303m | 3+163.00 |
| 3165 | 1,058,272.9282m | 299,797.8350m | 3+164.00 |
| 3166 | 1,058,273.0252m | 299,796.8397m | 3+165.00 |
| 3167 | 1,058,273.1222m | 299,795.8444m | 3+166.00 |
| 3168 | 1,058,273.2192m | 299,794.8492m | 3+167.00 |
| 3169 | 1,058,273.3162m | 299,793.8539m | 3+168.00 |
| 3170 | 1,058,273.4132m | 299,792.8586m | 3+169.00 |
| 3171 | 1,058,273.5102m | 299,791.8633m | 3+170.00 |
| 3172 | 1,058,273.6072m | 299,790.8680m | 3+171.00 |
| 3173 | 1,058,273.7042m | 299,789.8727m | 3+172.00 |
| 3174 | 1,058,273.8012m | 299,788.8774m | 3+173.00 |
| 3175 | 1,058,273.8981m | 299,787.8822m | 3+174.00 |
| 3176 | 1,058,273.9951m | 299,786.8869m | 3+175.00 |
| 3177 | 1,058,274.0921m | 299,785.8916m | 3+176.00 |
| 3178 | 1,058,274.1891m | 299,784.8963m | 3+177.00 |
| 3179 | 1,058,274.2861m | 299,783.9010m | 3+178.00 |
| 3180 | 1,058,274.3831m | 299,782.9057m | 3+179.00 |
| 3181 | 1,058,274.4801m | 299,781.9104m | 3+180.00 |
| 3182 | 1,058,274.5771m | 299,780.9152m | 3+181.00 |
| 3183 | 1,058,274.6741m | 299,779.9199m | 3+182.00 |
| 3184 | 1,058,274.7711m | 299,778.9246m | 3+183.00 |
| 3185 | 1,058,274.8681m | 299,777.9293m | 3+184.00 |
| 3186 | 1,058,274.9651m | 299,776.9340m | 3+185.00 |
| 3187 | 1,058,275.0621m | 299,775.9387m | 3+186.00 |
| 3188 | 1,058,275.1591m | 299,774.9434m | 3+187.00 |
| 3189 | 1,058,275.2560m | 299,773.9482m | 3+188.00 |
| 3190 | 1,058,275.3530m | 299,772.9529m | 3+189.00 |
| 3191 | 1,058,275.4500m | 299,771.9576m | 3+190.00 |
| 3192 | 1,058,275.5470m | 299,770.9623m | 3+191.00 |
| 3193 | 1,058,275.6440m | 299,769.9670m | 3+192.00 |
| 3194 | 1,058,275.7410m | 299,768.9717m | 3+193.00 |
| 3195 | 1,058,275.8380m | 299,767.9765m | 3+194.00 |
| 3196 | 1,058,275.9350m | 299,766.9812m | 3+195.00 |
| 3197 | 1,058,276.0320m | 299,765.9859m | 3+196.00 |
| 3198 | 1,058,276.1290m | 299,764.9906m | 3+197.00 |
| 3199 | 1,058,276.2260m | 299,763.9953m | 3+198.00 |
| 3200 | 1,058,276.3230m | 299,763.0000m | 3+199.00 |
| 3201 | 1,058,276.3864m | 299,762.0021m | 3+200.00 |
| 3202 | 1,058,276.4470m | 299,761.0039m | 3+201.00 |
| 3203 | 1,058,276.5075m | 299,760.0058m | 3+202.00 |
| 3204 | 1,058,276.5680m | 299,759.0076m | 3+203.00 |
| 3205 | 1,058,276.6286m | 299,758.0094m | 3+204.00 |
| 3206 | 1,058,276.6891m | 299,757.0113m | 3+205.00 |
| 3207 | 1,058,276.7496m | 299,756.0131m | 3+206.00 |
| 3208 | 1,058,276.8102m | 299,755.0149m | 3+207.00 |
| 3209 | 1,058,276.8707m | 299,754.0168m | 3+208.00 |
| 3210 | 1,058,276.9312m | 299,753.0186m | 3+209.00 |
| 3211 | 1,058,276.9918m | 299,752.0204m | 3+210.00 |
| 3212 | 1,058,277.0523m | 299,751.0223m | 3+211.00 |
| 3213 | 1,058,277.1128m | 299,750.0241m | 3+212.00 |
| 3214 | 1,058,277.1734m | 299,749.0259m | 3+213.00 |
| 3215 | 1,058,277.2339m | 299,748.0278m | 3+214.00 |
| 3216 | 1,058,277.2944m | 299,747.0296m | 3+215.00 |
| 3217 | 1,058,277.3550m | 299,746.0314m | 3+216.00 |
| 3218 | 1,058,277.4155m | 299,745.0333m | 3+217.00 |
| 3219 | 1,058,277.4760m | 299,744.0351m | 3+218.00 |
| 3220 | 1,058,277.5365m | 299,743.0369m | 3+219.00 |
| 3221 | 1,058,277.5971m | 299,742.0388m | 3+220.00 |
| 3222 | 1,058,277.6576m | 299,741.0406m | 3+221.00 |
| 3223 | 1,058,277.7181m | 299,740.0424m | 3+222.00 |
| 3224 | 1,058,277.7787m | 299,739.0443m | 3+223.00 |
| 3225 | 1,058,277.8392m | 299,738.0461m | 3+224.00 |
| 3226 | 1,058,277.8997m | 299,737.0479m | 3+225.00 |
| 3227 | 1,058,277.9603m | 299,736.0498m | 3+226.00 |
| 3228 | 1,058,278.0208m | 299,735.0516m | 3+227.00 |
| 3229 | 1,058,278.0813m | 299,734.0534m | 3+228.00 |
| 3230 | 1,058,278.1419m | 299,733.0553m | 3+229.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 3231 | 1,058,278.2024m | 299,732.0571m | 3+230.00 |
| 3232 | 1,058,278.2629m | 299,731.0589m | 3+231.00 |
| 3233 | 1,058,278.3235m | 299,730.0608m | 3+232.00 |
| 3234 | 1,058,278.3840m | 299,729.0626m | 3+233.00 |
| 3235 | 1,058,278.4445m | 299,728.0644m | 3+234.00 |
| 3236 | 1,058,278.5051m | 299,727.0663m | 3+235.00 |
| 3237 | 1,058,278.5656m | 299,726.0681m | 3+236.00 |
| 3238 | 1,058,278.3807m | 299,725.1040m | 3+237.00 |
| 3239 | 1,058,278.0506m | 299,724.1601m | 3+238.00 |
| 3240 | 1,058,277.7205m | 299,723.2161m | 3+239.00 |
| 3241 | 1,058,277.3905m | 299,722.2722m | 3+240.00 |
| 3242 | 1,058,277.0604m | 299,721.3282m | 3+241.00 |
| 3243 | 1,058,276.7303m | 299,720.3842m | 3+242.00 |
| 3244 | 1,058,276.4002m | 299,719.4403m | 3+243.00 |
| 3245 | 1,058,276.0701m | 299,718.4963m | 3+244.00 |
| 3246 | 1,058,275.7400m | 299,717.5524m | 3+245.00 |
| 3247 | 1,058,275.4100m | 299,716.6084m | 3+246.00 |
| 3248 | 1,058,275.0799m | 299,715.6645m | 3+247.00 |
| 3249 | 1,058,274.7498m | 299,714.7205m | 3+248.00 |
| 3250 | 1,058,274.5824m | 299,713.7462m | 3+249.00 |
| 3251 | 1,058,274.5497m | 299,712.7467m | 3+250.00 |
| 3252 | 1,058,274.5170m | 299,711.7473m | 3+251.00 |
| 3253 | 1,058,274.4843m | 299,710.7478m | 3+252.00 |
| 3254 | 1,058,274.4516m | 299,709.7483m | 3+253.00 |
| 3255 | 1,058,274.4189m | 299,708.7489m | 3+254.00 |
| 3256 | 1,058,274.3862m | 299,707.7494m | 3+255.00 |
| 3257 | 1,058,274.3535m | 299,706.7500m | 3+256.00 |
| 3258 | 1,058,274.3208m | 299,705.7505m | 3+257.00 |
| 3259 | 1,058,274.2890m | 299,704.7510m | 3+258.00 |
| 3260 | 1,058,274.2659m | 299,703.7513m | 3+259.00 |
| 3261 | 1,058,274.2535m | 299,702.7513m | 3+260.00 |
| 3262 | 1,058,274.2518m | 299,701.7514m | 3+261.00 |
| 3263 | 1,058,274.2607m | 299,700.7514m | 3+262.00 |
| 3264 | 1,058,274.2804m | 299,699.7516m | 3+263.00 |
| 3265 | 1,058,274.3107m | 299,698.7521m | 3+264.00 |
| 3266 | 1,058,274.3517m | 299,697.7529m | 3+265.00 |
| 3267 | 1,058,274.4034m | 299,696.7542m | 3+266.00 |
| 3268 | 1,058,274.4657m | 299,695.7562m | 3+267.00 |
| 3269 | 1,058,274.5614m | 299,694.7619m | 3+268.00 |
| 3270 | 1,058,274.7532m | 299,693.7805m | 3+269.00 |
| 3271 | 1,058,275.0067m | 299,692.8149m | 3+270.00 |
| 3272 | 1,058,275.3539m | 299,691.8771m | 3+271.00 |
| 3273 | 1,058,275.7135m | 299,690.9440m | 3+272.00 |
| 3274 | 1,058,275.9083m | 299,689.9860m | 3+273.00 |
| 3275 | 1,058,276.5907m | 299,689.2886m | 3+274.00 |
| 3276 | 1,058,276.8360m | 299,688.3457m | 3+275.00 |
| 3277 | 1,058,276.9776m | 299,687.3558m | 3+276.00 |
| 3278 | 1,058,277.1289m | 299,686.3763m | 3+277.00 |
| 3279 | 1,058,277.2944m | 299,685.3811m | 3+278.00 |
| 3280 | 1,058,277.4694m | 299,684.3965m | 3+279.00 |
| 3281 | 1,058,277.6602m | 299,683.4150m | 3+280.00 |
| 3282 | 1,058,277.8923m | 299,682.4424m | 3+281.00 |
| 3283 | 1,058,278.1405m | 299,681.4737m | 3+282.00 |
| 3284 | 1,058,278.4008m | 299,680.5081m | 3+283.00 |
| 3285 | 1,058,278.6734m | 299,679.5460m | 3+284.00 |
| 3286 | 1,058,278.9579m | 299,678.5874m | 3+285.00 |
| 3287 | 1,058,279.2543m | 299,677.6323m | 3+286.00 |
| 3288 | 1,058,279.5625m | 299,676.6810m | 3+287.00 |
| 3289 | 1,058,279.8825m | 299,675.7336m | 3+288.00 |
| 3290 | 1,058,280.3020m | 299,674.8289m | 3+289.00 |
| 3291 | 1,058,280.7963m | 299,673.9596m | 3+290.00 |
| 3292 | 1,058,281.2937m | 299,673.0921m | 3+291.00 |
| 3293 | 1,058,281.6981m | 299,672.2022m | 3+292.00 |
| 3294 | 1,058,281.2245m | 299,671.3608m | 3+293.00 |
| 3295 | 1,058,280.6091m | 299,670.5726m | 3+294.00 |
| 3296 | 1,058,280.0006m | 299,669.7914m | 3+295.00 |
| 3297 | 1,058,280.3541m | 299,668.8456m | 3+296.00 |
| 3298 | 1,058,280.7143m | 299,667.9127m | 3+297.00 |
| 3299 | 1,058,281.0844m | 299,666.9837m | 3+298.00 |
| 3300 | 1,058,281.4644m | 299,666.0587m | 3+299.00 |
| 3301 | 1,058,281.8543m | 299,665.1379m | 3+300.00 |
| 3302 | 1,058,282.2540m | 299,664.2212m | 3+301.00 |
| 3303 | 1,058,282.6634m | 299,663.3089m | 3+302.00 |
| 3304 | 1,058,283.0826m | 299,662.4010m | 3+303.00 |
| 3305 | 1,058,283.5115m | 299,661.4976m | 3+304.00 |
| 3306 | 1,058,283.9500m | 299,660.5989m | 3+305.00 |
| 3307 | 1,058,284.3981m | 299,659.7049m | 3+306.00 |
| 3308 | 1,058,284.8556m | 299,658.8157m | 3+307.00 |
| 3309 | 1,058,285.3227m | 299,657.9315m | 3+308.00 |
| 3310 | 1,058,285.7992m | 299,657.0524m | 3+309.00 |
| 3311 | 1,058,286.2850m | 299,656.1783m | 3+310.00 |
| 3312 | 1,058,286.7802m | 299,655.3095m | 3+311.00 |
| 3313 | 1,058,287.2846m | 299,654.4461m | 3+312.00 |
| 3314 | 1,058,287.7982m | 299,653.5880m | 3+313.00 |
| 3315 | 1,058,288.3210m | 299,652.7356m | 3+314.00 |
| 3316 | 1,058,288.8528m | 299,651.8887m | 3+315.00 |
| 3317 | 1,058,289.3936m | 299,651.0476m | 3+316.00 |
| 3318 | 1,058,289.9434m | 299,650.2123m | 3+317.00 |
| 3319 | 1,058,290.5021m | 299,649.3829m | 3+318.00 |
| 3320 | 1,058,291.0697m | 299,648.5596m | 3+319.00 |
| 3321 | 1,058,291.6459m | 299,647.7423m | 3+320.00 |
| 3322 | 1,058,292.2309m | 299,646.9313m | 3+321.00 |
| 3323 | 1,058,292.8245m | 299,646.1266m | 3+322.00 |
| 3324 | 1,058,293.4267m | 299,645.3282m | 3+323.00 |
| 3325 | 1,058,294.0374m | 299,644.5363m | 3+324.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 3326 | 1,058,294.6565m | 299,643.7510m | 3+325.00 |
| 3327 | 1,058,295.2839m | 299,642.9724m | 3+326.00 |
| 3328 | 1,058,295.9197m | 299,642.2005m | 3+327.00 |
| 3329 | 1,058,296.5636m | 299,641.4354m | 3+328.00 |
| 3330 | 1,058,297.2157m | 299,640.6772m | 3+329.00 |
| 3331 | 1,058,297.8758m | 299,639.9261m | 3+330.00 |
| 3332 | 1,058,298.5440m | 299,639.1821m | 3+331.00 |
| 3333 | 1,058,299.2200m | 299,638.4452m | 3+332.00 |
| 3334 | 1,058,299.9039m | 299,637.7156m | 3+333.00 |
| 3335 | 1,058,300.5952m | 299,636.9931m | 3+334.00 |
| 3336 | 1,058,301.2887m | 299,636.2726m | 3+335.00 |
| 3337 | 1,058,301.9821m | 299,635.5521m | 3+336.00 |
| 3338 | 1,058,302.6755m | 299,634.8316m | 3+337.00 |
| 3339 | 1,058,303.3690m | 299,634.1110m | 3+338.00 |
| 3340 | 1,058,304.0624m | 299,633.3905m | 3+339.00 |
| 3341 | 1,058,304.7558m | 299,632.6700m | 3+340.00 |
| 3342 | 1,058,305.4493m | 299,631.9495m | 3+341.00 |
| 3343 | 1,058,306.1427m | 299,631.2289m | 3+342.00 |
| 3344 | 1,058,306.8361m | 299,630.5084m | 3+343.00 |
| 3345 | 1,058,307.5295m | 299,629.7879m | 3+344.00 |
| 3346 | 1,058,308.2230m | 299,629.0674m | 3+345.00 |
| 3347 | 1,058,308.9164m | 299,628.3468m | 3+346.00 |
| 3348 | 1,058,309.6098m | 299,627.6263m | 3+347.00 |
| 3349 | 1,058,310.3033m | 299,626.9058m | 3+348.00 |
| 3350 | 1,058,310.9967m | 299,626.1853m | 3+349.00 |
| 3351 | 1,058,311.6917m | 299,625.4663m | 3+350.00 |
| 3352 | 1,058,312.4038m | 299,624.7642m | 3+351.00 |
| 3353 | 1,058,313.1364m | 299,624.0836m | 3+352.00 |
| 3354 | 1,058,313.8890m | 299,623.4252m | 3+353.00 |
| 3355 | 1,058,314.6608m | 299,622.7894m | 3+354.00 |
| 3356 | 1,058,315.4512m | 299,622.1769m | 3+355.00 |
| 3357 | 1,058,316.2595m | 299,621.5881m | 3+356.00 |
| 3358 | 1,058,317.0849m | 299,621.0237m | 3+357.00 |
| 3359 | 1,058,317.9268m | 299,620.4841m | 3+358.00 |
| 3360 | 1,058,318.7843m | 299,619.9698m | 3+359.00 |
| 3361 | 1,058,319.6568m | 299,619.4812m | 3+360.00 |
| 3362 | 1,058,320.5435m | 299,619.0188m | 3+361.00 |
| 3363 | 1,058,321.4435m | 299,618.5830m | 3+362.00 |
| 3364 | 1,058,322.3560m | 299,618.1742m | 3+363.00 |
| 3365 | 1,058,323.2804m | 299,617.7927m | 3+364.00 |
| 3366 | 1,058,324.2156m | 299,617.4389m | 3+365.00 |
| 3367 | 1,058,325.1610m | 299,617.1131m | 3+366.00 |
| 3368 | 1,058,326.1157m | 299,616.8155m | 3+367.00 |
| 3369 | 1,058,327.0788m | 299,616.5465m | 3+368.00 |
| 3370 | 1,058,328.0495m | 299,616.3063m | 3+369.00 |
| 3371 | 1,058,329.0269m | 299,616.0950m | 3+370.00 |
| 3372 | 1,058,330.0075m | 299,615.8990m | 3+371.00 |
| 3373 | 1,058,330.9881m | 299,615.7029m | 3+372.00 |
| 3374 | 1,058,331.9686m | 299,615.5068m | 3+373.00 |
| 3375 | 1,058,332.9492m | 299,615.3108m | 3+374.00 |
| 3376 | 1,058,333.9298m | 299,615.1147m | 3+375.00 |
| 3377 | 1,058,334.9104m | 299,614.9186m | 3+376.00 |
| 3378 | 1,058,335.8910m | 299,614.7225m | 3+377.00 |
| 3379 | 1,058,336.8716m | 299,614.5265m | 3+378.00 |
| 3380 | 1,058,337.8522m | 299,614.3304m | 3+379.00 |
| 3381 | 1,058,338.8328m | 299,614.1343m | 3+380.00 |
| 3382 | 1,058,339.8134m | 299,613.9382m | 3+381.00 |
| 3383 | 1,058,340.7939m | 299,613.7422m | 3+382.00 |
| 3384 | 1,058,341.7745m | 299,613.5461m | 3+383.00 |
| 3385 | 1,058,342.7551m | 299,613.3500m | 3+384.00 |
| 3386 | 1,058,343.7357m | 299,613.1540m | 3+385.00 |
| 3387 | 1,058,344.7163m | 299,612.9579m | 3+386.00 |
| 3388 | 1,058,345.6969m | 299,612.7618m | 3+387.00 |
| 3389 | 1,058,346.6774m | 299,612.5654m | 3+388.00 |
| 3390 | 1,058,347.6573m | 299,612.3657m | 3+389.00 |
| 3391 | 1,058,348.6363m | 299,612.1622m | 3+390.00 |
| 3392 | 1,058,349.6146m | 299,611.9548m | 3+391.00 |
| 3393 | 1,058,350.5921m | 299,611.7437m | 3+392.00 |
| 3394 | 1,058,351.5687m | 299,611.5288m | 3+393.00 |
| 3395 | 1,058,352.5445m | 299,611.3100m | 3+394.00 |
| 3396 | 1,058,353.5194m | 299,611.0874m | 3+395.00 |
| 3397 | 1,058,354.4934m | 299,610.8611m | 3+396.00 |
| 3398 | 1,058,355.4666m | 299,610.6309m | 3+397.00 |
| 3399 | 1,058,356.4388m | 299,610.3970m | 3+398.00 |
| 3400 | 1,058,357.4102m | 299,610.1592m | 3+399.00 |
| 3401 | 1,058,358.3805m | 299,609.9177m | 3+400.00 |
| 3402 | 1,058,359.3500m | 299,609.6724m | 3+401.00 |
| 3403 | 1,058,360.3162m | 299,609.5084m | 3+402.00 |
| 3404 | 1,058,361.2702m | 299,609.8083m | 3+403.00 |
| 3405 | 1,058,362.2253m | 299,610.1047m | 3+404.00 |
| 3406 | 1,058,363.1840m | 299,610.3890m | 3+405.00 |
| 3407 | 1,058,364.1623m | 299,610.3850m | 3+406.00 |
| 3408 | 1,058,365.1242m | 299,610.1118m | 3+407.00 |
| 3409 | 1,058,366.0854m | 299,609.8356m | 3+408.00 |
| 3410 | 1,058,367.0456m | 299,609.5565m | 3+409.00 |
| 3411 | 1,058,368.0009m | 299,609.2755m | 3+410.00 |
| 3412 | 1,058,368.9636m | 299,608.9898m | 3+411.00 |
| 3413 | 1,058,369.9222m | 299,608.7051m | 3+412.00 |
| 3414 | 1,058,370.8809m | 299,608.4204m | 3+413.00 |
| 3415 | 1,058,371.8395m | 299,608.1358m | 3+414.00 |
| 3416 | 1,058,372.8030m | 299,607.8691m | 3+415.00 |
| 3417 | 1,058,373.7769m | 299,607.6424m | 3+416.00 |
| 3418 | 1,058,374.7441m | 299,607.3917m | 3+417.00 |
| 3419 | 1,058,375.6890m | 299,607.0644m | 3+418.00 |
| 3420 | 1,058,376.6326m | 299,606.7335m | 3+419.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 3421 | 1,058,377.5763m | 299,606.4026m | 3+420.00 |
| 3422 | 1,058,378.5200m | 299,606.0717m | 3+421.00 |
| 3423 | 1,058,379.4639m | 299,605.7417m | 3+422.00 |
| 3424 | 1,058,380.4083m | 299,605.4128m | 3+423.00 |
| 3425 | 1,058,381.3537m | 299,605.0872m | 3+424.00 |
| 3426 | 1,058,382.3196m | 299,604.8555m | 3+425.00 |
| 3427 | 1,058,383.3035m | 299,604.6440m | 3+426.00 |
| 3428 | 1,058,384.2813m | 299,604.4342m | 3+427.00 |
| 3429 | 1,058,385.2586m | 299,604.2227m | 3+428.00 |
| 3430 | 1,058,386.2419m | 299,604.0463m | 3+429.00 |
| 3431 | 1,058,387.1765m | 299,603.7370m | 3+430.00 |
| 3432 | 1,058,387.9427m | 299,603.1247m | 3+431.00 |
| 3433 | 1,058,388.6041m | 299,602.4665m | 3+432.00 |
| 3434 | 1,058,389.5804m | 299,602.2502m | 3+433.00 |
| 3435 | 1,058,390.5589m | 299,602.0442m | 3+434.00 |
| 3436 | 1,058,391.5385m | 299,601.8434m | 3+435.00 |
| 3437 | 1,058,392.5193m | 299,601.6479m | 3+436.00 |
| 3438 | 1,058,393.5010m | 299,601.4577m | 3+437.00 |
| 3439 | 1,058,394.4707m | 299,601.2317m | 3+438.00 |
| 3440 | 1,058,395.3795m | 299,600.8144m | 3+439.00 |
| 3441 | 1,058,396.2963m | 299,600.4158m | 3+440.00 |
| 3442 | 1,058,397.2814m | 299,600.3083m | 3+441.00 |
| 3443 | 1,058,398.2672m | 299,600.1501m | 3+442.00 |
| 3444 | 1,058,399.2479m | 299,599.9549m | 3+443.00 |
| 3445 | 1,058,400.2291m | 299,599.7682m | 3+444.00 |
| 3446 | 1,058,401.2143m | 299,599.5895m | 3+445.00 |
| 3447 | 1,058,402.1997m | 299,599.4193m | 3+446.00 |
| 3448 | 1,058,403.1252m | 299,599.1489m | 3+447.00 |
| 3449 | 1,058,403.7021m | 299,598.3350m | 3+448.00 |
| 3450 | 1,058,404.5663m | 299,597.8573m | 3+449.00 |
| 3451 | 1,058,405.4820m | 299,597.4556m | 3+450.00 |
| 3452 | 1,058,406.4024m | 299,597.0677m | 3+451.00 |
| 3453 | 1,058,407.3370m | 299,596.7146m | 3+452.00 |
| 3454 | 1,058,408.3354m | 299,596.6769m | 3+453.00 |
| 3455 | 1,058,409.2289m | 299,596.2781m | 3+454.00 |
| 3456 | 1,058,410.1775m | 299,596.3466m | 3+455.00 |
| 3457 | 1,058,411.1207m | 299,596.6787m | 3+456.00 |
| 3458 | 1,058,412.0482m | 299,596.5761m | 3+457.00 |
| 3459 | 1,058,412.9246m | 299,596.0944m | 3+458.00 |
| 3460 | 1,058,413.8033m | 299,595.6171m | 3+459.00 |
| 3461 | 1,058,414.6845m | 299,595.1443m | 3+460.00 |
| 3462 | 1,058,415.5680m | 299,594.6760m | 3+461.00 |
| 3463 | 1,058,416.4539m | 299,594.2121m | 3+462.00 |
| 3464 | 1,058,417.4351m | 299,594.0559m | 3+463.00 |
| 3465 | 1,058,418.4289m | 299,593.9449m | 3+464.00 |
| 3466 | 1,058,419.4235m | 299,593.8409m | 3+465.00 |
| 3467 | 1,058,420.4187m | 299,593.7438m | 3+466.00 |
| 3468 | 1,058,421.4147m | 299,593.6536m | 3+467.00 |
| 3469 | 1,058,422.4112m | 299,593.5704m | 3+468.00 |
| 3470 | 1,058,423.4083m | 299,593.4941m | 3+469.00 |
| 3471 | 1,058,424.4059m | 299,593.4247m | 3+470.00 |
| 3472 | 1,058,425.4039m | 299,593.3623m | 3+471.00 |
| 3473 | 1,058,426.4024m | 299,593.3068m | 3+472.00 |
| 3474 | 1,058,427.4012m | 299,593.2583m | 3+473.00 |
| 3475 | 1,058,428.4003m | 299,593.2168m | 3+474.00 |
| 3476 | 1,058,429.3997m | 299,593.1822m | 3+475.00 |
| 3477 | 1,058,430.3993m | 299,593.1546m | 3+476.00 |
| 3478 | 1,058,431.3991m | 299,593.1339m | 3+477.00 |
| 3479 | 1,058,432.3990m | 299,593.1202m | 3+478.00 |
| 3480 | 1,058,433.3990m | 299,593.1135m | 3+479.00 |
| 3481 | 1,058,434.3990m | 299,593.1137m | 3+480.00 |
| 3482 | 1,058,435.3990m | 299,593.1209m | 3+481.00 |
| 3483 | 1,058,436.3667m | 299,593.3312m | 3+482.00 |
| 3484 | 1,058,437.3103m | 299,593.6580m | 3+483.00 |
| 3485 | 1,058,438.2673m | 299,593.9483m | 3+484.00 |
| 3486 | 1,058,439.2225m | 299,594.2441m | 3+485.00 |
| 3487 | 1,058,440.1575m | 299,594.5963m | 3+486.00 |
| 3488 | 1,058,441.0922m | 299,594.9287m | 3+487.00 |
| 3489 | 1,058,442.0784m | 299,595.0874m | 3+488.00 |
| 3490 | 1,058,443.0575m | 299,595.2899m | 3+489.00 |
| 3491 | 1,058,444.0454m | 299,595.3474m | 3+490.00 |
| 3492 | 1,058,444.8339m | 299,594.7929m | 3+491.00 |
| 3493 | 1,058,445.6641m | 299,594.2555m | 3+492.00 |
| 3494 | 1,058,446.5457m | 299,593.7835m | 3+493.00 |
| 3495 | 1,058,447.5340m | 299,593.8801m | 3+494.00 |
| 3496 | 1,058,448.5255m | 299,594.0108m | 3+495.00 |
| 3497 | 1,058,449.5154m | 299,594.1521m | 3+496.00 |
| 3498 | 1,058,450.5038m | 299,594.3039m | 3+497.00 |
| 3499 | 1,058,451.4905m | 299,594.4663m | 3+498.00 |
| 3500 | 1,058,452.4755m | 299,594.6393m | 3+499.00 |
| 3501 | 1,058,453.4585m | 299,594.8227m | 3+500.00 |
| 3502 | 1,058,454.4395m | 299,595.0167m | 3+501.00 |
| 3503 | 1,058,455.4184m | 299,595.2211m | 3+502.00 |
| 3504 | 1,058,456.3950m | 299,595.4360m | 3+503.00 |
| 3505 | 1,058,457.3693m | 299,595.6612m | 3+504.00 |
| 3506 | 1,058,458.3411m | 299,595.8969m | 3+505.00 |
| 3507 | 1,058,459.3104m | 299,596.1430m | 3+506.00 |
| 3508 | 1,058,460.2770m | 299,596.3994m | 3+507.00 |
| 3509 | 1,058,461.2407m | 299,596.6661m | 3+508.00 |
| 3510 | 1,058,462.2016m | 299,596.9430m | 3+509.00 |
| 3511 | 1,058,463.1595m | 299,597.2303m | 3+510.00 |
| 3512 | 1,058,464.1142m | 299,597.5277m | 3+511.00 |
| 3513 | 1,058,465.0657m | 299,597.8353m | 3+512.00 |
| 3514 | 1,058,466.0139m | 299,598.1531m | 3+513.00 |
| 3515 | 1,058,466.9586m | 299,598.4810m | 3+514.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 3516 | 1,058,467.8997m | 299,598.8190m | 3+515.00 |
| 3517 | 1,058,468.8372m | 299,599.1670m | 3+516.00 |
| 3518 | 1,058,469.7709m | 299,599.5250m | 3+517.00 |
| 3519 | 1,058,470.7008m | 299,599.8929m | 3+518.00 |
| 3520 | 1,058,471.6266m | 299,600.2708m | 3+519.00 |
| 3521 | 1,058,472.5484m | 299,600.6585m | 3+520.00 |
| 3522 | 1,058,473.4660m | 299,601.0561m | 3+521.00 |
| 3523 | 1,058,474.3792m | 299,601.4634m | 3+522.00 |
| 3524 | 1,058,475.2881m | 299,601.8805m | 3+523.00 |
| 3525 | 1,058,476.1925m | 299,602.3072m | 3+524.00 |
| 3526 | 1,058,477.0922m | 299,602.7436m | 3+525.00 |
| 3527 | 1,058,477.9872m | 299,603.1896m | 3+526.00 |
| 3528 | 1,058,478.8775m | 299,603.6451m | 3+527.00 |
| 3529 | 1,058,479.7628m | 299,604.1102m | 3+528.00 |
| 3530 | 1,058,480.6431m | 299,604.5846m | 3+529.00 |
| 3531 | 1,058,481.5182m | 299,605.0684m | 3+530.00 |
| 3532 | 1,058,482.3882m | 299,605.5615m | 3+531.00 |
| 3533 | 1,058,483.2528m | 299,606.0639m | 3+532.00 |
| 3534 | 1,058,484.1120m | 299,606.5756m | 3+533.00 |
| 3535 | 1,058,484.9657m | 299,607.0963m | 3+534.00 |
| 3536 | 1,058,485.8138m | 299,607.6262m | 3+535.00 |
| 3537 | 1,058,486.6562m | 299,608.1651m | 3+536.00 |
| 3538 | 1,058,487.4927m | 299,608.7129m | 3+537.00 |
| 3539 | 1,058,488.3234m | 299,609.2697m | 3+538.00 |
| 3540 | 1,058,489.1481m | 299,609.8353m | 3+539.00 |
| 3541 | 1,058,489.9667m | 299,610.4096m | 3+540.00 |
| 3542 | 1,058,490.7791m | 299,610.9927m | 3+541.00 |
| 3543 | 1,058,491.5852m | 299,611.5845m | 3+542.00 |
| 3544 | 1,058,492.3849m | 299,612.1848m | 3+543.00 |
| 3545 | 1,058,493.1782m | 299,612.7936m | 3+544.00 |
| 3546 | 1,058,493.9650m | 299,613.4109m | 3+545.00 |
| 3547 | 1,058,494.7451m | 299,614.0365m | 3+546.00 |
| 3548 | 1,058,495.5185m | 299,614.6704m | 3+547.00 |
| 3549 | 1,058,496.2850m | 299,615.3126m | 3+548.00 |
| 3550 | 1,058,497.0447m | 299,615.9629m | 3+549.00 |
| 3551 | 1,058,497.7974m | 299,616.6213m | 3+550.00 |
| 3552 | 1,058,498.5430m | 299,617.2877m | 3+551.00 |
| 3553 | 1,058,499.2814m | 299,617.9620m | 3+552.00 |
| 3554 | 1,058,500.0126m | 299,618.6442m | 3+553.00 |
| 3555 | 1,058,500.7364m | 299,619.3342m | 3+554.00 |
| 3556 | 1,058,501.4529m | 299,620.0318m | 3+555.00 |
| 3557 | 1,058,502.1652m | 299,620.7336m | 3+556.00 |
| 3558 | 1,058,502.8775m | 299,621.4355m | 3+557.00 |
| 3559 | 1,058,503.5899m | 299,622.1373m | 3+558.00 |
| 3560 | 1,058,504.3022m | 299,622.8391m | 3+559.00 |
| 3561 | 1,058,505.0146m | 299,623.5410m | 3+560.00 |
| 3562 | 1,058,505.7269m | 299,624.2428m | 3+561.00 |
| 3563 | 1,058,506.4393m | 299,624.9446m | 3+562.00 |
| 3564 | 1,058,507.1516m | 299,625.6465m | 3+563.00 |
| 3565 | 1,058,507.8639m | 299,626.3483m | 3+564.00 |
| 3566 | 1,058,508.5763m | 299,627.0501m | 3+565.00 |
| 3567 | 1,058,509.2886m | 299,627.7520m | 3+566.00 |
| 3568 | 1,058,510.0010m | 299,628.4538m | 3+567.00 |
| 3569 | 1,058,510.7133m | 299,629.1556m | 3+568.00 |
| 3570 | 1,058,511.4256m | 299,629.8575m | 3+569.00 |
| 3571 | 1,058,512.1380m | 299,630.5593m | 3+570.00 |
| 3572 | 1,058,512.8503m | 299,631.2611m | 3+571.00 |
| 3573 | 1,058,513.5627m | 299,631.9630m | 3+572.00 |
| 3574 | 1,058,514.2750m | 299,632.6648m | 3+573.00 |
| 3575 | 1,058,514.9874m | 299,633.3666m | 3+574.00 |
| 3576 | 1,058,515.6997m | 299,634.0685m | 3+575.00 |
| 3577 | 1,058,516.4120m | 299,634.7703m | 3+576.00 |
| 3578 | 1,058,517.1244m | 299,635.4721m | 3+577.00 |
| 3579 | 1,058,517.8367m | 299,636.1740m | 3+578.00 |
| 3580 | 1,058,518.5491m | 299,636.8758m | 3+579.00 |
| 3581 | 1,058,519.2614m | 299,637.5776m | 3+580.00 |
| 3582 | 1,058,519.9737m | 299,638.2795m | 3+581.00 |
| 3583 | 1,058,520.6861m | 299,638.9813m | 3+582.00 |
| 3584 | 1,058,521.3984m | 299,639.6831m | 3+583.00 |
| 3585 | 1,058,522.1108m | 299,640.3850m | 3+584.00 |
| 3586 | 1,058,522.8231m | 299,641.0868m | 3+585.00 |
| 3587 | 1,058,523.5355m | 299,641.7886m | 3+586.00 |
| 3588 | 1,058,524.2478m | 299,642.4904m | 3+587.00 |
| 3589 | 1,058,524.9601m | 299,643.1923m | 3+588.00 |
| 3590 | 1,058,525.6725m | 299,643.8941m | 3+589.00 |
| 3591 | 1,058,526.3848m | 299,644.5959m | 3+590.00 |
| 3592 | 1,058,527.0972m | 299,645.2978m | 3+591.00 |
| 3593 | 1,058,527.8095m | 299,645.9996m | 3+592.00 |
| 3594 | 1,058,528.5218m | 299,646.7014m | 3+593.00 |
| 3595 | 1,058,529.2342m | 299,647.4033m | 3+594.00 |
| 3596 | 1,058,529.9465m | 299,648.1051m | 3+595.00 |
| 3597 | 1,058,530.6589m | 299,648.8069m | 3+596.00 |
| 3598 | 1,058,531.3712m | 299,649.5088m | 3+597.00 |
| 3599 | 1,058,532.0836m | 299,650.2106m | 3+598.00 |
| 3600 | 1,058,532.7962m | 299,650.9122m | 3+599.00 |
| 3601 | 1,058,533.5095m | 299,651.6130m | 3+600.00 |
| 3602 | 1,058,534.2234m | 299,652.3132m | 3+601.00 |
| 3603 | 1,058,534.9381m | 299,653.0127m | 3+602.00 |
| 3604 | 1,058,535.6533m | 299,653.7116m | 3+603.00 |
| 3605 | 1,058,536.3693m | 299,654.4097m | 3+604.00 |
| 3606 | 1,058,537.0859m | 299,655.1072m | 3+605.00 |
| 3607 | 1,058,537.8031m | 299,655.8040m | 3+606.00 |
| 3608 | 1,058,538.5211m | 299,656.5001m | 3+607.00 |
| 3609 | 1,058,539.2396m | 299,657.1956m | 3+608.00 |
| 3610 | 1,058,539.9589m | 299,657.8903m | 3+609.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 3611 | 1,058,540.6788m | 299,658.5844m | 3+610.00 |
| 3612 | 1,058,541.3993m | 299,659.2778m | 3+611.00 |
| 3613 | 1,058,542.1205m | 299,659.9705m | 3+612.00 |
| 3614 | 1,058,542.8424m | 299,660.6626m | 3+613.00 |
| 3615 | 1,058,543.5649m | 299,661.3539m | 3+614.00 |
| 3616 | 1,058,544.2881m | 299,662.0446m | 3+615.00 |
| 3617 | 1,058,545.0119m | 299,662.7346m | 3+616.00 |
| 3618 | 1,058,545.7364m | 299,663.4239m | 3+617.00 |
| 3619 | 1,058,546.4615m | 299,664.1125m | 3+618.00 |
| 3620 | 1,058,547.1873m | 299,664.8004m | 3+619.00 |
| 3621 | 1,058,547.9137m | 299,665.4876m | 3+620.00 |
| 3622 | 1,058,548.6408m | 299,666.1742m | 3+621.00 |
| 3623 | 1,058,549.3686m | 299,666.8600m | 3+622.00 |
| 3624 | 1,058,550.0969m | 299,667.5452m | 3+623.00 |
| 3625 | 1,058,550.8260m | 299,668.2297m | 3+624.00 |
| 3626 | 1,058,551.5557m | 299,668.9135m | 3+625.00 |
| 3627 | 1,058,552.2860m | 299,669.5966m | 3+626.00 |
| 3628 | 1,058,553.0170m | 299,670.2790m | 3+627.00 |
| 3629 | 1,058,553.7486m | 299,670.9607m | 3+628.00 |
| 3630 | 1,058,554.4808m | 299,671.6417m | 3+629.00 |
| 3631 | 1,058,555.2137m | 299,672.3221m | 3+630.00 |
| 3632 | 1,058,555.9473m | 299,673.0017m | 3+631.00 |
| 3633 | 1,058,556.6815m | 299,673.6806m | 3+632.00 |
| 3634 | 1,058,557.4163m | 299,674.3589m | 3+633.00 |
| 3635 | 1,058,558.1518m | 299,675.0364m | 3+634.00 |
| 3636 | 1,058,558.8879m | 299,675.7133m | 3+635.00 |
| 3637 | 1,058,559.6247m | 299,676.3894m | 3+636.00 |
| 3638 | 1,058,560.3621m | 299,677.0649m | 3+637.00 |
| 3639 | 1,058,561.1001m | 299,677.7397m | 3+638.00 |
| 3640 | 1,058,561.8388m | 299,678.4137m | 3+639.00 |
| 3641 | 1,058,562.5781m | 299,679.0871m | 3+640.00 |
| 3642 | 1,058,563.3181m | 299,679.7597m | 3+641.00 |
| 3643 | 1,058,564.0586m | 299,680.4317m | 3+642.00 |
| 3644 | 1,058,564.7999m | 299,681.1030m | 3+643.00 |
| 3645 | 1,058,565.5417m | 299,681.7735m | 3+644.00 |
| 3646 | 1,058,566.2842m | 299,682.4434m | 3+645.00 |
| 3647 | 1,058,567.0273m | 299,683.1125m | 3+646.00 |
| 3648 | 1,058,567.7711m | 299,683.7810m | 3+647.00 |
| 3649 | 1,058,568.5155m | 299,684.4487m | 3+648.00 |
| 3650 | 1,058,569.2605m | 299,685.1157m | 3+649.00 |
| 3651 | 1,058,570.0062m | 299,685.7821m | 3+650.00 |
| 3652 | 1,058,570.7525m | 299,686.4477m | 3+651.00 |
| 3653 | 1,058,571.4994m | 299,687.1126m | 3+652.00 |
| 3654 | 1,058,572.2469m | 299,687.7768m | 3+653.00 |
| 3655 | 1,058,572.9951m | 299,688.4403m | 3+654.00 |
| 3656 | 1,058,573.7439m | 299,689.1031m | 3+655.00 |
| 3657 | 1,058,574.4933m | 299,689.7652m | 3+656.00 |
| 3658 | 1,058,575.2434m | 299,690.4266m | 3+657.00 |
| 3659 | 1,058,575.9940m | 299,691.0873m | 3+658.00 |
| 3660 | 1,058,576.7454m | 299,691.7472m | 3+659.00 |
| 3661 | 1,058,577.4973m | 299,692.4065m | 3+660.00 |
| 3662 | 1,058,578.2498m | 299,693.0650m | 3+661.00 |
| 3663 | 1,058,579.0030m | 299,693.7228m | 3+662.00 |
| 3664 | 1,058,579.7568m | 299,694.3799m | 3+663.00 |
| 3665 | 1,058,580.5112m | 299,695.0363m | 3+664.00 |
| 3666 | 1,058,581.2663m | 299,695.6920m | 3+665.00 |
| 3667 | 1,058,582.0219m | 299,696.3470m | 3+666.00 |
| 3668 | 1,058,582.7782m | 299,697.0012m | 3+667.00 |
| 3669 | 1,058,583.5351m | 299,697.6547m | 3+668.00 |
| 3670 | 1,058,584.2926m | 299,698.3075m | 3+669.00 |
| 3671 | 1,058,585.0508m | 299,698.9596m | 3+670.00 |
| 3672 | 1,058,585.8095m | 299,699.6110m | 3+671.00 |
| 3673 | 1,058,586.5689m | 299,700.2617m | 3+672.00 |
| 3674 | 1,058,587.3289m | 299,700.9116m | 3+673.00 |
| 3675 | 1,058,588.0895m | 299,701.5608m | 3+674.00 |
| 3676 | 1,058,588.8507m | 299,702.2094m | 3+675.00 |
| 3677 | 1,058,589.6125m | 299,702.8571m | 3+676.00 |
| 3678 | 1,058,590.3749m | 299,703.5042m | 3+677.00 |
| 3679 | 1,058,591.1380m | 299,704.1505m | 3+678.00 |
| 3680 | 1,058,591.9017m | 299,704.7961m | 3+679.00 |
| 3681 | 1,058,592.6659m | 299,705.4410m | 3+680.00 |
| 3682 | 1,058,593.4308m | 299,706.0852m | 3+681.00 |
| 3683 | 1,058,594.1963m | 299,706.7286m | 3+682.00 |
| 3684 | 1,058,594.9624m | 299,707.3714m | 3+683.00 |
| 3685 | 1,058,595.7291m | 299,708.0134m | 3+684.00 |
| 3686 | 1,058,596.4964m | 299,708.6546m | 3+685.00 |
| 3687 | 1,058,597.2644m | 299,709.2952m | 3+686.00 |
| 3688 | 1,058,598.0329m | 299,709.9350m | 3+687.00 |
| 3689 | 1,058,598.8020m | 299,710.5741m | 3+688.00 |
| 3690 | 1,058,599.5718m | 299,711.2124m | 3+689.00 |
| 3691 | 1,058,600.3421m | 299,711.8500m | 3+690.00 |
| 3692 | 1,058,601.1131m | 299,712.4869m | 3+691.00 |
| 3693 | 1,058,601.8846m | 299,713.1231m | 3+692.00 |
| 3694 | 1,058,602.6568m | 299,713.7585m | 3+693.00 |
| 3695 | 1,058,603.4295m | 299,714.3933m | 3+694.00 |
| 3696 | 1,058,604.2029m | 299,715.0272m | 3+695.00 |
| 3697 | 1,058,604.9768m | 299,715.6605m | 3+696.00 |
| 3698 | 1,058,605.7514m | 299,716.2930m | 3+697.00 |
| 3699 | 1,058,606.5265m | 299,716.9248m | 3+698.00 |
| 3700 | 1,058,607.3023m | 299,717.5558m | 3+699.00 |
| 3701 | 1,058,608.0786m | 299,718.1861m | 3+700.00 |
| 3702 | 1,058,608.8556m | 299,718.8157m | 3+701.00 |
| 3703 | 1,058,609.6331m | 299,719.4445m | 3+702.00 |
| 3704 | 1,058,610.4112m | 299,720.0726m | 3+703.00 |
| 3705 | 1,058,611.1900m | 299,720.7000m | 3+704.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 3706 | 1,058,611.9693m | 299,721.3266m | 3+705.00 |
| 3707 | 1,058,612.7492m | 299,721.9525m | 3+706.00 |
| 3708 | 1,058,613.5297m | 299,722.5776m | 3+707.00 |
| 3709 | 1,058,614.3108m | 299,723.2021m | 3+708.00 |
| 3710 | 1,058,615.0925m | 299,723.8257m | 3+709.00 |
| 3711 | 1,058,615.8748m | 299,724.4487m | 3+710.00 |
| 3712 | 1,058,616.6576m | 299,725.0708m | 3+711.00 |
| 3713 | 1,058,617.4411m | 299,725.6923m | 3+712.00 |
| 3714 | 1,058,618.2251m | 299,726.3130m | 3+713.00 |
| 3715 | 1,058,619.0098m | 299,726.9330m | 3+714.00 |
| 3716 | 1,058,619.7950m | 299,727.5522m | 3+715.00 |
| 3717 | 1,058,620.5808m | 299,728.1707m | 3+716.00 |
| 3718 | 1,058,621.3672m | 299,728.7884m | 3+717.00 |
| 3719 | 1,058,622.1541m | 299,729.4054m | 3+718.00 |
| 3720 | 1,058,622.9417m | 299,730.0216m | 3+719.00 |
| 3721 | 1,058,623.7298m | 299,730.6371m | 3+720.00 |
| 3722 | 1,058,624.5186m | 299,731.2519m | 3+721.00 |
| 3723 | 1,058,625.3079m | 299,731.8659m | 3+722.00 |
| 3724 | 1,058,626.0977m | 299,732.4791m | 3+723.00 |
| 3725 | 1,058,626.8882m | 299,733.0916m | 3+724.00 |
| 3726 | 1,058,627.6793m | 299,733.7034m | 3+725.00 |
| 3727 | 1,058,628.4709m | 299,734.3144m | 3+726.00 |
| 3728 | 1,058,629.2631m | 299,734.9247m | 3+727.00 |
| 3729 | 1,058,630.0559m | 299,735.5342m | 3+728.00 |
| 3730 | 1,058,630.8492m | 299,736.1429m | 3+729.00 |
| 3731 | 1,058,631.6431m | 299,736.7509m | 3+730.00 |
| 3732 | 1,058,632.4376m | 299,737.3582m | 3+731.00 |
| 3733 | 1,058,633.2327m | 299,737.9647m | 3+732.00 |
| 3734 | 1,058,634.0284m | 299,738.5705m | 3+733.00 |
| 3735 | 1,058,634.8246m | 299,739.1755m | 3+734.00 |
| 3736 | 1,058,635.6214m | 299,739.7797m | 3+735.00 |
| 3737 | 1,058,636.4188m | 299,740.3832m | 3+736.00 |
| 3738 | 1,058,637.2166m | 299,740.9861m | 3+737.00 |
| 3739 | 1,058,638.0145m | 299,741.5889m | 3+738.00 |
| 3740 | 1,058,638.8123m | 299,742.1918m | 3+739.00 |
| 3741 | 1,058,639.6102m | 299,742.7946m | 3+740.00 |
| 3742 | 1,058,640.4081m | 299,743.3974m | 3+741.00 |
| 3743 | 1,058,641.2059m | 299,744.0003m | 3+742.00 |
| 3744 | 1,058,642.0038m | 299,744.6031m | 3+743.00 |
| 3745 | 1,058,642.8017m | 299,745.2059m | 3+744.00 |
| 3746 | 1,058,643.5995m | 299,745.8088m | 3+745.00 |
| 3747 | 1,058,644.3974m | 299,746.4116m | 3+746.00 |
| 3748 | 1,058,645.1952m | 299,747.0144m | 3+747.00 |
| 3749 | 1,058,645.9931m | 299,747.6173m | 3+748.00 |
| 3750 | 1,058,646.7910m | 299,748.2201m | 3+749.00 |
| 3751 | 1,058,647.5888m | 299,748.8230m | 3+750.00 |
| 3752 | 1,058,648.3867m | 299,749.4258m | 3+751.00 |
| 3753 | 1,058,649.1846m | 299,750.0286m | 3+752.00 |
| 3754 | 1,058,649.9824m | 299,750.6315m | 3+753.00 |
| 3755 | 1,058,650.7803m | 299,751.2343m | 3+754.00 |
| 3756 | 1,058,651.5782m | 299,751.8371m | 3+755.00 |
| 3757 | 1,058,652.3760m | 299,752.4400m | 3+756.00 |
| 3758 | 1,058,653.1739m | 299,753.0428m | 3+757.00 |
| 3759 | 1,058,653.9718m | 299,753.6456m | 3+758.00 |
| 3760 | 1,058,654.7696m | 299,754.2485m | 3+759.00 |
| 3761 | 1,058,655.5675m | 299,754.8513m | 3+760.00 |
| 3762 | 1,058,656.3654m | 299,755.4542m | 3+761.00 |
| 3763 | 1,058,657.1632m | 299,756.0570m | 3+762.00 |
| 3764 | 1,058,657.9611m | 299,756.6598m | 3+763.00 |
| 3765 | 1,058,658.7590m | 299,757.2627m | 3+764.00 |
| 3766 | 1,058,659.5568m | 299,757.8655m | 3+765.00 |
| 3767 | 1,058,660.3547m | 299,758.4683m | 3+766.00 |
| 3768 | 1,058,661.1525m | 299,759.0712m | 3+767.00 |
| 3769 | 1,058,661.9504m | 299,759.6740m | 3+768.00 |
| 3770 | 1,058,662.7483m | 299,760.2768m | 3+769.00 |
| 3771 | 1,058,663.5461m | 299,760.8797m | 3+770.00 |
| 3772 | 1,058,664.3440m | 299,761.4825m | 3+771.00 |
| 3773 | 1,058,665.1419m | 299,762.0854m | 3+772.00 |
| 3774 | 1,058,665.9397m | 299,762.6882m | 3+773.00 |
| 3775 | 1,058,666.7376m | 299,763.2910m | 3+774.00 |
| 3776 | 1,058,667.5355m | 299,763.8939m | 3+775.00 |
| 3777 | 1,058,668.3333m | 299,764.4967m | 3+776.00 |
| 3778 | 1,058,669.1312m | 299,765.0995m | 3+777.00 |
| 3779 | 1,058,669.9291m | 299,765.7024m | 3+778.00 |
| 3780 | 1,058,670.7269m | 299,766.3052m | 3+779.00 |
| 3781 | 1,058,671.5248m | 299,766.9080m | 3+780.00 |
| 3782 | 1,058,672.3227m | 299,767.5109m | 3+781.00 |
| 3783 | 1,058,673.1205m | 299,768.1137m | 3+782.00 |
| 3784 | 1,058,673.9184m | 299,768.7165m | 3+783.00 |
| 3785 | 1,058,674.7163m | 299,769.3194m | 3+784.00 |
| 3786 | 1,058,675.5141m | 299,769.9222m | 3+785.00 |
| 3787 | 1,058,676.3120m | 299,770.5251m | 3+786.00 |
| 3788 | 1,058,677.1098m | 299,771.1279m | 3+787.00 |
| 3789 | 1,058,677.9077m | 299,771.7307m | 3+788.00 |
| 3790 | 1,058,678.7056m | 299,772.3336m | 3+789.00 |
| 3791 | 1,058,679.5034m | 299,772.9364m | 3+790.00 |
| 3792 | 1,058,680.3013m | 299,773.5392m | 3+791.00 |
| 3793 | 1,058,681.0992m | 299,774.1421m | 3+792.00 |
| 3794 | 1,058,681.8970m | 299,774.7449m | 3+793.00 |
| 3795 | 1,058,682.6949m | 299,775.3477m | 3+794.00 |
| 3796 | 1,058,683.4928m | 299,775.9506m | 3+795.00 |
| 3797 | 1,058,684.2906m | 299,776.5534m | 3+796.00 |
| 3798 | 1,058,685.0885m | 299,777.1563m | 3+797.00 |
| 3799 | 1,058,685.8864m | 299,777.7591m | 3+798.00 |
| 3800 | 1,058,686.6842m | 299,778.3619m | 3+799.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 3801 | 1,058,687.4821m | 299,778.9648m | 3+800.00 |
| 3802 | 1,058,688.2800m | 299,779.5676m | 3+801.00 |
| 3803 | 1,058,689.0778m | 299,780.1704m | 3+802.00 |
| 3804 | 1,058,689.8757m | 299,780.7733m | 3+803.00 |
| 3805 | 1,058,690.6736m | 299,781.3761m | 3+804.00 |
| 3806 | 1,058,691.4714m | 299,781.9789m | 3+805.00 |
| 3807 | 1,058,692.2693m | 299,782.5818m | 3+806.00 |
| 3808 | 1,058,693.0672m | 299,783.1846m | 3+807.00 |
| 3809 | 1,058,693.8683m | 299,783.7831m | 3+808.00 |
| 3810 | 1,058,694.6750m | 299,784.3740m | 3+809.00 |
| 3811 | 1,058,695.4873m | 299,784.9573m | 3+810.00 |
| 3812 | 1,058,696.3050m | 299,785.5330m | 3+811.00 |
| 3813 | 1,058,697.1280m | 299,786.1009m | 3+812.00 |
| 3814 | 1,058,697.9564m | 299,786.6611m | 3+813.00 |
| 3815 | 1,058,698.7900m | 299,787.2135m | 3+814.00 |
| 3816 | 1,058,699.6287m | 299,787.7580m | 3+815.00 |
| 3817 | 1,058,700.4726m | 299,788.2946m | 3+816.00 |
| 3818 | 1,058,701.3214m | 299,788.8232m | 3+817.00 |
| 3819 | 1,058,702.1752m | 299,789.3439m | 3+818.00 |
| 3820 | 1,058,703.0338m | 299,789.8565m | 3+819.00 |
| 3821 | 1,058,703.8972m | 299,790.3610m | 3+820.00 |
| 3822 | 1,058,704.7653m | 299,790.8574m | 3+821.00 |
| 3823 | 1,058,705.6380m | 299,791.3456m | 3+822.00 |
| 3824 | 1,058,706.5153m | 299,791.8255m | 3+823.00 |
| 3825 | 1,058,707.3970m | 299,792.2972m | 3+824.00 |
| 3826 | 1,058,708.2832m | 299,792.7606m | 3+825.00 |
| 3827 | 1,058,709.1737m | 299,793.2157m | 3+826.00 |
| 3828 | 1,058,710.0684m | 299,793.6623m | 3+827.00 |
| 3829 | 1,058,710.9672m | 299,794.1006m | 3+828.00 |
| 3830 | 1,058,711.8702m | 299,794.5303m | 3+829.00 |
| 3831 | 1,058,712.7771m | 299,794.9516m | 3+830.00 |
| 3832 | 1,058,713.6879m | 299,795.3643m | 3+831.00 |
| 3833 | 1,058,714.6026m | 299,795.7684m | 3+832.00 |
| 3834 | 1,058,715.5211m | 299,796.1640m | 3+833.00 |
| 3835 | 1,058,716.4432m | 299,796.5508m | 3+834.00 |
| 3836 | 1,058,717.3689m | 299,796.9290m | 3+835.00 |
| 3837 | 1,058,718.2982m | 299,797.2985m | 3+836.00 |
| 3838 | 1,058,719.2309m | 299,797.6592m | 3+837.00 |
| 3839 | 1,058,720.1669m | 299,798.0112m | 3+838.00 |
| 3840 | 1,058,721.1062m | 299,798.3543m | 3+839.00 |
| 3841 | 1,058,722.0486m | 299,798.6886m | 3+840.00 |
| 3842 | 1,058,722.9942m | 299,799.0140m | 3+841.00 |
| 3843 | 1,058,723.9428m | 299,799.3305m | 3+842.00 |
| 3844 | 1,058,724.8943m | 299,799.6381m | 3+843.00 |
| 3845 | 1,058,725.8487m | 299,799.9367m | 3+844.00 |
| 3846 | 1,058,726.8058m | 299,800.2264m | 3+845.00 |
| 3847 | 1,058,727.7656m | 299,800.5070m | 3+846.00 |
| 3848 | 1,058,728.7280m | 299,800.7786m | 3+847.00 |
| 3849 | 1,058,729.6929m | 299,801.0411m | 3+848.00 |
| 3850 | 1,058,730.6603m | 299,801.2946m | 3+849.00 |
| 3851 | 1,058,731.6299m | 299,801.5390m | 3+850.00 |
| 3852 | 1,058,732.6019m | 299,801.7742m | 3+851.00 |
| 3853 | 1,058,733.5760m | 299,802.0003m | 3+852.00 |
| 3854 | 1,058,734.5522m | 299,802.2172m | 3+853.00 |
| 3855 | 1,058,735.5303m | 299,802.4250m | 3+854.00 |
| 3856 | 1,058,736.5104m | 299,802.6235m | 3+855.00 |
| 3857 | 1,058,737.4923m | 299,802.8128m | 3+856.00 |
| 3858 | 1,058,738.4760m | 299,802.9929m | 3+857.00 |
| 3859 | 1,058,739.4613m | 299,803.1638m | 3+858.00 |
| 3860 | 1,058,740.4481m | 299,803.3253m | 3+859.00 |
| 3861 | 1,058,741.4365m | 299,803.4776m | 3+860.00 |
| 3862 | 1,058,742.4262m | 299,803.6206m | 3+861.00 |
| 3863 | 1,058,743.4172m | 299,803.7543m | 3+862.00 |
| 3864 | 1,058,744.4094m | 299,803.8786m | 3+863.00 |
| 3865 | 1,058,745.4028m | 299,803.9937m | 3+864.00 |
| 3866 | 1,058,746.3972m | 299,804.0994m | 3+865.00 |
| 3867 | 1,058,747.3925m | 299,804.1957m | 3+866.00 |
| 3868 | 1,058,748.3888m | 299,804.2827m | 3+867.00 |
| 3869 | 1,058,749.3857m | 299,804.3603m | 3+868.00 |
| 3870 | 1,058,750.3834m | 299,804.4285m | 3+869.00 |
| 3871 | 1,058,751.3817m | 299,804.4874m | 3+870.00 |
| 3872 | 1,058,752.3804m | 299,804.5369m | 3+871.00 |
| 3873 | 1,058,753.3796m | 299,804.5769m | 3+872.00 |
| 3874 | 1,058,754.3792m | 299,804.6076m | 3+873.00 |
| 3875 | 1,058,755.3789m | 299,804.6289m | 3+874.00 |
| 3876 | 1,058,756.3788m | 299,804.6408m | 3+875.00 |
| 3877 | 1,058,757.3788m | 299,804.6433m | 3+876.00 |
| 3878 | 1,058,758.3788m | 299,804.6364m | 3+877.00 |
| 3879 | 1,058,759.3787m | 299,804.6202m | 3+878.00 |
| 3880 | 1,058,760.3783m | 299,804.5945m | 3+879.00 |
| 3881 | 1,058,761.3777m | 299,804.5594m | 3+880.00 |
| 3882 | 1,058,762.3767m | 299,804.5149m | 3+881.00 |
| 3883 | 1,058,763.3753m | 299,804.4610m | 3+882.00 |
| 3884 | 1,058,764.3733m | 299,804.3978m | 3+883.00 |
| 3885 | 1,058,765.3706m | 299,804.3252m | 3+884.00 |
| 3886 | 1,058,766.3673m | 299,804.2432m | 3+885.00 |
| 3887 | 1,058,767.3631m | 299,804.1518m | 3+886.00 |
| 3888 | 1,058,768.3580m | 299,804.0511m | 3+887.00 |
| 3889 | 1,058,769.3519m | 299,803.9411m | 3+888.00 |
| 3890 | 1,058,770.3447m | 299,803.8217m | 3+889.00 |
| 3891 | 1,058,771.3364m | 299,803.6930m | 3+890.00 |
| 3892 | 1,058,772.3268m | 299,803.5549m | 3+891.00 |
| 3893 | 1,058,773.3159m | 299,803.4076m | 3+892.00 |
| 3894 | 1,058,774.3036m | 299,803.2510m | 3+893.00 |
| 3895 | 1,058,775.2897m | 299,803.0851m | 3+894.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 3896 | 1,058,776.2743m | 299,802.9099m | 3+895.00 |
| 3897 | 1,058,777.2571m | 299,802.7255m | 3+896.00 |
| 3898 | 1,058,778.2382m | 299,802.5319m | 3+897.00 |
| 3899 | 1,058,779.2174m | 299,802.3290m | 3+898.00 |
| 3900 | 1,058,780.1946m | 299,802.1170m | 3+899.00 |
| 3901 | 1,058,781.1699m | 299,801.8958m | 3+900.00 |
| 3902 | 1,058,782.1430m | 299,801.6654m | 3+901.00 |
| 3903 | 1,058,783.1139m | 299,801.4259m | 3+902.00 |
| 3904 | 1,058,784.0825m | 299,801.1773m | 3+903.00 |
| 3905 | 1,058,785.0487m | 299,800.9196m | 3+904.00 |
| 3906 | 1,058,786.0124m | 299,800.6528m | 3+905.00 |
| 3907 | 1,058,786.9736m | 299,800.3770m | 3+906.00 |
| 3908 | 1,058,787.9322m | 299,800.0921m | 3+907.00 |
| 3909 | 1,058,788.8880m | 299,799.7983m | 3+908.00 |
| 3910 | 1,058,789.8411m | 299,799.4954m | 3+909.00 |
| 3911 | 1,058,790.7912m | 299,799.1837m | 3+910.00 |
| 3912 | 1,058,791.7384m | 299,798.8630m | 3+911.00 |
| 3913 | 1,058,792.6826m | 299,798.5334m | 3+912.00 |
| 3914 | 1,058,793.6235m | 299,798.1950m | 3+913.00 |
| 3915 | 1,058,794.5613m | 299,797.8478m | 3+914.00 |
| 3916 | 1,058,795.4958m | 299,797.4917m | 3+915.00 |
| 3917 | 1,058,796.4269m | 299,797.1269m | 3+916.00 |
| 3918 | 1,058,797.3545m | 299,796.7534m | 3+917.00 |
| 3919 | 1,058,798.2785m | 299,796.3711m | 3+918.00 |
| 3920 | 1,058,799.1989m | 299,795.9802m | 3+919.00 |
| 3921 | 1,058,800.1156m | 299,795.5806m | 3+920.00 |
| 3922 | 1,058,801.0286m | 299,795.1725m | 3+921.00 |
| 3923 | 1,058,801.9376m | 299,794.7558m | 3+922.00 |
| 3924 | 1,058,802.8427m | 299,794.3305m | 3+923.00 |
| 3925 | 1,058,803.7437m | 299,793.8968m | 3+924.00 |
| 3926 | 1,058,804.6406m | 299,793.4546m | 3+925.00 |
| 3927 | 1,058,805.5334m | 299,793.0040m | 3+926.00 |
| 3928 | 1,058,806.4218m | 299,792.5451m | 3+927.00 |
| 3929 | 1,058,807.3059m | 299,792.0778m | 3+928.00 |
| 3930 | 1,058,808.1856m | 299,791.6022m | 3+929.00 |
| 3931 | 1,058,809.0608m | 299,791.1184m | 3+930.00 |
| 3932 | 1,058,809.9313m | 299,790.6264m | 3+931.00 |
| 3933 | 1,058,810.7972m | 299,790.1262m | 3+932.00 |
| 3934 | 1,058,811.6584m | 299,789.6179m | 3+933.00 |
| 3935 | 1,058,812.5148m | 299,789.1015m | 3+934.00 |
| 3936 | 1,058,813.3664m | 299,788.5773m | 3+935.00 |
| 3937 | 1,058,814.2165m | 299,788.0507m | 3+936.00 |
| 3938 | 1,058,815.0666m | 299,787.5241m | 3+937.00 |
| 3939 | 1,058,815.9166m | 299,786.9974m | 3+938.00 |
| 3940 | 1,058,816.7667m | 299,786.4708m | 3+939.00 |
| 3941 | 1,058,817.6168m | 299,785.9441m | 3+940.00 |
| 3942 | 1,058,818.4669m | 299,785.4175m | 3+941.00 |
| 3943 | 1,058,819.3170m | 299,784.8909m | 3+942.00 |
| 3944 | 1,058,820.1671m | 299,784.3642m | 3+943.00 |
| 3945 | 1,058,821.0172m | 299,783.8376m | 3+944.00 |
| 3946 | 1,058,821.8673m | 299,783.3109m | 3+945.00 |
| 3947 | 1,058,822.7174m | 299,782.7843m | 3+946.00 |
| 3948 | 1,058,823.5674m | 299,782.2577m | 3+947.00 |
| 3949 | 1,058,824.4175m | 299,781.7310m | 3+948.00 |
| 3950 | 1,058,825.2676m | 299,781.2044m | 3+949.00 |
| 3951 | 1,058,826.1177m | 299,780.6777m | 3+950.00 |
| 3952 | 1,058,826.9678m | 299,780.1511m | 3+951.00 |
| 3953 | 1,058,827.8179m | 299,779.6245m | 3+952.00 |
| 3954 | 1,058,828.6680m | 299,779.0978m | 3+953.00 |
| 3955 | 1,058,829.5181m | 299,778.5712m | 3+954.00 |
| 3956 | 1,058,830.3682m | 299,778.0446m | 3+955.00 |
| 3957 | 1,058,831.2182m | 299,777.5179m | 3+956.00 |
| 3958 | 1,058,832.0683m | 299,776.9913m | 3+957.00 |
| 3959 | 1,058,832.9184m | 299,776.4646m | 3+958.00 |
| 3960 | 1,058,833.7685m | 299,775.9380m | 3+959.00 |
| 3961 | 1,058,834.6186m | 299,775.4114m | 3+960.00 |
| 3962 | 1,058,835.4687m | 299,774.8847m | 3+961.00 |
| 3963 | 1,058,836.3188m | 299,774.3581m | 3+962.00 |
| 3964 | 1,058,837.1689m | 299,773.8314m | 3+963.00 |
| 3965 | 1,058,838.0190m | 299,773.3048m | 3+964.00 |
| 3966 | 1,058,838.8690m | 299,772.7782m | 3+965.00 |
| 3967 | 1,058,839.7191m | 299,772.2515m | 3+966.00 |
| 3968 | 1,058,840.5692m | 299,771.7249m | 3+967.00 |
| 3969 | 1,058,841.4193m | 299,771.1982m | 3+968.00 |
| 3970 | 1,058,842.2694m | 299,770.6716m | 3+969.00 |
| 3971 | 1,058,843.1195m | 299,770.1450m | 3+970.00 |
| 3972 | 1,058,843.9696m | 299,769.6183m | 3+971.00 |
| 3973 | 1,058,844.8197m | 299,769.0917m | 3+972.00 |
| 3974 | 1,058,845.6698m | 299,768.5651m | 3+973.00 |
| 3975 | 1,058,846.5199m | 299,768.0384m | 3+974.00 |
| 3976 | 1,058,847.3699m | 299,767.5118m | 3+975.00 |
| 3977 | 1,058,848.2200m | 299,766.9851m | 3+976.00 |
| 3978 | 1,058,849.0701m | 299,766.4585m | 3+977.00 |
| 3979 | 1,058,849.9202m | 299,765.9319m | 3+978.00 |
| 3980 | 1,058,850.7703m | 299,765.4052m | 3+979.00 |
| 3981 | 1,058,851.6204m | 299,764.8786m | 3+980.00 |
| 3982 | 1,058,852.4705m | 299,764.3519m | 3+981.00 |
| 3983 | 1,058,853.3206m | 299,763.8253m | 3+982.00 |
| 3984 | 1,058,854.1707m | 299,763.2987m | 3+983.00 |
| 3985 | 1,058,855.0207m | 299,762.7720m | 3+984.00 |
| 3986 | 1,058,855.8708m | 299,762.2454m | 3+985.00 |
| 3987 | 1,058,856.7209m | 299,761.7188m | 3+986.00 |
| 3988 | 1,058,857.5710m | 299,761.1921m | 3+987.00 |
| 3989 | 1,058,858.4211m | 299,760.6655m | 3+988.00 |
| 3990 | 1,058,859.2712m | 299,760.1388m | 3+989.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 3991 | 1,058,860.1213m | 299,759.6122m | 3+990.00 |
| 3992 | 1,058,860.9714m | 299,759.0856m | 3+991.00 |
| 3993 | 1,058,861.8215m | 299,758.5589m | 3+992.00 |
| 3994 | 1,058,862.6715m | 299,758.0323m | 3+993.00 |
| 3995 | 1,058,863.5216m | 299,757.5056m | 3+994.00 |
| 3996 | 1,058,864.3717m | 299,756.9790m | 3+995.00 |
| 3997 | 1,058,865.2218m | 299,756.4524m | 3+996.00 |
| 3998 | 1,058,866.0719m | 299,755.9257m | 3+997.00 |
| 3999 | 1,058,866.9220m | 299,755.3991m | 3+998.00 |
| 4000 | 1,058,867.7721m | 299,754.8724m | 3+999.00 |
| 4001 | 1,058,868.6222m | 299,754.3458m | 4+000.00 |
| 4002 | 1,058,869.4723m | 299,753.8192m | 4+001.00 |
| 4003 | 1,058,870.3223m | 299,753.2925m | 4+002.00 |
| 4004 | 1,058,871.1724m | 299,752.7659m | 4+003.00 |
| 4005 | 1,058,872.0225m | 299,752.2393m | 4+004.00 |
| 4006 | 1,058,872.8726m | 299,751.7126m | 4+005.00 |
| 4007 | 1,058,873.7227m | 299,751.1860m | 4+006.00 |
| 4008 | 1,058,874.5728m | 299,750.6593m | 4+007.00 |
| 4009 | 1,058,875.4229m | 299,750.1327m | 4+008.00 |
| 4010 | 1,058,876.2730m | 299,749.6061m | 4+009.00 |
| 4011 | 1,058,877.1231m | 299,749.0794m | 4+010.00 |
| 4012 | 1,058,877.9731m | 299,748.5528m | 4+011.00 |
| 4013 | 1,058,878.8232m | 299,748.0261m | 4+012.00 |
| 4014 | 1,058,879.6733m | 299,747.4995m | 4+013.00 |
| 4015 | 1,058,880.5234m | 299,746.9729m | 4+014.00 |
| 4016 | 1,058,881.3735m | 299,746.4462m | 4+015.00 |
| 4017 | 1,058,882.2236m | 299,745.9196m | 4+016.00 |
| 4018 | 1,058,883.0737m | 299,745.3929m | 4+017.00 |
| 4019 | 1,058,883.9238m | 299,744.8663m | 4+018.00 |
| 4020 | 1,058,884.7739m | 299,744.3397m | 4+019.00 |
| 4021 | 1,058,885.6240m | 299,743.8130m | 4+020.00 |
| 4022 | 1,058,886.4740m | 299,743.2864m | 4+021.00 |
| 4023 | 1,058,887.3241m | 299,742.7598m | 4+022.00 |
| 4024 | 1,058,888.1742m | 299,742.2331m | 4+023.00 |
| 4025 | 1,058,889.0243m | 299,741.7065m | 4+024.00 |
| 4026 | 1,058,889.8744m | 299,741.1798m | 4+025.00 |
| 4027 | 1,058,890.7245m | 299,740.6532m | 4+026.00 |
| 4028 | 1,058,891.5746m | 299,740.1266m | 4+027.00 |
| 4029 | 1,058,892.4247m | 299,739.5999m | 4+028.00 |
| 4030 | 1,058,893.2748m | 299,739.0733m | 4+029.00 |
| 4031 | 1,058,894.1248m | 299,738.5466m | 4+030.00 |
| 4032 | 1,058,894.9749m | 299,738.0200m | 4+031.00 |
| 4033 | 1,058,895.8250m | 299,737.4934m | 4+032.00 |
| 4034 | 1,058,896.6751m | 299,736.9667m | 4+033.00 |
| 4035 | 1,058,897.5252m | 299,736.4401m | 4+034.00 |
| 4036 | 1,058,898.3753m | 299,735.9134m | 4+035.00 |
| 4037 | 1,058,899.2254m | 299,735.3868m | 4+036.00 |
| 4038 | 1,058,900.0755m | 299,734.8602m | 4+037.00 |
| 4039 | 1,058,900.9256m | 299,734.3335m | 4+038.00 |
| 4040 | 1,058,901.7756m | 299,733.8069m | 4+039.00 |
| 4041 | 1,058,902.6257m | 299,733.2803m | 4+040.00 |
| 4042 | 1,058,903.4758m | 299,732.7536m | 4+041.00 |
| 4043 | 1,058,904.3259m | 299,732.2270m | 4+042.00 |
| 4044 | 1,058,905.1760m | 299,731.7003m | 4+043.00 |
| 4045 | 1,058,906.0261m | 299,731.1737m | 4+044.00 |
| 4046 | 1,058,906.8762m | 299,730.6471m | 4+045.00 |
| 4047 | 1,058,907.7263m | 299,730.1204m | 4+046.00 |
| 4048 | 1,058,908.5764m | 299,729.5938m | 4+047.00 |
| 4049 | 1,058,909.4264m | 299,729.0671m | 4+048.00 |
| 4050 | 1,058,910.2765m | 299,728.5405m | 4+049.00 |
| 4051 | 1,058,911.1266m | 299,728.0139m | 4+050.00 |
| 4052 | 1,058,911.9767m | 299,727.4872m | 4+051.00 |
| 4053 | 1,058,912.8268m | 299,726.9606m | 4+052.00 |
| 4054 | 1,058,913.6769m | 299,726.4340m | 4+053.00 |
| 4055 | 1,058,914.5270m | 299,725.9073m | 4+054.00 |
| 4056 | 1,058,915.3771m | 299,725.3807m | 4+055.00 |
| 4057 | 1,058,916.2272m | 299,724.8540m | 4+056.00 |
| 4058 | 1,058,917.0773m | 299,724.3274m | 4+057.00 |
| 4059 | 1,058,917.9273m | 299,723.8008m | 4+058.00 |
| 4060 | 1,058,918.7774m | 299,723.2741m | 4+059.00 |
| 4061 | 1,058,919.6275m | 299,722.7475m | 4+060.00 |
| 4062 | 1,058,920.4776m | 299,722.2208m | 4+061.00 |
| 4063 | 1,058,921.3277m | 299,721.6942m | 4+062.00 |
| 4064 | 1,058,922.1778m | 299,721.1676m | 4+063.00 |
| 4065 | 1,058,923.0279m | 299,720.6409m | 4+064.00 |
| 4066 | 1,058,923.8780m | 299,720.1143m | 4+065.00 |
| 4067 | 1,058,924.7281m | 299,719.5876m | 4+066.00 |
| 4068 | 1,058,925.5781m | 299,719.0610m | 4+067.00 |
| 4069 | 1,058,926.4282m | 299,718.5344m | 4+068.00 |
| 4070 | 1,058,927.2783m | 299,718.0077m | 4+069.00 |
| 4071 | 1,058,928.1284m | 299,717.4811m | 4+070.00 |
| 4072 | 1,058,928.9785m | 299,716.9545m | 4+071.00 |
| 4073 | 1,058,929.8286m | 299,716.4278m | 4+072.00 |
| 4074 | 1,058,930.6787m | 299,715.9012m | 4+073.00 |
| 4075 | 1,058,931.5288m | 299,715.3745m | 4+074.00 |
| 4076 | 1,058,932.3789m | 299,714.8479m | 4+075.00 |
| 4077 | 1,058,933.2289m | 299,714.3213m | 4+076.00 |
| 4078 | 1,058,934.0794m | 299,713.7951m | 4+077.00 |
| 4079 | 1,058,934.9303m | 299,713.2699m | 4+078.00 |
| 4080 | 1,058,935.7817m | 299,712.7454m | 4+079.00 |
| 4081 | 1,058,936.6337m | 299,712.2219m | 4+080.00 |
| 4082 | 1,058,937.4863m | 299,711.6992m | 4+081.00 |
| 4083 | 1,058,938.3393m | 299,711.1773m | 4+082.00 |
| 4084 | 1,058,939.1929m | 299,710.6564m | 4+083.00 |
| 4085 | 1,058,940.0470m | 299,710.1362m | 4+084.00 |
| 4086 | 1,058,940.9016m | 299,709.6170m | 4+085.00 |
| 4087 | 1,058,941.7567m | 299,709.0986m | 4+086.00 |
| 4088 | 1,058,942.6124m | 299,708.5810m | 4+087.00 |
| 4089 | 1,058,943.4685m | 299,708.0643m | 4+088.00 |
| 4090 | 1,058,944.3252m | 299,707.5485m | 4+089.00 |
| 4091 | 1,058,945.1824m | 299,707.0336m | 4+090.00 |
| 4092 | 1,058,946.0402m | 299,706.5195m | 4+091.00 |
| 4093 | 1,058,946.8984m | 299,706.0062m | 4+092.00 |
| 4094 | 1,058,947.7572m | 299,705.4939m | 4+093.00 |
| 4095 | 1,058,948.6165m | 299,704.9824m | 4+094.00 |
| 4096 | 1,058,949.4763m | 299,704.4717m | 4+095.00 |
| 4097 | 1,058,950.3366m | 299,703.9619m | 4+096.00 |
| 4098 | 1,058,951.1974m | 299,703.4530m | 4+097.00 |
| 4099 | 1,058,952.0587m | 299,702.9450m | 4+098.00 |
| 4100 | 1,058,952.9206m | 299,702.4378m | 4+099.00 |
| 4101 | 1,058,953.7829m | 299,701.9315m | 4+100.00 |
| 4102 | 1,058,954.6458m | 299,701.4261m | 4+101.00 |
| 4103 | 1,058,955.5092m | 299,700.9215m | 4+102.00 |
| 4104 | 1,058,956.3730m | 299,700.4178m | 4+103.00 |
| 4105 | 1,058,957.2374m | 299,699.9150m | 4+104.00 |
| 4106 | 1,058,958.1023m | 299,699.4130m | 4+105.00 |
| 4107 | 1,058,958.9677m | 299,698.9119m | 4+106.00 |
| 4108 | 1,058,959.8336m | 299,698.4117m | 4+107.00 |
| 4109 | 1,058,960.7000m | 299,697.9124m | 4+108.00 |
| 4110 | 1,058,961.5669m | 299,697.4139m | 4+109.00 |
| 4111 | 1,058,962.4343m | 299,696.9163m | 4+110.00 |
| 4112 | 1,058,963.3022m | 299,696.4196m | 4+111.00 |
| 4113 | 1,058,964.1707m | 299,695.9237m | 4+112.00 |
| 4114 | 1,058,965.0396m | 299,695.4288m | 4+113.00 |
| 4115 | 1,058,965.9090m | 299,694.9346m | 4+114.00 |
| 4116 | 1,058,966.7789m | 299,694.4414m | 4+115.00 |
| 4117 | 1,058,967.6493m | 299,693.9491m | 4+116.00 |
| 4118 | 1,058,968.5201m | 299,693.4576m | 4+117.00 |
| 4119 | 1,058,969.3915m | 299,692.9670m | 4+118.00 |
| 4120 | 1,058,970.2634m | 299,692.4773m | 4+119.00 |
| 4121 | 1,058,971.1358m | 299,691.9884m | 4+120.00 |
| 4122 | 1,058,972.0086m | 299,691.5005m | 4+121.00 |
| 4123 | 1,058,972.8820m | 299,691.0134m | 4+122.00 |
| 4124 | 1,058,973.7558m | 299,690.5272m | 4+123.00 |
| 4125 | 1,058,974.6302m | 299,690.0418m | 4+124.00 |
| 4126 | 1,058,975.5050m | 299,689.5574m | 4+125.00 |
| 4127 | 1,058,976.3803m | 299,689.0738m | 4+126.00 |
| 4128 | 1,058,977.2561m | 299,688.5911m | 4+127.00 |
| 4129 | 1,058,978.1324m | 299,688.1093m | 4+128.00 |
| 4130 | 1,058,979.0091m | 299,687.6284m | 4+129.00 |
| 4131 | 1,058,979.8864m | 299,687.1483m | 4+130.00 |
| 4132 | 1,058,980.7641m | 299,686.6692m | 4+131.00 |
| 4133 | 1,058,981.6423m | 299,686.1909m | 4+132.00 |
| 4134 | 1,058,982.5210m | 299,685.7135m | 4+133.00 |
| 4135 | 1,058,983.4002m | 299,685.2370m | 4+134.00 |
| 4136 | 1,058,984.2798m | 299,684.7614m | 4+135.00 |
| 4137 | 1,058,985.1600m | 299,684.2867m | 4+136.00 |
| 4138 | 1,058,986.0406m | 299,683.8128m | 4+137.00 |
| 4139 | 1,058,986.9216m | 299,683.3399m | 4+138.00 |
| 4140 | 1,058,987.8032m | 299,682.8678m | 4+139.00 |
| 4141 | 1,058,988.6852m | 299,682.3966m | 4+140.00 |
| 4142 | 1,058,989.5677m | 299,681.9263m | 4+141.00 |
| 4143 | 1,058,990.4507m | 299,681.4569m | 4+142.00 |
| 4144 | 1,058,991.3342m | 299,680.9884m | 4+143.00 |
| 4145 | 1,058,992.2181m | 299,680.5207m | 4+144.00 |
| 4146 | 1,058,993.1025m | 299,680.0540m | 4+145.00 |
| 4147 | 1,058,993.9873m | 299,679.5881m | 4+146.00 |
| 4148 | 1,058,994.8727m | 299,679.1232m | 4+147.00 |
| 4149 | 1,058,995.7585m | 299,678.6591m | 4+148.00 |
| 4150 | 1,058,996.6447m | 299,678.1959m | 4+149.00 |
| 4151 | 1,058,997.5315m | 299,677.7336m | 4+150.00 |
| 4152 | 1,058,998.4187m | 299,677.2722m | 4+151.00 |
| 4153 | 1,058,999.3063m | 299,676.8117m | 4+152.00 |
| 4154 | 1,059,000.1944m | 299,676.3521m | 4+153.00 |
| 4155 | 1,059,001.0830m | 299,675.8934m | 4+154.00 |
| 4156 | 1,059,001.9721m | 299,675.4356m | 4+155.00 |
| 4157 | 1,059,002.8616m | 299,674.9787m | 4+156.00 |
| 4158 | 1,059,003.7516m | 299,674.5226m | 4+157.00 |
| 4159 | 1,059,004.6420m | 299,674.0675m | 4+158.00 |
| 4160 | 1,059,005.5329m | 299,673.6133m | 4+159.00 |
| 4161 | 1,059,006.4242m | 299,673.1599m | 4+160.00 |
| 4162 | 1,059,007.3160m | 299,672.7075m | 4+161.00 |
| 4163 | 1,059,008.2082m | 299,672.2560m | 4+162.00 |
| 4164 | 1,059,009.1009m | 299,671.8053m | 4+163.00 |
| 4165 | 1,059,009.9941m | 299,671.3556m | 4+164.00 |
| 4166 | 1,059,010.8877m | 299,670.9067m | 4+165.00 |
| 4167 | 1,059,011.7818m | 299,670.4588m | 4+166.00 |
| 4168 | 1,059,012.6763m | 299,670.0117m | 4+167.00 |
| 4169 | 1,059,013.5712m | 299,669.5656m | 4+168.00 |
| 4170 | 1,059,014.4666m | 299,669.1203m | 4+169.00 |
| 4171 | 1,059,015.3625m | 299,668.6760m | 4+170.00 |
| 4172 | 1,059,016.2588m | 299,668.2325m | 4+171.00 |
| 4173 | 1,059,017.1555m | 299,667.7900m | 4+172.00 |
| 4174 | 1,059,018.0527m | 299,667.3484m | 4+173.00 |
| 4175 | 1,059,018.9504m | 299,666.9076m | 4+174.00 |
| 4176 | 1,059,019.8485m | 299,666.4678m | 4+175.00 |
| 4177 | 1,059,020.7470m | 299,666.0289m | 4+176.00 |
| 4178 | 1,059,021.6459m | 299,665.5908m | 4+177.00 |
| 4179 | 1,059,022.5453m | 299,665.1537m | 4+178.00 |
| 4180 | 1,059,023.4452m | 299,664.7175m | 4+179.00 |
| 4181 | 1,059,024.3455m | 299,664.2822m | 4+180.00 |
| 4182 | 1,059,025.2462m | 299,663.8478m | 4+181.00 |
| 4183 | 1,059,026.1473m | 299,663.4143m | 4+182.00 |
| 4184 | 1,059,027.0489m | 299,662.9817m | 4+183.00 |
| 4185 | 1,059,027.9510m | 299,662.5500m | 4+184.00 |
| 4186 | 1,059,028.8534m | 299,662.1193m | 4+185.00 |
| 4187 | 1,059,029.7563m | 299,661.6894m | 4+186.00 |
| 4188 | 1,059,030.6596m | 299,661.2605m | 4+187.00 |
| 4189 | 1,059,031.5634m | 299,660.8324m | 4+188.00 |
| 4190 | 1,059,032.4676m | 299,660.4053m | 4+189.00 |
| 4191 | 1,059,033.3722m | 299,659.9790m | 4+190.00 |
| 4192 | 1,059,034.2773m | 299,659.5537m | 4+191.00 |
| 4193 | 1,059,035.1827m | 299,659.1293m | 4+192.00 |
| 4194 | 1,059,036.0886m | 299,658.7058m | 4+193.00 |
| 4195 | 1,059,036.9950m | 299,658.2833m | 4+194.00 |
| 4196 | 1,059,037.9017m | 299,657.8616m | 4+195.00 |
| 4197 | 1,059,038.8089m | 299,657.4408m | 4+196.00 |
| 4198 | 1,059,039.7165m | 299,657.0210m | 4+197.00 |
| 4199 | 1,059,040.6245m | 299,656.6021m | 4+198.00 |
| 4200 | 1,059,041.5329m | 299,656.1841m | 4+199.00 |
| 4201 | 1,059,042.4418m | 299,655.7670m | 4+200.00 |
| 4202 | 1,059,043.3511m | 299,655.3508m | 4+201.00 |
| 4203 | 1,059,044.2608m | 299,654.9355m | 4+202.00 |
| 4204 | 1,059,045.1709m | 299,654.5212m | 4+203.00 |
| 4205 | 1,059,046.0814m | 299,654.1077m | 4+204.00 |
| 4206 | 1,059,046.9924m | 299,653.6952m | 4+205.00 |
| 4207 | 1,059,047.9037m | 299,653.2836m | 4+206.00 |
| 4208 | 1,059,048.8155m | 299,652.8729m | 4+207.00 |
| 4209 | 1,059,049.7277m | 299,652.4631m | 4+208.00 |
| 4210 | 1,059,050.6403m | 299,652.0543m | 4+209.00 |
| 4211 | 1,059,051.5533m | 299,651.6464m | 4+210.00 |
| 4212 | 1,059,052.4668m | 299,651.2394m | 4+211.00 |
| 4213 | 1,059,053.3806m | 299,650.8333m | 4+212.00 |
| 4214 | 1,059,054.2948m | 299,650.4281m | 4+213.00 |
| 4215 | 1,059,055.2095m | 299,650.0238m | 4+214.00 |
| 4216 | 1,059,056.1245m | 299,649.6205m | 4+215.00 |
| 4217 | 1,059,057.0400m | 299,649.2181m | 4+216.00 |
| 4218 | 1,059,057.9559m | 299,648.8166m | 4+217.00 |
| 4219 | 1,059,058.8721m | 299,648.4161m | 4+218.00 |
| 4220 | 1,059,059.7888m | 299,648.0164m | 4+219.00 |
| 4221 | 1,059,060.7059m | 299,647.6177m | 4+220.00 |
| 4222 | 1,059,061.6233m | 299,647.2199m | 4+221.00 |
| 4223 | 1,059,062.5412m | 299,646.8230m | 4+222.00 |
| 4224 | 1,059,063.4595m | 299,646.4271m | 4+223.00 |
| 4225 | 1,059,064.3781m | 299,646.0320m | 4+224.00 |
| 4226 | 1,059,065.2972m | 299,645.6379m | 4+225.00 |
| 4227 | 1,059,066.2167m | 299,645.2448m | 4+226.00 |
| 4228 | 1,059,067.1365m | 299,644.8525m | 4+227.00 |
| 4229 | 1,059,068.0568m | 299,644.4612m | 4+228.00 |
| 4230 | 1,059,068.9774m | 299,644.0708m | 4+229.00 |
| 4231 | 1,059,069.8985m | 299,643.6813m | 4+230.00 |
| 4232 | 1,059,070.8199m | 299,643.2928m | 4+231.00 |
| 4233 | 1,059,071.7417m | 299,642.9052m | 4+232.00 |
| 4234 | 1,059,072.6639m | 299,642.5185m | 4+233.00 |
| 4235 | 1,059,073.5865m | 299,642.1327m | 4+234.00 |
| 4236 | 1,059,074.5095m | 299,641.7479m | 4+235.00 |
| 4237 | 1,059,075.4329m | 299,641.3640m | 4+236.00 |
| 4238 | 1,059,076.3567m | 299,640.9810m | 4+237.00 |
| 4239 | 1,059,077.2808m | 299,640.5990m | 4+238.00 |
| 4240 | 1,059,078.2053m | 299,640.2179m | 4+239.00 |
| 4241 | 1,059,079.1302m | 299,639.8377m | 4+240.00 |
| 4242 | 1,059,080.0555m | 299,639.4584m | 4+241.00 |
| 4243 | 1,059,080.9812m | 299,639.0801m | 4+242.00 |
| 4244 | 1,059,081.9073m | 299,638.7027m | 4+243.00 |
| 4245 | 1,059,082.8337m | 299,638.3263m | 4+244.00 |
| 4246 | 1,059,083.7605m | 299,637.9507m | 4+245.00 |
| 4247 | 1,059,084.6877m | 299,637.5761m | 4+246.00 |
| 4248 | 1,059,085.6153m | 299,637.2025m | 4+247.00 |
| 4249 | 1,059,086.5432m | 299,636.8298m | 4+248.00 |
| 4250 | 1,059,087.4715m | 299,636.4580m | 4+249.00 |
| 4251 | 1,059,088.4002m | 299,636.0871m | 4+250.00 |
| 4252 | 1,059,089.3293m | 299,635.7172m | 4+251.00 |
| 4253 | 1,059,090.2587m | 299,635.3482m | 4+252.00 |
| 4254 | 1,059,091.1885m | 299,634.9802m | 4+253.00 |
| 4255 | 1,059,092.1187m | 299,634.6131m | 4+254.00 |
| 4256 | 1,059,093.0493m | 299,634.2469m | 4+255.00 |
| 4257 | 1,059,093.9802m | 299,633.8816m | 4+256.00 |
| 4258 | 1,059,094.9114m | 299,633.5173m | 4+257.00 |
| 4259 | 1,059,095.8431m | 299,633.1540m | 4+258.00 |
| 4260 | 1,059,096.7751m | 299,632.7916m | 4+259.00 |
| 4261 | 1,059,097.7075m | 299,632.4301m | 4+260.00 |
| 4262 | 1,059,098.6402m | 299,632.0695m | 4+261.00 |
| 4263 | 1,059,099.5733m | 299,631.7099m | 4+262.00 |
| 4264 | 1,059,100.5068m | 299,631.3512m | 4+263.00 |
| 4265 | 1,059,101.4406m | 299,630.9935m | 4+264.00 |
| 4266 | 1,059,102.3748m | 299,630.6367m | 4+265.00 |
| 4267 | 1,059,103.3093m | 299,630.2809m | 4+266.00 |
| 4268 | 1,059,104.2442m | 299,629.9259m | 4+267.00 |
| 4269 | 1,059,105.1795m | 299,629.5720m | 4+268.00 |
| 4270 | 1,059,106.1151m | 299,629.2189m | 4+269.00 |
| 4271 | 1,059,107.0511m | 299,628.8669m | 4+270.00 |
| 4272 | 1,059,107.9874m | 299,628.5157m | 4+271.00 |
| 4273 | 1,059,108.9241m | 299,628.1655m | 4+272.00 |
| 4274 | 1,059,109.8611m | 299,627.8163m | 4+273.00 |
| 4275 | 1,059,110.7985m | 299,627.4679m | 4+274.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 4276 | 1,059,111.7362m | 299,627.1206m | 4+275.00 |
| 4277 | 1,059,112.6743m | 299,626.7741m | 4+276.00 |
| 4278 | 1,059,113.6126m | 299,626.4284m | 4+277.00 |
| 4279 | 1,059,114.5510m | 299,626.0828m | 4+278.00 |
| 4280 | 1,059,115.4893m | 299,625.7371m | 4+279.00 |
| 4281 | 1,059,116.4277m | 299,625.3914m | 4+280.00 |
| 4282 | 1,059,117.3661m | 299,625.0458m | 4+281.00 |
| 4283 | 1,059,118.3044m | 299,624.7001m | 4+282.00 |
| 4284 | 1,059,119.2428m | 299,624.3544m | 4+283.00 |
| 4285 | 1,059,120.1811m | 299,624.0088m | 4+284.00 |
| 4286 | 1,059,121.1195m | 299,623.6631m | 4+285.00 |
| 4287 | 1,059,122.0578m | 299,623.3174m | 4+286.00 |
| 4288 | 1,059,122.9962m | 299,622.9718m | 4+287.00 |
| 4289 | 1,059,123.9346m | 299,622.6261m | 4+288.00 |
| 4290 | 1,059,124.8729m | 299,622.2804m | 4+289.00 |
| 4291 | 1,059,125.8113m | 299,621.9348m | 4+290.00 |
| 4292 | 1,059,126.7496m | 299,621.5891m | 4+291.00 |
| 4293 | 1,059,127.6880m | 299,621.2435m | 4+292.00 |
| 4294 | 1,059,128.6263m | 299,620.8978m | 4+293.00 |
| 4295 | 1,059,129.5647m | 299,620.5521m | 4+294.00 |
| 4296 | 1,059,130.5031m | 299,620.2065m | 4+295.00 |
| 4297 | 1,059,131.4414m | 299,619.8608m | 4+296.00 |
| 4298 | 1,059,132.3798m | 299,619.5151m | 4+297.00 |
| 4299 | 1,059,133.3181m | 299,619.1695m | 4+298.00 |
| 4300 | 1,059,134.2565m | 299,618.8238m | 4+299.00 |
| 4301 | 1,059,135.1949m | 299,618.4781m | 4+300.00 |
| 4302 | 1,059,136.1332m | 299,618.1325m | 4+301.00 |
| 4303 | 1,059,137.0716m | 299,617.7868m | 4+302.00 |
| 4304 | 1,059,138.0099m | 299,617.4411m | 4+303.00 |
| 4305 | 1,059,138.9483m | 299,617.0955m | 4+304.00 |
| 4306 | 1,059,139.8866m | 299,616.7498m | 4+305.00 |
| 4307 | 1,059,140.8250m | 299,616.4041m | 4+306.00 |
| 4308 | 1,059,141.7634m | 299,616.0585m | 4+307.00 |
| 4309 | 1,059,142.7017m | 299,615.7128m | 4+308.00 |
| 4310 | 1,059,143.6401m | 299,615.3671m | 4+309.00 |
| 4311 | 1,059,144.5784m | 299,615.0215m | 4+310.00 |
| 4312 | 1,059,145.5168m | 299,614.6758m | 4+311.00 |
| 4313 | 1,059,146.4551m | 299,614.3301m | 4+312.00 |
| 4314 | 1,059,147.3935m | 299,613.9845m | 4+313.00 |
| 4315 | 1,059,148.3319m | 299,613.6388m | 4+314.00 |
| 4316 | 1,059,149.2702m | 299,613.2931m | 4+315.00 |
| 4317 | 1,059,150.2086m | 299,612.9475m | 4+316.00 |
| 4318 | 1,059,151.1469m | 299,612.6018m | 4+317.00 |
| 4319 | 1,059,152.0853m | 299,612.2562m | 4+318.00 |
| 4320 | 1,059,153.0237m | 299,611.9105m | 4+319.00 |
| 4321 | 1,059,153.9620m | 299,611.5648m | 4+320.00 |
| 4322 | 1,059,154.9004m | 299,611.2192m | 4+321.00 |
| 4323 | 1,059,155.8387m | 299,610.8735m | 4+322.00 |
| 4324 | 1,059,156.7771m | 299,610.5278m | 4+323.00 |
| 4325 | 1,059,157.7154m | 299,610.1822m | 4+324.00 |
| 4326 | 1,059,158.6538m | 299,609.8365m | 4+325.00 |
| 4327 | 1,059,159.5922m | 299,609.4908m | 4+326.00 |
| 4328 | 1,059,160.5305m | 299,609.1452m | 4+327.00 |
| 4329 | 1,059,161.4689m | 299,608.7995m | 4+328.00 |
| 4330 | 1,059,162.4072m | 299,608.4538m | 4+329.00 |
| 4331 | 1,059,163.3456m | 299,608.1082m | 4+330.00 |
| 4332 | 1,059,164.2839m | 299,607.7625m | 4+331.00 |
| 4333 | 1,059,165.2223m | 299,607.4168m | 4+332.00 |
| 4334 | 1,059,166.1607m | 299,607.0712m | 4+333.00 |
| 4335 | 1,059,167.0990m | 299,606.7255m | 4+334.00 |
| 4336 | 1,059,168.0374m | 299,606.3798m | 4+335.00 |
| 4337 | 1,059,168.9757m | 299,606.0342m | 4+336.00 |
| 4338 | 1,059,169.9141m | 299,605.6885m | 4+337.00 |
| 4339 | 1,059,170.8525m | 299,605.3428m | 4+338.00 |
| 4340 | 1,059,171.7908m | 299,604.9972m | 4+339.00 |
| 4341 | 1,059,172.7292m | 299,604.6515m | 4+340.00 |
| 4342 | 1,059,173.6675m | 299,604.3058m | 4+341.00 |
| 4343 | 1,059,174.6059m | 299,603.9602m | 4+342.00 |
| 4344 | 1,059,175.5442m | 299,603.6145m | 4+343.00 |
| 4345 | 1,059,176.4826m | 299,603.2689m | 4+344.00 |
| 4346 | 1,059,177.4210m | 299,602.9232m | 4+345.00 |
| 4347 | 1,059,178.3593m | 299,602.5775m | 4+346.00 |
| 4348 | 1,059,179.2977m | 299,602.2319m | 4+347.00 |
| 4349 | 1,059,180.2360m | 299,601.8862m | 4+348.00 |
| 4350 | 1,059,181.1744m | 299,601.5405m | 4+349.00 |
| 4351 | 1,059,182.1127m | 299,601.1949m | 4+350.00 |
| 4352 | 1,059,183.0511m | 299,600.8492m | 4+351.00 |
| 4353 | 1,059,183.9895m | 299,600.5035m | 4+352.00 |
| 4354 | 1,059,184.9278m | 299,600.1579m | 4+353.00 |
| 4355 | 1,059,185.8662m | 299,599.8122m | 4+354.00 |
| 4356 | 1,059,186.8045m | 299,599.4665m | 4+355.00 |
| 4357 | 1,059,187.7429m | 299,599.1209m | 4+356.00 |
| 4358 | 1,059,188.6812m | 299,598.7752m | 4+357.00 |
| 4359 | 1,059,189.6196m | 299,598.4295m | 4+358.00 |
| 4360 | 1,059,190.5580m | 299,598.0839m | 4+359.00 |
| 4361 | 1,059,191.4963m | 299,597.7382m | 4+360.00 |
| 4362 | 1,059,192.4347m | 299,597.3925m | 4+361.00 |
| 4363 | 1,059,193.3730m | 299,597.0469m | 4+362.00 |
| 4364 | 1,059,194.3114m | 299,596.7012m | 4+363.00 |
| 4365 | 1,059,195.2498m | 299,596.3555m | 4+364.00 |
| 4366 | 1,059,196.1881m | 299,596.0099m | 4+365.00 |
| 4367 | 1,059,197.1265m | 299,595.6642m | 4+366.00 |
| 4368 | 1,059,198.0648m | 299,595.3185m | 4+367.00 |
| 4369 | 1,059,199.0032m | 299,594.9729m | 4+368.00 |
| 4370 | 1,059,199.9415m | 299,594.6272m | 4+369.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 4371 | 1,059,200.8799m | 299,594.2816m | 4+370.00 |
| 4372 | 1,059,201.8183m | 299,593.9359m | 4+371.00 |
| 4373 | 1,059,202.7566m | 299,593.5902m | 4+372.00 |
| 4374 | 1,059,203.6950m | 299,593.2446m | 4+373.00 |
| 4375 | 1,059,204.6333m | 299,592.8989m | 4+374.00 |
| 4376 | 1,059,205.5717m | 299,592.5532m | 4+375.00 |
| 4377 | 1,059,206.5100m | 299,592.2076m | 4+376.00 |
| 4378 | 1,059,207.4484m | 299,591.8619m | 4+377.00 |
| 4379 | 1,059,208.3868m | 299,591.5162m | 4+378.00 |
| 4380 | 1,059,209.3251m | 299,591.1706m | 4+379.00 |
| 4381 | 1,059,210.2635m | 299,590.8249m | 4+380.00 |
| 4382 | 1,059,211.2018m | 299,590.4792m | 4+381.00 |
| 4383 | 1,059,212.1402m | 299,590.1336m | 4+382.00 |
| 4384 | 1,059,213.0786m | 299,589.7879m | 4+383.00 |
| 4385 | 1,059,214.0169m | 299,589.4422m | 4+384.00 |
| 4386 | 1,059,214.9553m | 299,589.0966m | 4+385.00 |
| 4387 | 1,059,215.8936m | 299,588.7509m | 4+386.00 |
| 4388 | 1,059,216.8320m | 299,588.4052m | 4+387.00 |
| 4389 | 1,059,217.7703m | 299,588.0596m | 4+388.00 |
| 4390 | 1,059,218.7087m | 299,587.7139m | 4+389.00 |
| 4391 | 1,059,219.6471m | 299,587.3682m | 4+390.00 |
| 4392 | 1,059,220.5854m | 299,587.0226m | 4+391.00 |
| 4393 | 1,059,221.5238m | 299,586.6769m | 4+392.00 |
| 4394 | 1,059,222.4621m | 299,586.3312m | 4+393.00 |
| 4395 | 1,059,223.4005m | 299,585.9856m | 4+394.00 |
| 4396 | 1,059,224.3388m | 299,585.6399m | 4+395.00 |
| 4397 | 1,059,225.2772m | 299,585.2943m | 4+396.00 |
| 4398 | 1,059,226.2156m | 299,584.9486m | 4+397.00 |
| 4399 | 1,059,227.1539m | 299,584.6029m | 4+398.00 |
| 4400 | 1,059,228.0923m | 299,584.2573m | 4+399.00 |
| 4401 | 1,059,229.0306m | 299,583.9116m | 4+400.00 |
| 4402 | 1,059,229.9690m | 299,583.5659m | 4+401.00 |
| 4403 | 1,059,230.9074m | 299,583.2203m | 4+402.00 |
| 4404 | 1,059,231.8457m | 299,582.8746m | 4+403.00 |
| 4405 | 1,059,232.7841m | 299,582.5289m | 4+404.00 |
| 4406 | 1,059,233.7224m | 299,582.1833m | 4+405.00 |
| 4407 | 1,059,234.6608m | 299,581.8376m | 4+406.00 |
| 4408 | 1,059,235.5991m | 299,581.4919m | 4+407.00 |
| 4409 | 1,059,236.5375m | 299,581.1463m | 4+408.00 |
| 4410 | 1,059,237.4759m | 299,580.8006m | 4+409.00 |
| 4411 | 1,059,238.4142m | 299,580.4549m | 4+410.00 |
| 4412 | 1,059,239.3526m | 299,580.1093m | 4+411.00 |
| 4413 | 1,059,240.2909m | 299,579.7636m | 4+412.00 |
| 4414 | 1,059,241.2293m | 299,579.4179m | 4+413.00 |
| 4415 | 1,059,242.1676m | 299,579.0723m | 4+414.00 |
| 4416 | 1,059,243.1060m | 299,578.7266m | 4+415.00 |
| 4417 | 1,059,244.0444m | 299,578.3809m | 4+416.00 |
| 4418 | 1,059,244.9827m | 299,578.0353m | 4+417.00 |
| 4419 | 1,059,245.9211m | 299,577.6896m | 4+418.00 |
| 4420 | 1,059,246.8594m | 299,577.3439m | 4+419.00 |
| 4421 | 1,059,247.7978m | 299,576.9983m | 4+420.00 |
| 4422 | 1,059,248.7362m | 299,576.6526m | 4+421.00 |
| 4423 | 1,059,249.6745m | 299,576.3070m | 4+422.00 |
| 4424 | 1,059,250.6129m | 299,575.9613m | 4+423.00 |
| 4425 | 1,059,251.5512m | 299,575.6156m | 4+424.00 |
| 4426 | 1,059,252.4896m | 299,575.2700m | 4+425.00 |
| 4427 | 1,059,253.4279m | 299,574.9243m | 4+426.00 |
| 4428 | 1,059,254.3663m | 299,574.5786m | 4+427.00 |
| 4429 | 1,059,255.3047m | 299,574.2330m | 4+428.00 |
| 4430 | 1,059,256.2430m | 299,573.8873m | 4+429.00 |
| 4431 | 1,059,257.1814m | 299,573.5416m | 4+430.00 |
| 4432 | 1,059,258.1197m | 299,573.1960m | 4+431.00 |
| 4433 | 1,059,259.0581m | 299,572.8503m | 4+432.00 |
| 4434 | 1,059,259.9964m | 299,572.5046m | 4+433.00 |
| 4435 | 1,059,260.9348m | 299,572.1590m | 4+434.00 |
| 4436 | 1,059,261.8732m | 299,571.8133m | 4+435.00 |
| 4437 | 1,059,262.8115m | 299,571.4676m | 4+436.00 |
| 4438 | 1,059,263.7499m | 299,571.1220m | 4+437.00 |
| 4439 | 1,059,264.6882m | 299,570.7763m | 4+438.00 |
| 4440 | 1,059,265.6266m | 299,570.4306m | 4+439.00 |
| 4441 | 1,059,266.5649m | 299,570.0850m | 4+440.00 |
| 4442 | 1,059,267.5033m | 299,569.7393m | 4+441.00 |
| 4443 | 1,059,268.4417m | 299,569.3936m | 4+442.00 |
| 4444 | 1,059,269.3800m | 299,569.0480m | 4+443.00 |
| 4445 | 1,059,270.3184m | 299,568.7023m | 4+444.00 |
| 4446 | 1,059,271.2567m | 299,568.3566m | 4+445.00 |
| 4447 | 1,059,272.1951m | 299,568.0110m | 4+446.00 |
| 4448 | 1,059,273.1335m | 299,567.6653m | 4+447.00 |
| 4449 | 1,059,274.0718m | 299,567.3197m | 4+448.00 |
| 4450 | 1,059,275.0102m | 299,566.9740m | 4+449.00 |
| 4451 | 1,059,275.9485m | 299,566.6283m | 4+450.00 |
| 4452 | 1,059,276.8869m | 299,566.2827m | 4+451.00 |
| 4453 | 1,059,277.8252m | 299,565.9370m | 4+452.00 |
| 4454 | 1,059,278.7636m | 299,565.5913m | 4+453.00 |
| 4455 | 1,059,279.7020m | 299,565.2457m | 4+454.00 |
| 4456 | 1,059,280.6403m | 299,564.9000m | 4+455.00 |
| 4457 | 1,059,281.5787m | 299,564.5543m | 4+456.00 |
| 4458 | 1,059,282.5170m | 299,564.2087m | 4+457.00 |
| 4459 | 1,059,283.4554m | 299,563.8630m | 4+458.00 |
| 4460 | 1,059,284.3937m | 299,563.5173m | 4+459.00 |
| 4461 | 1,059,285.3321m | 299,563.1717m | 4+460.00 |
| 4462 | 1,059,286.2705m | 299,562.8260m | 4+461.00 |
| 4463 | 1,059,287.2088m | 299,562.4803m | 4+462.00 |
| 4464 | 1,059,288.1472m | 299,562.1347m | 4+463.00 |
| 4465 | 1,059,289.0855m | 299,561.7890m | 4+464.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 4466 | 1,059,290.0239m | 299,561.4433m | 4+465.00 |
| 4467 | 1,059,290.9623m | 299,561.0977m | 4+466.00 |
| 4468 | 1,059,291.9006m | 299,560.7520m | 4+467.00 |
| 4469 | 1,059,292.8390m | 299,560.4063m | 4+468.00 |
| 4470 | 1,059,293.7773m | 299,560.0607m | 4+469.00 |
| 4471 | 1,059,294.7157m | 299,559.7150m | 4+470.00 |
| 4472 | 1,059,295.6540m | 299,559.3693m | 4+471.00 |
| 4473 | 1,059,296.5924m | 299,559.0237m | 4+472.00 |
| 4474 | 1,059,297.5308m | 299,558.6780m | 4+473.00 |
| 4475 | 1,059,298.4691m | 299,558.3323m | 4+474.00 |
| 4476 | 1,059,299.4075m | 299,557.9867m | 4+475.00 |
| 4477 | 1,059,300.3458m | 299,557.6410m | 4+476.00 |
| 4478 | 1,059,301.2842m | 299,557.2954m | 4+477.00 |
| 4479 | 1,059,302.2225m | 299,556.9497m | 4+478.00 |
| 4480 | 1,059,303.1609m | 299,556.6040m | 4+479.00 |
| 4481 | 1,059,304.0993m | 299,556.2584m | 4+480.00 |
| 4482 | 1,059,305.0376m | 299,555.9127m | 4+481.00 |
| 4483 | 1,059,305.9760m | 299,555.5670m | 4+482.00 |
| 4484 | 1,059,306.9143m | 299,555.2214m | 4+483.00 |
| 4485 | 1,059,307.8527m | 299,554.8757m | 4+484.00 |
| 4486 | 1,059,308.7911m | 299,554.5300m | 4+485.00 |
| 4487 | 1,059,309.7294m | 299,554.1844m | 4+486.00 |
| 4488 | 1,059,310.6678m | 299,553.8387m | 4+487.00 |
| 4489 | 1,059,311.6061m | 299,553.4930m | 4+488.00 |
| 4490 | 1,059,312.5445m | 299,553.1474m | 4+489.00 |
| 4491 | 1,059,313.4828m | 299,552.8017m | 4+490.00 |
| 4492 | 1,059,314.4212m | 299,552.4560m | 4+491.00 |
| 4493 | 1,059,315.3596m | 299,552.1104m | 4+492.00 |
| 4494 | 1,059,316.2979m | 299,551.7647m | 4+493.00 |
| 4495 | 1,059,317.2363m | 299,551.4190m | 4+494.00 |
| 4496 | 1,059,318.1746m | 299,551.0734m | 4+495.00 |
| 4497 | 1,059,319.1130m | 299,550.7277m | 4+496.00 |
| 4498 | 1,059,320.0513m | 299,550.3820m | 4+497.00 |
| 4499 | 1,059,320.9897m | 299,550.0364m | 4+498.00 |
| 4500 | 1,059,321.9281m | 299,549.6907m | 4+499.00 |
| 4501 | 1,059,322.8664m | 299,549.3450m | 4+500.00 |
| 4502 | 1,059,323.8048m | 299,548.9994m | 4+501.00 |
| 4503 | 1,059,324.7431m | 299,548.6537m | 4+502.00 |
| 4504 | 1,059,325.6815m | 299,548.3081m | 4+503.00 |
| 4505 | 1,059,326.6199m | 299,547.9624m | 4+504.00 |
| 4506 | 1,059,327.5582m | 299,547.6167m | 4+505.00 |
| 4507 | 1,059,328.4966m | 299,547.2711m | 4+506.00 |
| 4508 | 1,059,329.4349m | 299,546.9254m | 4+507.00 |
| 4509 | 1,059,330.3733m | 299,546.5797m | 4+508.00 |
| 4510 | 1,059,331.3116m | 299,546.2341m | 4+509.00 |
| 4511 | 1,059,332.2500m | 299,545.8884m | 4+510.00 |
| 4512 | 1,059,333.1884m | 299,545.5427m | 4+511.00 |
| 4513 | 1,059,334.1267m | 299,545.1971m | 4+512.00 |
| 4514 | 1,059,335.0651m | 299,544.8514m | 4+513.00 |
| 4515 | 1,059,336.0034m | 299,544.5057m | 4+514.00 |
| 4516 | 1,059,336.9424m | 299,544.1616m | 4+515.00 |
| 4517 | 1,059,337.8829m | 299,543.8221m | 4+516.00 |
| 4518 | 1,059,338.8252m | 299,543.4871m | 4+517.00 |
| 4519 | 1,059,339.7691m | 299,543.1568m | 4+518.00 |
| 4520 | 1,059,340.7145m | 299,542.8312m | 4+519.00 |
| 4521 | 1,059,341.6616m | 299,542.5101m | 4+520.00 |
| 4522 | 1,059,342.6103m | 299,542.1938m | 4+521.00 |
| 4523 | 1,059,343.5604m | 299,541.8821m | 4+522.00 |
| 4524 | 1,059,344.5121m | 299,541.5751m | 4+523.00 |
| 4525 | 1,059,345.4653m | 299,541.2727m | 4+524.00 |
| 4526 | 1,059,346.4200m | 299,540.9750m | 4+525.00 |
| 4527 | 1,059,347.3761m | 299,540.6821m | 4+526.00 |
| 4528 | 1,059,348.3337m | 299,540.3938m | 4+527.00 |
| 4529 | 1,059,349.2926m | 299,540.1102m | 4+528.00 |
| 4530 | 1,059,350.2529m | 299,539.8314m | 4+529.00 |
| 4531 | 1,059,351.2146m | 299,539.5572m | 4+530.00 |
| 4532 | 1,059,352.1777m | 299,539.2878m | 4+531.00 |
| 4533 | 1,059,353.1420m | 299,539.0232m | 4+532.00 |
| 4534 | 1,059,354.1076m | 299,538.7632m | 4+533.00 |
| 4535 | 1,059,355.0745m | 299,538.5081m | 4+534.00 |
| 4536 | 1,059,356.0427m | 299,538.2576m | 4+535.00 |
| 4537 | 1,059,357.0120m | 299,538.0119m | 4+536.00 |
| 4538 | 1,059,357.9825m | 299,537.7710m | 4+537.00 |
| 4539 | 1,059,358.9543m | 299,537.5349m | 4+538.00 |
| 4540 | 1,059,359.9271m | 299,537.3035m | 4+539.00 |
| 4541 | 1,059,360.9011m | 299,537.0769m | 4+540.00 |
| 4542 | 1,059,361.8762m | 299,536.8551m | 4+541.00 |
| 4543 | 1,059,362.8524m | 299,536.6381m | 4+542.00 |
| 4544 | 1,059,363.8296m | 299,536.4259m | 4+543.00 |
| 4545 | 1,059,364.8079m | 299,536.2185m | 4+544.00 |
| 4546 | 1,059,365.7871m | 299,536.0159m | 4+545.00 |
| 4547 | 1,059,366.7674m | 299,535.8181m | 4+546.00 |
| 4548 | 1,059,367.7486m | 299,535.6251m | 4+547.00 |
| 4549 | 1,059,368.7307m | 299,535.4370m | 4+548.00 |
| 4550 | 1,059,369.7138m | 299,535.2537m | 4+549.00 |
| 4551 | 1,059,370.6977m | 299,535.0752m | 4+550.00 |
| 4552 | 1,059,371.6825m | 299,534.9015m | 4+551.00 |
| 4553 | 1,059,372.6681m | 299,534.7327m | 4+552.00 |
| 4554 | 1,059,373.6546m | 299,534.5687m | 4+553.00 |
| 4555 | 1,059,374.6419m | 299,534.4096m | 4+554.00 |
| 4556 | 1,059,375.6299m | 299,534.2553m | 4+555.00 |
| 4557 | 1,059,376.6187m | 299,534.1059m | 4+556.00 |
| 4558 | 1,059,377.6082m | 299,533.9613m | 4+557.00 |
| 4559 | 1,059,378.5983m | 299,533.8216m | 4+558.00 |
| 4560 | 1,059,379.5892m | 299,533.6868m | 4+559.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 4561 | 1,059,380.5807m | 299,533.5568m | 4+560.00 |
| 4562 | 1,059,381.5729m | 299,533.4317m | 4+561.00 |
| 4563 | 1,059,382.5656m | 299,533.3115m | 4+562.00 |
| 4564 | 1,059,383.5589m | 299,533.1961m | 4+563.00 |
| 4565 | 1,059,384.5528m | 299,533.0857m | 4+564.00 |
| 4566 | 1,059,385.5472m | 299,532.9801m | 4+565.00 |
| 4567 | 1,059,386.5421m | 299,532.8794m | 4+566.00 |
| 4568 | 1,059,387.5375m | 299,532.7836m | 4+567.00 |
| 4569 | 1,059,388.5334m | 299,532.6926m | 4+568.00 |
| 4570 | 1,059,389.5297m | 299,532.6066m | 4+569.00 |
| 4571 | 1,059,390.5264m | 299,532.5255m | 4+570.00 |
| 4572 | 1,059,391.5235m | 299,532.4492m | 4+571.00 |
| 4573 | 1,059,392.5209m | 299,532.3779m | 4+572.00 |
| 4574 | 1,059,393.5187m | 299,532.3115m | 4+573.00 |
| 4575 | 1,059,394.5168m | 299,532.2499m | 4+574.00 |
| 4576 | 1,059,395.5152m | 299,532.1933m | 4+575.00 |
| 4577 | 1,059,396.5139m | 299,532.1416m | 4+576.00 |
| 4578 | 1,059,397.5128m | 299,532.0947m | 4+577.00 |
| 4579 | 1,059,398.5119m | 299,532.0526m | 4+578.00 |
| 4580 | 1,059,399.5111m | 299,532.0119m | 4+579.00 |
| 4581 | 1,059,400.5102m | 299,531.9711m | 4+580.00 |
| 4582 | 1,059,401.5094m | 299,531.9304m | 4+581.00 |
| 4583 | 1,059,402.5086m | 299,531.8896m | 4+582.00 |
| 4584 | 1,059,403.5077m | 299,531.8488m | 4+583.00 |
| 4585 | 1,059,404.5069m | 299,531.8081m | 4+584.00 |
| 4586 | 1,059,405.5061m | 299,531.7673m | 4+585.00 |
| 4587 | 1,059,406.5053m | 299,531.7265m | 4+586.00 |
| 4588 | 1,059,407.5042m | 299,531.6807m | 4+587.00 |
| 4589 | 1,059,408.5027m | 299,531.6254m | 4+588.00 |
| 4590 | 1,059,409.5006m | 299,531.5608m | 4+589.00 |
| 4591 | 1,059,410.4978m | 299,531.4867m | 4+590.00 |
| 4592 | 1,059,411.4943m | 299,531.4034m | 4+591.00 |
| 4593 | 1,059,412.4900m | 299,531.3106m | 4+592.00 |
| 4594 | 1,059,413.4848m | 299,531.2085m | 4+593.00 |
| 4595 | 1,059,414.4786m | 299,531.0970m | 4+594.00 |
| 4596 | 1,059,415.4712m | 299,530.9763m | 4+595.00 |
| 4597 | 1,059,416.4627m | 299,530.8462m | 4+596.00 |
| 4598 | 1,059,417.4530m | 299,530.7067m | 4+597.00 |
| 4599 | 1,059,418.4418m | 299,530.5580m | 4+598.00 |
| 4600 | 1,059,419.4293m | 299,530.4000m | 4+599.00 |
| 4601 | 1,059,420.4152m | 299,530.2327m | 4+600.00 |
| 4602 | 1,059,421.3995m | 299,530.0562m | 4+601.00 |
| 4603 | 1,059,422.3820m | 299,529.8704m | 4+602.00 |
| 4604 | 1,059,423.3628m | 299,529.6754m | 4+603.00 |
| 4605 | 1,059,424.3418m | 299,529.4712m | 4+604.00 |
| 4606 | 1,059,425.3187m | 299,529.2578m | 4+605.00 |
| 4607 | 1,059,426.2936m | 299,529.0352m | 4+606.00 |
| 4608 | 1,059,427.2664m | 299,528.8034m | 4+607.00 |
| 4609 | 1,059,428.2370m | 299,528.5626m | 4+608.00 |
| 4610 | 1,059,429.2052m | 299,528.3126m | 4+609.00 |
| 4611 | 1,059,430.1711m | 299,528.0535m | 4+610.00 |
| 4612 | 1,059,431.1344m | 299,527.7854m | 4+611.00 |
| 4613 | 1,059,432.0953m | 299,527.5082m | 4+612.00 |
| 4614 | 1,059,433.0534m | 299,527.2220m | 4+613.00 |
| 4615 | 1,059,434.0089m | 299,526.9268m | 4+614.00 |
| 4616 | 1,059,434.9615m | 299,526.6227m | 4+615.00 |
| 4617 | 1,059,435.9112m | 299,526.3096m | 4+616.00 |
| 4618 | 1,059,436.8579m | 299,525.9876m | 4+617.00 |
| 4619 | 1,059,437.8016m | 299,525.6567m | 4+618.00 |
| 4620 | 1,059,438.7421m | 299,525.3170m | 4+619.00 |
| 4621 | 1,059,439.6794m | 299,524.9684m | 4+620.00 |
| 4622 | 1,059,440.6134m | 299,524.6110m | 4+621.00 |
| 4623 | 1,059,441.5439m | 299,524.2449m | 4+622.00 |
| 4624 | 1,059,442.4710m | 299,523.8701m | 4+623.00 |
| 4625 | 1,059,443.3945m | 299,523.4865m | 4+624.00 |
| 4626 | 1,059,444.3144m | 299,523.0943m | 4+625.00 |
| 4627 | 1,059,445.2305m | 299,522.6935m | 4+626.00 |
| 4628 | 1,059,446.1429m | 299,522.2840m | 4+627.00 |
| 4629 | 1,059,447.0513m | 299,521.8661m | 4+628.00 |
| 4630 | 1,059,447.9558m | 299,521.4395m | 4+629.00 |
| 4631 | 1,059,448.8562m | 299,521.0046m | 4+630.00 |
| 4632 | 1,059,449.7525m | 299,520.5611m | 4+631.00 |
| 4633 | 1,059,450.6446m | 299,520.1093m | 4+632.00 |
| 4634 | 1,059,451.5325m | 299,519.6491m | 4+633.00 |
| 4635 | 1,059,452.4159m | 299,519.1806m | 4+634.00 |
| 4636 | 1,059,453.2949m | 299,518.7038m | 4+635.00 |
| 4637 | 1,059,454.1694m | 299,518.2187m | 4+636.00 |
| 4638 | 1,059,455.0393m | 299,517.7255m | 4+637.00 |
| 4639 | 1,059,455.9045m | 299,517.2241m | 4+638.00 |
| 4640 | 1,059,456.7649m | 299,516.7146m | 4+639.00 |
| 4641 | 1,059,457.6206m | 299,516.1970m | 4+640.00 |
| 4642 | 1,059,458.4713m | 299,515.6714m | 4+641.00 |
| 4643 | 1,059,459.3171m | 299,515.1378m | 4+642.00 |
| 4644 | 1,059,460.1578m | 299,514.5964m | 4+643.00 |
| 4645 | 1,059,460.9934m | 299,514.0470m | 4+644.00 |
| 4646 | 1,059,461.8237m | 299,513.4898m | 4+645.00 |
| 4647 | 1,059,462.6488m | 299,512.9248m | 4+646.00 |
| 4648 | 1,059,463.4686m | 299,512.3521m | 4+647.00 |
| 4649 | 1,059,464.2829m | 299,511.7717m | 4+648.00 |
| 4650 | 1,059,465.0918m | 299,511.1837m | 4+649.00 |
| 4651 | 1,059,465.8951m | 299,510.5881m | 4+650.00 |
| 4652 | 1,059,466.6927m | 299,509.9850m | 4+651.00 |
| 4653 | 1,059,467.4847m | 299,509.3745m | 4+652.00 |
| 4654 | 1,059,468.2709m | 299,508.7565m | 4+653.00 |
| 4655 | 1,059,469.0512m | 299,508.1311m | 4+654.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 4656 | 1,059,469.8256m | 299,507.4984m | 4+655.00 |
| 4657 | 1,059,470.5941m | 299,506.8585m | 4+656.00 |
| 4658 | 1,059,471.3565m | 299,506.2114m | 4+657.00 |
| 4659 | 1,059,472.1127m | 299,505.5572m | 4+658.00 |
| 4660 | 1,059,472.8628m | 299,504.8959m | 4+659.00 |
| 4661 | 1,059,473.6067m | 299,504.2275m | 4+660.00 |
| 4662 | 1,059,474.3442m | 299,503.5522m | 4+661.00 |
| 4663 | 1,059,475.0754m | 299,502.8700m | 4+662.00 |
| 4664 | 1,059,475.8001m | 299,502.1810m | 4+663.00 |
| 4665 | 1,059,476.5183m | 299,501.4851m | 4+664.00 |
| 4666 | 1,059,477.2299m | 299,500.7826m | 4+665.00 |
| 4667 | 1,059,477.9349m | 299,500.0734m | 4+666.00 |
| 4668 | 1,059,478.6332m | 299,499.3576m | 4+667.00 |
| 4669 | 1,059,479.3248m | 299,498.6352m | 4+668.00 |
| 4670 | 1,059,480.0095m | 299,497.9064m | 4+669.00 |
| 4671 | 1,059,480.6873m | 299,497.1712m | 4+670.00 |
| 4672 | 1,059,481.3582m | 299,496.4297m | 4+671.00 |
| 4673 | 1,059,482.0221m | 299,495.6819m | 4+672.00 |
| 4674 | 1,059,482.6790m | 299,494.9279m | 4+673.00 |
| 4675 | 1,059,483.3287m | 299,494.1677m | 4+674.00 |
| 4676 | 1,059,483.9713m | 299,493.4015m | 4+675.00 |
| 4677 | 1,059,484.6066m | 299,492.6292m | 4+676.00 |
| 4678 | 1,059,485.2346m | 299,491.8511m | 4+677.00 |
| 4679 | 1,059,485.8553m | 299,491.0670m | 4+678.00 |
| 4680 | 1,059,486.4686m | 299,490.2772m | 4+679.00 |
| 4681 | 1,059,487.0745m | 299,489.4816m | 4+680.00 |
| 4682 | 1,059,487.6729m | 299,488.6804m | 4+681.00 |
| 4683 | 1,059,488.2637m | 299,487.8736m | 4+682.00 |
| 4684 | 1,059,488.8468m | 299,487.0612m | 4+683.00 |
| 4685 | 1,059,489.4224m | 299,486.2435m | 4+684.00 |
| 4686 | 1,059,489.9902m | 299,485.4203m | 4+685.00 |
| 4687 | 1,059,490.5502m | 299,484.5919m | 4+686.00 |
| 4688 | 1,059,491.1025m | 299,483.7582m | 4+687.00 |
| 4689 | 1,059,491.6469m | 299,482.9193m | 4+688.00 |
| 4690 | 1,059,492.1833m | 299,482.0754m | 4+689.00 |
| 4691 | 1,059,492.7119m | 299,481.2265m | 4+690.00 |
| 4692 | 1,059,493.2324m | 299,480.3727m | 4+691.00 |
| 4693 | 1,059,493.7448m | 299,479.5140m | 4+692.00 |
| 4694 | 1,059,494.2492m | 299,478.6505m | 4+693.00 |
| 4695 | 1,059,494.7455m | 299,477.7823m | 4+694.00 |
| 4696 | 1,059,495.2335m | 299,476.9095m | 4+695.00 |
| 4697 | 1,059,495.7134m | 299,476.0322m | 4+696.00 |
| 4698 | 1,059,496.1849m | 299,475.1503m | 4+697.00 |
| 4699 | 1,059,496.6482m | 299,474.2641m | 4+698.00 |
| 4700 | 1,059,497.1031m | 299,473.3736m | 4+699.00 |
| 4701 | 1,059,497.5496m | 299,472.4788m | 4+700.00 |
| 4702 | 1,059,497.9877m | 299,471.5799m | 4+701.00 |
| 4703 | 1,059,498.4173m | 299,470.6769m | 4+702.00 |
| 4704 | 1,059,498.8384m | 299,469.7699m | 4+703.00 |
| 4705 | 1,059,499.2510m | 299,468.8590m | 4+704.00 |
| 4706 | 1,059,499.6584m | 299,467.9457m | 4+705.00 |
| 4707 | 1,059,500.0657m | 299,467.0324m | 4+706.00 |
| 4708 | 1,059,500.4729m | 299,466.1191m | 4+707.00 |
| 4709 | 1,059,500.8802m | 299,465.2058m | 4+708.00 |
| 4710 | 1,059,501.2875m | 299,464.2925m | 4+709.00 |
| 4711 | 1,059,501.6948m | 299,463.3792m | 4+710.00 |
| 4712 | 1,059,502.1021m | 299,462.4659m | 4+711.00 |
| 4713 | 1,059,502.5094m | 299,461.5526m | 4+712.00 |
| 4714 | 1,059,502.9166m | 299,460.6393m | 4+713.00 |
| 4715 | 1,059,503.3239m | 299,459.7260m | 4+714.00 |
| 4716 | 1,059,503.7312m | 299,458.8127m | 4+715.00 |
| 4717 | 1,059,504.1385m | 299,457.8994m | 4+716.00 |
| 4718 | 1,059,504.5458m | 299,456.9861m | 4+717.00 |
| 4719 | 1,059,504.9531m | 299,456.0728m | 4+718.00 |
| 4720 | 1,059,505.3604m | 299,455.1595m | 4+719.00 |
| 4721 | 1,059,505.7676m | 299,454.2462m | 4+720.00 |
| 4722 | 1,059,506.1749m | 299,453.3329m | 4+721.00 |
| 4723 | 1,059,506.5822m | 299,452.4196m | 4+722.00 |
| 4724 | 1,059,506.9895m | 299,451.5063m | 4+723.00 |
| 4725 | 1,059,507.3968m | 299,450.5930m | 4+724.00 |
| 4726 | 1,059,507.8041m | 299,449.6797m | 4+725.00 |
| 4727 | 1,059,508.2113m | 299,448.7664m | 4+726.00 |
| 4728 | 1,059,508.6186m | 299,447.8531m | 4+727.00 |
| 4729 | 1,059,509.0259m | 299,446.9398m | 4+728.00 |
| 4730 | 1,059,509.4332m | 299,446.0265m | 4+729.00 |
| 4731 | 1,059,509.8405m | 299,445.1132m | 4+730.00 |
| 4732 | 1,059,510.2478m | 299,444.1998m | 4+731.00 |
| 4733 | 1,059,510.6551m | 299,443.2865m | 4+732.00 |
| 4734 | 1,059,511.0623m | 299,442.3732m | 4+733.00 |
| 4735 | 1,059,511.4696m | 299,441.4599m | 4+734.00 |
| 4736 | 1,059,511.8769m | 299,440.5466m | 4+735.00 |
| 4737 | 1,059,512.2842m | 299,439.6333m | 4+736.00 |
| 4738 | 1,059,512.6915m | 299,438.7200m | 4+737.00 |
| 4739 | 1,059,513.0988m | 299,437.8067m | 4+738.00 |
| 4740 | 1,059,513.5061m | 299,436.8934m | 4+739.00 |
| 4741 | 1,059,513.9133m | 299,435.9801m | 4+740.00 |
| 4742 | 1,059,514.3206m | 299,435.0668m | 4+741.00 |
| 4743 | 1,059,514.7279m | 299,434.1535m | 4+742.00 |
| 4744 | 1,059,515.1352m | 299,433.2402m | 4+743.00 |
| 4745 | 1,059,515.5425m | 299,432.3269m | 4+744.00 |
| 4746 | 1,059,515.9498m | 299,431.4136m | 4+745.00 |
| 4747 | 1,059,516.3570m | 299,430.5003m | 4+746.00 |
| 4748 | 1,059,516.7643m | 299,429.5870m | 4+747.00 |
| 4749 | 1,059,517.1716m | 299,428.6737m | 4+748.00 |
| 4750 | 1,059,517.5789m | 299,427.7604m | 4+749.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 4751 | 1,059,517.9862m | 299,426.8471m | 4+750.00 |
| 4752 | 1,059,518.3935m | 299,425.9338m | 4+751.00 |
| 4753 | 1,059,518.8008m | 299,425.0205m | 4+752.00 |
| 4754 | 1,059,519.2080m | 299,424.1072m | 4+753.00 |
| 4755 | 1,059,519.6153m | 299,423.1939m | 4+754.00 |
| 4756 | 1,059,520.0226m | 299,422.2806m | 4+755.00 |
| 4757 | 1,059,520.4299m | 299,421.3673m | 4+756.00 |
| 4758 | 1,059,520.8372m | 299,420.4540m | 4+757.00 |
| 4759 | 1,059,521.2445m | 299,419.5407m | 4+758.00 |
| 4760 | 1,059,521.6518m | 299,418.6274m | 4+759.00 |
| 4761 | 1,059,522.0590m | 299,417.7141m | 4+760.00 |
| 4762 | 1,059,522.4663m | 299,416.8008m | 4+761.00 |
| 4763 | 1,059,522.8736m | 299,415.8875m | 4+762.00 |
| 4764 | 1,059,523.2809m | 299,414.9742m | 4+763.00 |
| 4765 | 1,059,523.6882m | 299,414.0609m | 4+764.00 |
| 4766 | 1,059,524.0955m | 299,413.1476m | 4+765.00 |
| 4767 | 1,059,524.5027m | 299,412.2343m | 4+766.00 |
| 4768 | 1,059,524.9100m | 299,411.3210m | 4+767.00 |
| 4769 | 1,059,525.3173m | 299,410.4077m | 4+768.00 |
| 4770 | 1,059,525.7246m | 299,409.4944m | 4+769.00 |
| 4771 | 1,059,526.1319m | 299,408.5811m | 4+770.00 |
| 4772 | 1,059,526.5392m | 299,407.6678m | 4+771.00 |
| 4773 | 1,059,526.9465m | 299,406.7545m | 4+772.00 |
| 4774 | 1,059,527.3537m | 299,405.8412m | 4+773.00 |
| 4775 | 1,059,527.7610m | 299,404.9279m | 4+774.00 |
| 4776 | 1,059,528.1683m | 299,404.0146m | 4+775.00 |
| 4777 | 1,059,528.5756m | 299,403.1013m | 4+776.00 |
| 4778 | 1,059,529.1280m | 299,402.2867m | 4+777.00 |
| 4779 | 1,059,529.8296m | 299,401.5741m | 4+778.00 |
| 4780 | 1,059,530.5360m | 299,400.8663m | 4+779.00 |
| 4781 | 1,059,531.2260m | 299,400.1440m | 4+780.00 |
| 4782 | 1,059,531.8573m | 299,399.3685m | 4+781.00 |
| 4783 | 1,059,532.4991m | 299,398.6017m | 4+782.00 |
| 4784 | 1,059,533.2080m | 299,397.9283m | 4+783.00 |
| 4785 | 1,059,534.1905m | 299,397.9220m | 4+784.00 |
| 4786 | 1,059,535.1732m | 299,398.1074m | 4+785.00 |
| 4787 | 1,059,536.1558m | 299,398.2929m | 4+786.00 |
| 4788 | 1,059,536.8846m | 299,397.7778m | 4+787.00 |
| 4789 | 1,059,537.6144m | 299,397.0999m | 4+788.00 |
| 4790 | 1,059,538.2787m | 299,396.3630m | 4+789.00 |
| 4791 | 1,059,538.9078m | 299,395.5872m | 4+790.00 |
| 4792 | 1,059,539.4880m | 299,394.7791m | 4+791.00 |
| 4793 | 1,059,540.0133m | 299,393.9287m | 4+792.00 |
| 4794 | 1,059,540.5956m | 299,393.1167m | 4+793.00 |
| 4795 | 1,059,541.2807m | 299,392.3960m | 4+794.00 |
| 4796 | 1,059,541.4995m | 299,391.7836m | 4+795.00 |
| 4797 | 1,059,540.6704m | 299,391.2245m | 4+796.00 |
| 4798 | 1,059,539.8412m | 299,390.6655m | 4+797.00 |
| 4799 | 1,059,539.0121m | 299,390.1065m | 4+798.00 |
| 4800 | 1,059,538.1829m | 299,389.5475m | 4+799.00 |
| 4801 | 1,059,537.3538m | 299,388.9884m | 4+800.00 |
| 4802 | 1,059,536.9802m | 299,388.1830m | 4+801.00 |
| 4803 | 1,059,537.1635m | 299,387.2248m | 4+802.00 |
| 4804 | 1,059,537.5812m | 299,386.3163m | 4+803.00 |
| 4805 | 1,059,537.9989m | 299,385.4077m | 4+804.00 |
| 4806 | 1,059,538.3398m | 299,384.4718m | 4+805.00 |
| 4807 | 1,059,538.5231m | 299,383.4916m | 4+806.00 |
| 4808 | 1,059,538.5900m | 299,382.4947m | 4+807.00 |
| 4809 | 1,059,538.5567m | 299,381.4981m | 4+808.00 |
| 4810 | 1,059,538.4344m | 299,380.5078m | 4+809.00 |
| 4811 | 1,059,538.4977m | 299,379.5100m | 4+810.00 |
| 4812 | 1,059,538.6583m | 299,378.5231m | 4+811.00 |
| 4813 | 1,059,538.9597m | 299,377.5769m | 4+812.00 |
| 4814 | 1,059,539.3923m | 299,376.6749m | 4+813.00 |
| 4815 | 1,059,539.8211m | 299,375.7712m | 4+814.00 |
| 4816 | 1,059,539.9993m | 299,374.7808m | 4+815.00 |
| 4817 | 1,059,540.2658m | 299,373.8171m | 4+816.00 |
| 4818 | 1,059,540.6193m | 299,372.8817m | 4+817.00 |
| 4819 | 1,059,540.9696m | 299,371.9450m | 4+818.00 |
| 4820 | 1,059,541.3167m | 299,371.0072m | 4+819.00 |
| 4821 | 1,059,541.6607m | 299,370.0683m | 4+820.00 |
| 4822 | 1,059,542.0016m | 299,369.1282m | 4+821.00 |
| 4823 | 1,059,542.3627m | 299,368.1960m | 4+822.00 |
| 4824 | 1,059,542.6060m | 299,367.2267m | 4+823.00 |
| 4825 | 1,059,542.8394m | 299,366.2543m | 4+824.00 |
| 4826 | 1,059,543.1772m | 299,365.3137m | 4+825.00 |
| 4827 | 1,059,543.3737m | 299,364.5287m | 4+826.00 |
| 4828 | 1,059,544.3734m | 299,364.5048m | 4+827.00 |
| 4829 | 1,059,545.3726m | 299,364.4732m | 4+828.00 |
| 4830 | 1,059,546.3680m | 299,364.3768m | 4+829.00 |
| 4831 | 1,059,547.3635m | 299,364.2823m | 4+830.00 |
| 4832 | 1,059,548.3350m | 299,364.1276m | 4+831.00 |
| 4833 | 1,059,549.1215m | 299,363.5100m | 4+832.00 |
| 4834 | 1,059,549.3287m | 299,362.5355m | 4+833.00 |
| 4835 | 1,059,549.4614m | 299,361.5444m | 4+834.00 |
| 4836 | 1,059,549.5172m | 299,360.5462m | 4+835.00 |
| 4837 | 1,059,549.4095m | 299,359.5544m | 4+836.00 |
| 4838 | 1,059,549.0912m | 299,358.6159m | 4+837.00 |
| 4839 | 1,059,548.6820m | 299,357.7034m | 4+838.00 |
| 4840 | 1,059,548.5460m | 299,356.7259m | 4+839.00 |
| 4841 | 1,059,548.6517m | 299,355.7322m | 4+840.00 |
| 4842 | 1,059,548.1896m | 299,354.9441m | 4+841.00 |
| 4843 | 1,059,547.4736m | 299,354.2460m | 4+842.00 |
| 4844 | 1,059,547.9131m | 299,354.3318m | 4+843.00 |
| 4845 | 1,059,548.8264m | 299,354.7391m | 4+844.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 4846 | 1,059,549.2761m | 299,354.6513m | 4+845.00 |
| 4847 | 1,059,548.7800m | 299,353.7830m | 4+846.00 |
| 4848 | 1,059,548.9350m | 299,352.9988m | 4+847.00 |
| 4849 | 1,059,549.6354m | 299,352.2851m | 4+848.00 |
| 4850 | 1,059,550.3257m | 299,351.5617m | 4+849.00 |
| 4851 | 1,059,550.9582m | 299,350.7941m | 4+850.00 |
| 4852 | 1,059,551.6266m | 299,350.0503m | 4+851.00 |
| 4853 | 1,059,552.3029m | 299,349.3138m | 4+852.00 |
| 4854 | 1,059,552.9793m | 299,348.5772m | 4+853.00 |
| 4855 | 1,059,553.6557m | 299,347.8406m | 4+854.00 |
| 4856 | 1,059,554.3320m | 299,347.1040m | 4+855.00 |
| 4857 | 1,059,554.6377m | 299,346.1632m | 4+856.00 |
| 4858 | 1,059,554.8090m | 299,345.1780m | 4+857.00 |
| 4859 | 1,059,554.9775m | 299,344.1923m | 4+858.00 |
| 4860 | 1,059,555.1433m | 299,343.2062m | 4+859.00 |
| 4861 | 1,059,555.3064m | 299,342.2196m | 4+860.00 |
| 4862 | 1,059,555.4669m | 299,341.2325m | 4+861.00 |
| 4863 | 1,059,555.6246m | 299,340.2450m | 4+862.00 |
| 4864 | 1,059,555.7797m | 299,339.2571m | 4+863.00 |
| 4865 | 1,059,555.9321m | 299,338.2688m | 4+864.00 |
| 4866 | 1,059,556.2644m | 299,337.3301m | 4+865.00 |
| 4867 | 1,059,556.6518m | 299,336.4088m | 4+866.00 |
| 4868 | 1,059,557.1389m | 299,335.5359m | 4+867.00 |
| 4869 | 1,059,557.5378m | 299,334.6210m | 4+868.00 |
| 4870 | 1,059,557.5185m | 299,333.6410m | 4+869.00 |
| 4871 | 1,059,557.1015m | 299,332.8842m | 4+870.00 |
| 4872 | 1,059,557.2169m | 299,332.0112m | 4+871.00 |
| 4873 | 1,059,558.2169m | 299,332.0146m | 4+872.00 |
| 4874 | 1,059,559.2150m | 299,331.9748m | 4+873.00 |
| 4875 | 1,059,560.2103m | 299,331.8797m | 4+874.00 |
| 4876 | 1,059,561.1970m | 299,331.7169m | 4+875.00 |
| 4877 | 1,059,562.0892m | 299,331.2769m | 4+876.00 |
| 4878 | 1,059,563.0015m | 299,330.8713m | 4+877.00 |
| 4879 | 1,059,563.8448m | 299,330.3606m | 4+878.00 |
| 4880 | 1,059,564.4652m | 299,329.5805m | 4+879.00 |
| 4881 | 1,059,564.9322m | 299,328.6982m | 4+880.00 |
| 4882 | 1,059,565.3201m | 299,327.7770m | 4+881.00 |
| 4883 | 1,059,565.4955m | 299,326.8064m | 4+882.00 |
| 4884 | 1,059,565.4269m | 299,325.8088m | 4+883.00 |
| 4885 | 1,059,565.4756m | 299,324.8170m | 4+884.00 |
| 4886 | 1,059,565.5538m | 299,323.8201m | 4+885.00 |
| 4887 | 1,059,565.6234m | 299,322.8225m | 4+886.00 |
| 4888 | 1,059,565.7456m | 299,321.8321m | 4+887.00 |
| 4889 | 1,059,565.9875m | 299,320.8630m | 4+888.00 |
| 4890 | 1,059,566.3011m | 299,319.9135m | 4+889.00 |
| 4891 | 1,059,566.6191m | 299,318.9654m | 4+890.00 |
| 4892 | 1,059,566.9404m | 299,318.0184m | 4+891.00 |
| 4893 | 1,059,567.2649m | 299,317.0725m | 4+892.00 |
| 4894 | 1,059,567.5927m | 299,316.1278m | 4+893.00 |
| 4895 | 1,059,567.9795m | 299,315.2060m | 4+894.00 |
| 4896 | 1,059,568.3383m | 299,314.2741m | 4+895.00 |
| 4897 | 1,059,568.6366m | 299,313.3196m | 4+896.00 |
| 4898 | 1,059,568.9285m | 299,312.3632m | 4+897.00 |
| 4899 | 1,059,569.1994m | 299,311.4013m | 4+898.00 |
| 4900 | 1,059,569.3627m | 299,310.4151m | 4+899.00 |
| 4901 | 1,059,569.5162m | 299,309.4269m | 4+900.00 |
| 4902 | 1,059,569.6733m | 299,308.4393m | 4+901.00 |
| 4903 | 1,059,569.8341m | 299,307.4524m | 4+902.00 |
| 4904 | 1,059,569.9985m | 299,306.4660m | 4+903.00 |
| 4905 | 1,059,570.0878m | 299,305.4715m | 4+904.00 |
| 4906 | 1,059,570.1392m | 299,304.4728m | 4+905.00 |
| 4907 | 1,059,570.1905m | 299,303.4741m | 4+906.00 |
| 4908 | 1,059,570.2419m | 299,302.4754m | 4+907.00 |
| 4909 | 1,059,570.5768m | 299,301.9470m | 4+908.00 |
| 4910 | 1,059,571.2765m | 299,301.6393m | 4+909.00 |
| 4911 | 1,059,571.9313m | 299,300.8920m | 4+910.00 |
| 4912 | 1,059,572.6138m | 299,300.1613m | 4+911.00 |
| 4913 | 1,059,573.3056m | 299,299.4392m | 4+912.00 |
| 4914 | 1,059,574.1395m | 299,298.8910m | 4+913.00 |
| 4915 | 1,059,574.9913m | 299,298.3671m | 4+914.00 |
| 4916 | 1,059,575.8433m | 299,297.8436m | 4+915.00 |
| 4917 | 1,059,576.6829m | 299,297.3004m | 4+916.00 |
| 4918 | 1,059,577.5136m | 299,296.7438m | 4+917.00 |
| 4919 | 1,059,578.3482m | 299,296.2139m | 4+918.00 |
| 4920 | 1,059,579.2988m | 299,296.5244m | 4+919.00 |
| 4921 | 1,059,580.2494m | 299,296.8349m | 4+920.00 |
| 4922 | 1,059,581.1999m | 299,297.1454m | 4+921.00 |
| 4923 | 1,059,582.1505m | 299,297.4559m | 4+922.00 |
| 4924 | 1,059,582.7777m | 299,296.7037m | 4+923.00 |
| 4925 | 1,059,583.3887m | 299,295.9121m | 4+924.00 |
| 4926 | 1,059,583.9879m | 299,295.1117m | 4+925.00 |
| 4927 | 1,059,584.5846m | 299,294.3104m | 4+926.00 |
| 4928 | 1,059,585.2540m | 299,293.5677m | 4+927.00 |
| 4929 | 1,059,585.9271m | 299,292.8281m | 4+928.00 |
| 4930 | 1,059,586.6020m | 299,292.0902m | 4+929.00 |
| 4931 | 1,059,587.2431m | 299,291.3265m | 4+930.00 |
| 4932 | 1,059,587.5610m | 299,290.3882m | 4+931.00 |
| 4933 | 1,059,587.8242m | 299,289.4237m | 4+932.00 |
| 4934 | 1,059,588.1930m | 299,288.4955m | 4+933.00 |
| 4935 | 1,059,588.5897m | 299,287.5784m | 4+934.00 |
| 4936 | 1,059,588.9934m | 299,286.6647m | 4+935.00 |
| 4937 | 1,059,589.3092m | 299,285.7160m | 4+936.00 |
| 4938 | 1,059,589.5287m | 299,284.7468m | 4+937.00 |
| 4939 | 1,059,589.8040m | 299,283.7987m | 4+938.00 |
| 4940 | 1,059,590.1823m | 299,282.8730m | 4+939.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 4941 | 1,059,590.5395m | 299,281.9410m | 4+940.00 |
| 4942 | 1,059,590.9559m | 299,281.0389m | 4+941.00 |
| 4943 | 1,059,591.3686m | 299,280.1308m | 4+942.00 |
| 4944 | 1,059,591.8484m | 299,279.2620m | 4+943.00 |
| 4945 | 1,059,592.4249m | 299,278.4512m | 4+944.00 |
| 4946 | 1,059,593.1811m | 299,277.7984m | 4+945.00 |
| 4947 | 1,059,593.5698m | 299,276.9292m | 4+946.00 |
| 4948 | 1,059,593.7475m | 299,275.9452m | 4+947.00 |
| 4949 | 1,059,594.0685m | 299,275.0046m | 4+948.00 |
| 4950 | 1,059,594.4967m | 299,274.1017m | 4+949.00 |
| 4951 | 1,059,595.0987m | 299,273.3052m | 4+950.00 |
| 4952 | 1,059,595.5963m | 299,272.4380m | 4+951.00 |
| 4953 | 1,059,596.1171m | 299,271.5854m | 4+952.00 |
| 4954 | 1,059,596.6116m | 299,270.7162m | 4+953.00 |
| 4955 | 1,059,597.2324m | 299,269.9421m | 4+954.00 |
| 4956 | 1,059,598.1011m | 299,269.4472m | 4+955.00 |
| 4957 | 1,059,598.4402m | 299,268.5689m | 4+956.00 |
| 4958 | 1,059,598.4145m | 299,267.5693m | 4+957.00 |
| 4959 | 1,059,598.3969m | 299,266.5699m | 4+958.00 |
| 4960 | 1,059,598.7276m | 299,265.6565m | 4+959.00 |
| 4961 | 1,059,599.2424m | 299,264.7992m | 4+960.00 |
| 4962 | 1,059,599.7688m | 299,263.9490m | 4+961.00 |
| 4963 | 1,059,600.2893m | 299,263.0952m | 4+962.00 |
| 4964 | 1,059,600.7035m | 299,262.1883m | 4+963.00 |
| 4965 | 1,059,601.2421m | 299,261.3622m | 4+964.00 |
| 4966 | 1,059,601.5936m | 299,260.4301m | 4+965.00 |
| 4967 | 1,059,602.0768m | 299,259.5553m | 4+966.00 |
| 4968 | 1,059,602.4904m | 299,258.6454m | 4+967.00 |
| 4969 | 1,059,602.9938m | 299,257.7860m | 4+968.00 |
| 4970 | 1,059,603.5963m | 299,256.9897m | 4+969.00 |
| 4971 | 1,059,603.9974m | 299,256.0736m | 4+970.00 |
| 4972 | 1,059,604.3898m | 299,255.1539m | 4+971.00 |
| 4973 | 1,059,604.7863m | 299,254.2358m | 4+972.00 |
| 4974 | 1,059,605.1867m | 299,253.3195m | 4+973.00 |
| 4975 | 1,059,605.5911m | 299,252.4049m | 4+974.00 |
| 4976 | 1,059,605.9995m | 299,251.4921m | 4+975.00 |
| 4977 | 1,059,606.4099m | 299,250.5802m | 4+976.00 |
| 4978 | 1,059,606.7770m | 299,249.6502m | 4+977.00 |
| 4979 | 1,059,607.0609m | 299,248.6920m | 4+978.00 |
| 4980 | 1,059,607.5511m | 299,247.8204m | 4+979.00 |
| 4981 | 1,059,608.0078m | 299,246.9309m | 4+980.00 |
| 4982 | 1,059,608.5250m | 299,246.0750m | 4+981.00 |
| 4983 | 1,059,608.9951m | 299,245.1926m | 4+982.00 |
| 4984 | 1,059,609.3440m | 299,244.2555m | 4+983.00 |
| 4985 | 1,059,609.6092m | 299,243.2913m | 4+984.00 |
| 4986 | 1,059,609.9667m | 299,242.3574m | 4+985.00 |
| 4987 | 1,059,610.2981m | 299,241.4140m | 4+986.00 |
| 4988 | 1,059,610.6359m | 299,240.4727m | 4+987.00 |
| 4989 | 1,059,610.9890m | 299,239.5371m | 4+988.00 |
| 4990 | 1,059,611.3666m | 299,238.6112m | 4+989.00 |
| 4991 | 1,059,611.7417m | 299,237.6842m | 4+990.00 |
| 4992 | 1,059,612.1164m | 299,236.7571m | 4+991.00 |
| 4993 | 1,059,612.5435m | 299,235.8529m | 4+992.00 |
| 4994 | 1,059,612.9789m | 299,234.9527m | 4+993.00 |
| 4995 | 1,059,613.3972m | 299,234.0444m | 4+994.00 |
| 4996 | 1,059,613.8360m | 299,233.1458m | 4+995.00 |
| 4997 | 1,059,614.2300m | 299,232.2268m | 4+996.00 |
| 4998 | 1,059,614.6032m | 299,231.2990m | 4+997.00 |
| 4999 | 1,059,614.9694m | 299,230.3685m | 4+998.00 |
| 5000 | 1,059,615.3739m | 299,229.4540m | 4+999.00 |
| 5001 | 1,059,615.7538m | 299,228.5290m | 5+000.00 |
| 5002 | 1,059,615.9944m | 299,227.5590m | 5+001.00 |
| 5003 | 1,059,615.5612m | 299,226.7256m | 5+002.00 |
| 5004 | 1,059,614.9719m | 299,225.9177m | 5+003.00 |
| 5005 | 1,059,614.7094m | 299,224.9630m | 5+004.00 |
| 5006 | 1,059,614.5455m | 299,223.9774m | 5+005.00 |
| 5007 | 1,059,614.5553m | 299,222.9934m | 5+006.00 |
| 5008 | 1,059,614.8210m | 299,222.0302m | 5+007.00 |
| 5009 | 1,059,615.1364m | 299,221.0815m | 5+008.00 |
| 5010 | 1,059,615.3919m | 299,220.1147m | 5+009.00 |
| 5011 | 1,059,615.6167m | 299,219.1412m | 5+010.00 |
| 5012 | 1,059,615.7353m | 299,218.1513m | 5+011.00 |
| 5013 | 1,059,615.7292m | 299,217.1515m | 5+012.00 |
| 5014 | 1,059,615.7552m | 299,216.1523m | 5+013.00 |
| 5015 | 1,059,615.6247m | 299,215.1609m | 5+014.00 |
| 5016 | 1,059,615.7260m | 299,214.1673m | 5+015.00 |
| 5017 | 1,059,615.9594m | 299,213.1967m | 5+016.00 |
| 5018 | 1,059,616.2064m | 299,212.2278m | 5+017.00 |
| 5019 | 1,059,616.4279m | 299,211.2527m | 5+018.00 |
| 5020 | 1,059,616.0058m | 299,210.5800m | 5+019.00 |
| 5021 | 1,059,615.8841m | 299,209.7584m | 5+020.00 |
| 5022 | 1,059,616.6195m | 299,209.1033m | 5+021.00 |
| 5023 | 1,059,617.4008m | 299,208.4792m | 5+022.00 |
| 5024 | 1,059,618.2136m | 299,207.8985m | 5+023.00 |
| 5025 | 1,059,619.0682m | 299,207.3809m | 5+024.00 |
| 5026 | 1,059,619.9484m | 299,206.9064m | 5+025.00 |
| 5027 | 1,059,620.8332m | 299,206.4403m | 5+026.00 |
| 5028 | 1,059,621.7775m | 299,206.1117m | 5+027.00 |
| 5029 | 1,059,622.6939m | 299,205.7164m | 5+028.00 |
| 5030 | 1,059,623.5696m | 299,205.2371m | 5+029.00 |
| 5031 | 1,059,624.3491m | 299,204.6329m | 5+030.00 |
| 5032 | 1,059,624.8606m | 299,203.7738m | 5+031.00 |
| 5033 | 1,059,625.3652m | 299,202.9148m | 5+032.00 |
| 5034 | 1,059,625.9710m | 299,202.1351m | 5+033.00 |
| 5035 | 1,059,626.2090m | 299,201.1646m | 5+034.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 5036 | 1,059,626.2642m | 299,200.1723m | 5+035.00 |
| 5037 | 1,059,626.0090m | 299,199.2054m | 5+036.00 |
| 5038 | 1,059,625.6851m | 299,198.2605m | 5+037.00 |
| 5039 | 1,059,625.3408m | 299,197.3218m | 5+038.00 |
| 5040 | 1,059,625.0290m | 299,196.3717m | 5+039.00 |
| 5041 | 1,059,624.7211m | 299,195.4203m | 5+040.00 |
| 5042 | 1,059,624.4206m | 299,194.4673m | 5+041.00 |
| 5043 | 1,059,624.2917m | 299,193.5154m | 5+042.00 |
| 5044 | 1,059,624.8771m | 299,192.7387m | 5+043.00 |
| 5045 | 1,059,625.3900m | 299,191.8955m | 5+044.00 |
| 5046 | 1,059,625.9291m | 299,191.0533m | 5+045.00 |
| 5047 | 1,059,626.4499m | 299,190.1996m | 5+046.00 |
| 5048 | 1,059,627.0707m | 299,189.4176m | 5+047.00 |
| 5049 | 1,059,627.8271m | 299,188.7635m | 5+048.00 |
| 5050 | 1,059,628.6233m | 299,188.1588m | 5+049.00 |
| 5051 | 1,059,629.4240m | 299,187.5597m | 5+050.00 |
| 5052 | 1,059,630.2306m | 299,186.9687m | 5+051.00 |
| 5053 | 1,059,631.0149m | 299,186.3499m | 5+052.00 |
| 5054 | 1,059,631.7546m | 299,185.6773m | 5+053.00 |
| 5055 | 1,059,632.4471m | 299,184.9560m | 5+054.00 |
| 5056 | 1,059,633.1849m | 299,184.2813m | 5+055.00 |
| 5057 | 1,059,633.9452m | 299,183.6319m | 5+056.00 |
| 5058 | 1,059,634.7386m | 299,183.0235m | 5+057.00 |
| 5059 | 1,059,635.4854m | 299,182.3642m | 5+058.00 |
| 5060 | 1,059,636.1931m | 299,181.6600m | 5+059.00 |
| 5061 | 1,059,637.1563m | 299,181.5661m | 5+060.00 |
| 5062 | 1,059,638.1467m | 299,181.5122m | 5+061.00 |
| 5063 | 1,059,639.1169m | 299,181.2946m | 5+062.00 |
| 5064 | 1,059,640.1135m | 299,181.2478m | 5+063.00 |
| 5065 | 1,059,641.0529m | 299,180.9813m | 5+064.00 |
| 5066 | 1,059,641.8347m | 299,180.3616m | 5+065.00 |
| 5067 | 1,059,642.5680m | 299,179.6823m | 5+066.00 |
| 5068 | 1,059,643.2704m | 299,178.9709m | 5+067.00 |
| 5069 | 1,059,644.0264m | 299,178.3171m | 5+068.00 |
| 5070 | 1,059,644.7540m | 299,177.6312m | 5+069.00 |
| 5071 | 1,059,645.4748m | 299,176.9439m | 5+070.00 |
| 5072 | 1,059,645.9721m | 299,176.1141m | 5+071.00 |
| 5073 | 1,059,646.2862m | 299,175.1783m | 5+072.00 |
| 5074 | 1,059,646.4340m | 299,174.1978m | 5+073.00 |
| 5075 | 1,059,646.5824m | 299,173.2345m | 5+074.00 |
| 5076 | 1,059,646.5939m | 299,172.2957m | 5+075.00 |
| 5077 | 1,059,647.3239m | 299,171.6165m | 5+076.00 |
| 5078 | 1,059,648.1101m | 299,170.9988m | 5+077.00 |
| 5079 | 1,059,648.8706m | 299,170.3506m | 5+078.00 |
| 5080 | 1,059,649.6443m | 299,169.7177m | 5+079.00 |
| 5081 | 1,059,650.3947m | 299,169.0580m | 5+080.00 |
| 5082 | 1,059,651.1071m | 299,168.3565m | 5+081.00 |
| 5083 | 1,059,651.8191m | 299,167.6545m | 5+082.00 |
| 5084 | 1,059,652.5561m | 299,166.9789m | 5+083.00 |
| 5085 | 1,059,653.3154m | 299,166.3283m | 5+084.00 |
| 5086 | 1,059,654.0832m | 299,165.6876m | 5+085.00 |
| 5087 | 1,059,654.8289m | 299,165.0220m | 5+086.00 |
| 5088 | 1,059,655.5791m | 299,164.3614m | 5+087.00 |
| 5089 | 1,059,656.3442m | 299,163.7175m | 5+088.00 |
| 5090 | 1,059,657.1618m | 299,163.1452m | 5+089.00 |
| 5091 | 1,059,658.0053m | 299,162.6080m | 5+090.00 |
| 5092 | 1,059,658.8488m | 299,162.0708m | 5+091.00 |
| 5093 | 1,059,659.6922m | 299,161.5336m | 5+092.00 |
| 5094 | 1,059,660.5357m | 299,160.9965m | 5+093.00 |
| 5095 | 1,059,661.3792m | 299,160.4593m | 5+094.00 |
| 5096 | 1,059,662.2226m | 299,159.9221m | 5+095.00 |
| 5097 | 1,059,663.0661m | 299,159.3849m | 5+096.00 |
| 5098 | 1,059,663.9096m | 299,158.8477m | 5+097.00 |
| 5099 | 1,059,664.7530m | 299,158.3105m | 5+098.00 |
| 5100 | 1,059,665.5965m | 299,157.7734m | 5+099.00 |
| 5101 | 1,059,666.4400m | 299,157.2362m | 5+100.00 |
| 5102 | 1,059,667.2834m | 299,156.6990m | 5+101.00 |
| 5103 | 1,059,668.1269m | 299,156.1618m | 5+102.00 |
| 5104 | 1,059,668.9704m | 299,155.6246m | 5+103.00 |
| 5105 | 1,059,669.8138m | 299,155.0875m | 5+104.00 |
| 5106 | 1,059,670.6573m | 299,154.5503m | 5+105.00 |
| 5107 | 1,059,671.5008m | 299,154.0131m | 5+106.00 |
| 5108 | 1,059,672.3442m | 299,153.4759m | 5+107.00 |
| 5109 | 1,059,673.1877m | 299,152.9387m | 5+108.00 |
| 5110 | 1,059,674.0312m | 299,152.4015m | 5+109.00 |
| 5111 | 1,059,674.8746m | 299,151.8644m | 5+110.00 |
| 5112 | 1,059,675.7181m | 299,151.3272m | 5+111.00 |
| 5113 | 1,059,676.6427m | 299,150.9744m | 5+112.00 |
| 5114 | 1,059,677.5883m | 299,150.6533m | 5+113.00 |
| 5115 | 1,059,678.5032m | 299,150.2511m | 5+114.00 |
| 5116 | 1,059,679.3695m | 299,149.7568m | 5+115.00 |
| 5117 | 1,059,680.1960m | 299,149.1939m | 5+116.00 |
| 5118 | 1,059,681.0215m | 299,148.6295m | 5+117.00 |
| 5119 | 1,059,681.8499m | 299,148.0694m | 5+118.00 |
| 5120 | 1,059,682.6765m | 299,147.5065m | 5+119.00 |
| 5121 | 1,059,683.4994m | 299,146.9384m | 5+120.00 |
| 5122 | 1,059,684.3186m | 299,146.3649m | 5+121.00 |
| 5123 | 1,059,685.1333m | 299,145.7851m | 5+122.00 |
| 5124 | 1,059,685.9285m | 299,145.1789m | 5+123.00 |
| 5125 | 1,059,686.7141m | 299,144.5602m | 5+124.00 |
| 5126 | 1,059,687.5183m | 299,143.9659m | 5+125.00 |
| 5127 | 1,059,688.3179m | 299,143.3654m | 5+126.00 |
| 5128 | 1,059,689.1010m | 299,142.7436m | 5+127.00 |
| 5129 | 1,059,689.8595m | 299,142.0922m | 5+128.00 |
| 5130 | 1,059,690.5932m | 299,141.4126m | 5+129.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 5131 | 1,059,691.3383m | 299,140.7461m | 5+130.00 |
| 5132 | 1,059,692.0872m | 299,140.0894m | 5+131.00 |
| 5133 | 1,059,692.7307m | 299,139.3415m | 5+132.00 |
| 5134 | 1,059,693.5251m | 299,138.7265m | 5+133.00 |
| 5135 | 1,059,694.3910m | 299,138.2295m | 5+134.00 |
| 5136 | 1,059,695.2904m | 299,137.7968m | 5+135.00 |
| 5137 | 1,059,696.1302m | 299,137.2543m | 5+136.00 |
| 5138 | 1,059,696.9662m | 299,136.7056m | 5+137.00 |
| 5139 | 1,059,697.7984m | 299,136.1511m | 5+138.00 |
| 5140 | 1,059,698.6265m | 299,135.5906m | 5+139.00 |
| 5141 | 1,059,699.4221m | 299,134.9850m | 5+140.00 |
| 5142 | 1,059,700.1657m | 299,134.3190m | 5+141.00 |
| 5143 | 1,059,700.8018m | 299,133.5503m | 5+142.00 |
| 5144 | 1,059,701.5038m | 299,132.8381m | 5+143.00 |
| 5145 | 1,059,702.1959m | 299,132.1167m | 5+144.00 |
| 5146 | 1,059,702.8694m | 299,131.3775m | 5+145.00 |
| 5147 | 1,059,703.4601m | 299,130.5712m | 5+146.00 |
| 5148 | 1,059,704.0702m | 299,129.7792m | 5+147.00 |
| 5149 | 1,059,704.6866m | 299,128.9918m | 5+148.00 |
| 5150 | 1,059,705.3182m | 299,128.2166m | 5+149.00 |
| 5151 | 1,059,705.9588m | 299,127.4487m | 5+150.00 |
| 5152 | 1,059,706.6037m | 299,126.6845m | 5+151.00 |
| 5153 | 1,059,707.2651m | 299,125.9345m | 5+152.00 |
| 5154 | 1,059,707.9292m | 299,125.1871m | 5+153.00 |
| 5155 | 1,059,708.5655m | 299,124.4159m | 5+154.00 |
| 5156 | 1,059,709.2026m | 299,123.6457m | 5+155.00 |
| 5157 | 1,059,709.8637m | 299,122.8955m | 5+156.00 |
| 5158 | 1,059,710.5319m | 299,122.1523m | 5+157.00 |
| 5159 | 1,059,711.2302m | 299,121.4365m | 5+158.00 |
| 5160 | 1,059,711.9158m | 299,120.7087m | 5+159.00 |
| 5161 | 1,059,712.5764m | 299,119.9582m | 5+160.00 |
| 5162 | 1,059,713.2170m | 299,119.1904m | 5+161.00 |
| 5163 | 1,059,713.8702m | 299,118.4334m | 5+162.00 |
| 5164 | 1,059,714.5320m | 299,117.6840m | 5+163.00 |
| 5165 | 1,059,715.2023m | 299,116.9435m | 5+164.00 |
| 5166 | 1,059,715.8908m | 299,116.2201m | 5+165.00 |
| 5167 | 1,059,716.5161m | 299,115.4400m | 5+166.00 |
| 5168 | 1,059,717.1176m | 299,114.6412m | 5+167.00 |
| 5169 | 1,059,717.7416m | 299,113.8613m | 5+168.00 |
| 5170 | 1,059,718.4125m | 299,113.1197m | 5+169.00 |
| 5171 | 1,059,719.0814m | 299,112.3764m | 5+170.00 |
| 5172 | 1,059,719.7591m | 299,111.6410m | 5+171.00 |
| 5173 | 1,059,720.4239m | 299,110.8945m | 5+172.00 |
| 5174 | 1,059,721.0609m | 299,110.1236m | 5+173.00 |
| 5175 | 1,059,721.6927m | 299,109.3486m | 5+174.00 |
| 5176 | 1,059,722.3316m | 299,108.5797m | 5+175.00 |
| 5177 | 1,059,723.0056m | 299,107.8411m | 5+176.00 |
| 5178 | 1,059,723.6860m | 299,107.1084m | 5+177.00 |
| 5179 | 1,059,724.3527m | 299,106.3631m | 5+178.00 |
| 5180 | 1,059,725.0198m | 299,105.6181m | 5+179.00 |
| 5181 | 1,059,725.6856m | 299,104.8720m | 5+180.00 |
| 5182 | 1,059,726.3554m | 299,104.1298m | 5+181.00 |
| 5183 | 1,059,727.0417m | 299,103.4026m | 5+182.00 |
| 5184 | 1,059,727.7163m | 299,102.6645m | 5+183.00 |
| 5185 | 1,059,728.4809m | 299,102.0558m | 5+184.00 |
| 5186 | 1,059,729.3625m | 299,101.6118m | 5+185.00 |
| 5187 | 1,059,730.1055m | 299,100.9445m | 5+186.00 |
| 5188 | 1,059,730.9068m | 299,100.3463m | 5+187.00 |
| 5189 | 1,059,731.7009m | 299,099.7386m | 5+188.00 |
| 5190 | 1,059,732.4795m | 299,099.1163m | 5+189.00 |
| 5191 | 1,059,733.1189m | 299,098.3490m | 5+190.00 |
| 5192 | 1,059,733.6735m | 299,097.5170m | 5+191.00 |
| 5193 | 1,059,734.2496m | 299,096.6998m | 5+192.00 |
| 5194 | 1,059,734.8652m | 299,095.9118m | 5+193.00 |
| 5195 | 1,059,735.5054m | 299,095.1437m | 5+194.00 |
| 5196 | 1,059,736.1533m | 299,094.3825m | 5+195.00 |
| 5197 | 1,059,736.7468m | 299,093.5777m | 5+196.00 |
| 5198 | 1,059,737.3258m | 299,092.7628m | 5+197.00 |
| 5199 | 1,059,737.9584m | 299,091.9883m | 5+198.00 |
| 5200 | 1,059,738.6070m | 299,091.2279m | 5+199.00 |
| 5201 | 1,059,739.3160m | 299,090.5227m | 5+200.00 |
| 5202 | 1,059,740.0213m | 299,089.8140m | 5+201.00 |
| 5203 | 1,059,740.6873m | 299,089.0683m | 5+202.00 |
| 5204 | 1,059,741.3019m | 299,088.2809m | 5+203.00 |
| 5205 | 1,059,741.8234m | 299,087.4279m | 5+204.00 |
| 5206 | 1,059,742.3913m | 299,086.6049m | 5+205.00 |
| 5207 | 1,059,742.9166m | 299,085.7541m | 5+206.00 |
| 5208 | 1,059,743.4611m | 299,084.9155m | 5+207.00 |
| 5209 | 1,059,744.0582m | 299,084.1141m | 5+208.00 |
| 5210 | 1,059,744.5584m | 299,083.2489m | 5+209.00 |
| 5211 | 1,059,745.1949m | 299,082.4778m | 5+210.00 |
| 5212 | 1,059,745.8816m | 299,081.7509m | 5+211.00 |
| 5213 | 1,059,746.5648m | 299,081.0207m | 5+212.00 |
| 5214 | 1,059,747.2289m | 299,080.2731m | 5+213.00 |
| 5215 | 1,059,747.9188m | 299,079.5496m | 5+214.00 |
| 5216 | 1,059,748.5556m | 299,078.7786m | 5+215.00 |
| 5217 | 1,059,749.2104m | 299,078.0229m | 5+216.00 |
| 5218 | 1,059,749.8783m | 299,077.2786m | 5+217.00 |
| 5219 | 1,059,750.5235m | 299,076.5147m | 5+218.00 |
| 5220 | 1,059,751.1510m | 299,075.7361m | 5+219.00 |
| 5221 | 1,059,751.8205m | 299,074.9935m | 5+220.00 |
| 5222 | 1,059,752.4676m | 299,074.2310m | 5+221.00 |
| 5223 | 1,059,753.1559m | 299,073.5065m | 5+222.00 |
| 5224 | 1,059,753.9009m | 299,072.8401m | 5+223.00 |
| 5225 | 1,059,754.6880m | 299,072.2241m | 5+224.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 5226 | 1,059,755.4824m | 299,071.6206m | 5+225.00 |
| 5227 | 1,059,756.3485m | 299,071.1214m | 5+226.00 |
| 5228 | 1,059,757.2069m | 299,070.6086m | 5+227.00 |
| 5229 | 1,059,758.1106m | 299,070.1809m | 5+228.00 |
| 5230 | 1,059,759.0278m | 299,069.7829m | 5+229.00 |
| 5231 | 1,059,759.9657m | 299,069.4368m | 5+230.00 |
| 5232 | 1,059,760.9361m | 299,069.1978m | 5+231.00 |
| 5233 | 1,059,761.9187m | 299,069.0125m | 5+232.00 |
| 5234 | 1,059,762.9070m | 299,068.8598m | 5+233.00 |
| 5235 | 1,059,763.8921m | 299,068.6925m | 5+234.00 |
| 5236 | 1,059,764.8765m | 299,068.5192m | 5+235.00 |
| 5237 | 1,059,765.8749m | 299,068.5140m | 5+236.00 |
| 5238 | 1,059,766.8681m | 299,068.6261m | 5+237.00 |
| 5239 | 1,059,767.8582m | 299,068.7634m | 5+238.00 |
| 5240 | 1,059,768.8155m | 299,069.0363m | 5+239.00 |
| 5241 | 1,059,769.7549m | 299,069.3111m | 5+240.00 |
| 5242 | 1,059,770.1956m | 299,070.1879m | 5+241.00 |
| 5243 | 1,059,770.7976m | 299,070.9472m | 5+242.00 |
| 5244 | 1,059,771.5653m | 299,071.5878m | 5+243.00 |
| 5245 | 1,059,772.4613m | 299,071.9893m | 5+244.00 |
| 5246 | 1,059,773.4525m | 299,072.1165m | 5+245.00 |
| 5247 | 1,059,774.4355m | 299,072.2978m | 5+246.00 |
| 5248 | 1,059,775.4272m | 299,072.4226m | 5+247.00 |
| 5249 | 1,059,776.4168m | 299,072.5655m | 5+248.00 |
| 5250 | 1,059,777.3975m | 299,072.7596m | 5+249.00 |
| 5251 | 1,059,778.3436m | 299,073.0741m | 5+250.00 |
| 5252 | 1,059,779.2651m | 299,073.4624m | 5+251.00 |
| 5253 | 1,059,780.1866m | 299,073.8507m | 5+252.00 |
| 5254 | 1,059,781.1081m | 299,074.2391m | 5+253.00 |
| 5255 | 1,059,782.0296m | 299,074.6274m | 5+254.00 |
| 5256 | 1,059,782.9512m | 299,075.0157m | 5+255.00 |
| 5257 | 1,059,783.8727m | 299,075.4041m | 5+256.00 |
| 5258 | 1,059,784.7942m | 299,075.7924m | 5+257.00 |
| 5259 | 1,059,785.7157m | 299,076.1808m | 5+258.00 |
| 5260 | 1,059,786.6372m | 299,076.5691m | 5+259.00 |
| 5261 | 1,059,787.5587m | 299,076.9574m | 5+260.00 |
| 5262 | 1,059,788.4803m | 299,077.3458m | 5+261.00 |
| 5263 | 1,059,789.4018m | 299,077.7341m | 5+262.00 |
| 5264 | 1,059,790.3233m | 299,078.1224m | 5+263.00 |
| 5265 | 1,059,791.2448m | 299,078.5108m | 5+264.00 |
| 5266 | 1,059,792.1663m | 299,078.8991m | 5+265.00 |
| 5267 | 1,059,793.0878m | 299,079.2875m | 5+266.00 |
| 5268 | 1,059,794.0094m | 299,079.6758m | 5+267.00 |
| 5269 | 1,059,794.9309m | 299,080.0641m | 5+268.00 |
| 5270 | 1,059,795.8524m | 299,080.4525m | 5+269.00 |
| 5271 | 1,059,796.7739m | 299,080.8408m | 5+270.00 |
| 5272 | 1,059,797.6954m | 299,081.2291m | 5+271.00 |
| 5273 | 1,059,798.6170m | 299,081.6175m | 5+272.00 |
| 5274 | 1,059,799.5385m | 299,082.0058m | 5+273.00 |
| 5275 | 1,059,800.4606m | 299,082.3926m | 5+274.00 |
| 5276 | 1,059,801.3839m | 299,082.7768m | 5+275.00 |
| 5277 | 1,059,802.3082m | 299,083.1584m | 5+276.00 |
| 5278 | 1,059,803.2336m | 299,083.5374m | 5+277.00 |
| 5279 | 1,059,804.1600m | 299,083.9138m | 5+278.00 |
| 5280 | 1,059,805.0876m | 299,084.2877m | 5+279.00 |
| 5281 | 1,059,806.0161m | 299,084.6589m | 5+280.00 |
| 5282 | 1,059,806.9457m | 299,085.0275m | 5+281.00 |
| 5283 | 1,059,807.8763m | 299,085.3935m | 5+282.00 |
| 5284 | 1,059,808.8079m | 299,085.7569m | 5+283.00 |
| 5285 | 1,059,809.7406m | 299,086.1176m | 5+284.00 |
| 5286 | 1,059,810.6743m | 299,086.4758m | 5+285.00 |
| 5287 | 1,059,811.6089m | 299,086.8313m | 5+286.00 |
| 5288 | 1,059,812.5446m | 299,087.1842m | 5+287.00 |
| 5289 | 1,059,813.4812m | 299,087.5345m | 5+288.00 |
| 5290 | 1,059,814.4188m | 299,087.8822m | 5+289.00 |
| 5291 | 1,059,815.3574m | 299,088.2272m | 5+290.00 |
| 5292 | 1,059,816.2970m | 299,088.5696m | 5+291.00 |
| 5293 | 1,059,817.2375m | 299,088.9093m | 5+292.00 |
| 5294 | 1,059,818.1790m | 299,089.2464m | 5+293.00 |
| 5295 | 1,059,819.1214m | 299,089.5809m | 5+294.00 |
| 5296 | 1,059,820.0647m | 299,089.9127m | 5+295.00 |
| 5297 | 1,059,821.0090m | 299,090.2419m | 5+296.00 |
| 5298 | 1,059,821.9542m | 299,090.5684m | 5+297.00 |
| 5299 | 1,059,822.9003m | 299,090.8922m | 5+298.00 |
| 5300 | 1,059,823.8473m | 299,091.2135m | 5+299.00 |
| 5301 | 1,059,824.7952m | 299,091.5320m | 5+300.00 |
| 5302 | 1,059,825.7440m | 299,091.8479m | 5+301.00 |
| 5303 | 1,059,826.6937m | 299,092.1611m | 5+302.00 |
| 5304 | 1,059,827.6442m | 299,092.4717m | 5+303.00 |
| 5305 | 1,059,828.5954m | 299,092.7804m | 5+304.00 |
| 5306 | 1,059,829.5466m | 299,093.0891m | 5+305.00 |
| 5307 | 1,059,830.4977m | 299,093.3978m | 5+306.00 |
| 5308 | 1,059,831.4489m | 299,093.7065m | 5+307.00 |
| 5309 | 1,059,832.4001m | 299,094.0151m | 5+308.00 |
| 5310 | 1,059,833.3512m | 299,094.3238m | 5+309.00 |
| 5311 | 1,059,834.3024m | 299,094.6325m | 5+310.00 |
| 5312 | 1,059,835.2535m | 299,094.9412m | 5+311.00 |
| 5313 | 1,059,836.2047m | 299,095.2499m | 5+312.00 |
| 5314 | 1,059,837.1559m | 299,095.5585m | 5+313.00 |
| 5315 | 1,059,838.1070m | 299,095.8672m | 5+314.00 |
| 5316 | 1,059,839.0582m | 299,096.1759m | 5+315.00 |
| 5317 | 1,059,840.0094m | 299,096.4846m | 5+316.00 |
| 5318 | 1,059,840.9605m | 299,096.7933m | 5+317.00 |
| 5319 | 1,059,841.9117m | 299,097.1019m | 5+318.00 |
| 5320 | 1,059,842.8629m | 299,097.4106m | 5+319.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 5321 | 1,059,843.8140m | 299,097.7193m | 5+320.00 |
| 5322 | 1,059,844.7652m | 299,098.0280m | 5+321.00 |
| 5323 | 1,059,845.7164m | 299,098.3367m | 5+322.00 |
| 5324 | 1,059,846.6675m | 299,098.6453m | 5+323.00 |
| 5325 | 1,059,847.6187m | 299,098.9540m | 5+324.00 |
| 5326 | 1,059,848.5699m | 299,099.2627m | 5+325.00 |
| 5327 | 1,059,849.5210m | 299,099.5714m | 5+326.00 |
| 5328 | 1,059,850.4722m | 299,099.8801m | 5+327.00 |
| 5329 | 1,059,851.4234m | 299,100.1887m | 5+328.00 |
| 5330 | 1,059,852.3745m | 299,100.4974m | 5+329.00 |
| 5331 | 1,059,853.3257m | 299,100.8061m | 5+330.00 |
| 5332 | 1,059,854.2769m | 299,101.1148m | 5+331.00 |
| 5333 | 1,059,855.2280m | 299,101.4235m | 5+332.00 |
| 5334 | 1,059,856.1792m | 299,101.7321m | 5+333.00 |
| 5335 | 1,059,857.1304m | 299,102.0408m | 5+334.00 |
| 5336 | 1,059,858.0815m | 299,102.3495m | 5+335.00 |
| 5337 | 1,059,859.0327m | 299,102.6582m | 5+336.00 |
| 5338 | 1,059,859.9839m | 299,102.9669m | 5+337.00 |
| 5339 | 1,059,860.9350m | 299,103.2756m | 5+338.00 |
| 5340 | 1,059,861.8862m | 299,103.5842m | 5+339.00 |
| 5341 | 1,059,862.8374m | 299,103.8929m | 5+340.00 |
| 5342 | 1,059,863.7885m | 299,104.2016m | 5+341.00 |
| 5343 | 1,059,864.7397m | 299,104.5103m | 5+342.00 |
| 5344 | 1,059,865.6909m | 299,104.8190m | 5+343.00 |
| 5345 | 1,059,866.6420m | 299,105.1276m | 5+344.00 |
| 5346 | 1,059,867.5932m | 299,105.4363m | 5+345.00 |
| 5347 | 1,059,868.5444m | 299,105.7450m | 5+346.00 |
| 5348 | 1,059,869.4955m | 299,106.0537m | 5+347.00 |
| 5349 | 1,059,870.4467m | 299,106.3624m | 5+348.00 |
| 5350 | 1,059,871.3978m | 299,106.6710m | 5+349.00 |
| 5351 | 1,059,872.3490m | 299,106.9797m | 5+350.00 |
| 5352 | 1,059,873.3002m | 299,107.2884m | 5+351.00 |
| 5353 | 1,059,874.2513m | 299,107.5971m | 5+352.00 |
| 5354 | 1,059,875.2025m | 299,107.9058m | 5+353.00 |
| 5355 | 1,059,876.1537m | 299,108.2144m | 5+354.00 |
| 5356 | 1,059,877.1048m | 299,108.5231m | 5+355.00 |
| 5357 | 1,059,878.0560m | 299,108.8318m | 5+356.00 |
| 5358 | 1,059,879.0072m | 299,109.1405m | 5+357.00 |
| 5359 | 1,059,879.9583m | 299,109.4492m | 5+358.00 |
| 5360 | 1,059,880.9095m | 299,109.7578m | 5+359.00 |
| 5361 | 1,059,881.8607m | 299,110.0665m | 5+360.00 |
| 5362 | 1,059,882.8118m | 299,110.3752m | 5+361.00 |
| 5363 | 1,059,883.7630m | 299,110.6839m | 5+362.00 |
| 5364 | 1,059,884.7142m | 299,110.9926m | 5+363.00 |
| 5365 | 1,059,885.6653m | 299,111.3012m | 5+364.00 |
| 5366 | 1,059,886.6165m | 299,111.6099m | 5+365.00 |
| 5367 | 1,059,887.5677m | 299,111.9186m | 5+366.00 |
| 5368 | 1,059,888.5188m | 299,112.2273m | 5+367.00 |
| 5369 | 1,059,889.4700m | 299,112.5360m | 5+368.00 |
| 5370 | 1,059,890.4212m | 299,112.8446m | 5+369.00 |
| 5371 | 1,059,891.3723m | 299,113.1533m | 5+370.00 |
| 5372 | 1,059,892.3235m | 299,113.4620m | 5+371.00 |
| 5373 | 1,059,893.2747m | 299,113.7707m | 5+372.00 |
| 5374 | 1,059,894.2258m | 299,114.0794m | 5+373.00 |
| 5375 | 1,059,895.1770m | 299,114.3880m | 5+374.00 |
| 5376 | 1,059,896.1282m | 299,114.6967m | 5+375.00 |
| 5377 | 1,059,897.0793m | 299,115.0054m | 5+376.00 |
| 5378 | 1,059,898.0305m | 299,115.3141m | 5+377.00 |
| 5379 | 1,059,898.9817m | 299,115.6228m | 5+378.00 |
| 5380 | 1,059,899.9328m | 299,115.9314m | 5+379.00 |
| 5381 | 1,059,900.8840m | 299,116.2401m | 5+380.00 |
| 5382 | 1,059,901.8352m | 299,116.5488m | 5+381.00 |
| 5383 | 1,059,902.7863m | 299,116.8575m | 5+382.00 |
| 5384 | 1,059,903.7375m | 299,117.1662m | 5+383.00 |
| 5385 | 1,059,904.6887m | 299,117.4748m | 5+384.00 |
| 5386 | 1,059,905.6398m | 299,117.7835m | 5+385.00 |
| 5387 | 1,059,906.5910m | 299,118.0922m | 5+386.00 |
| 5388 | 1,059,907.5422m | 299,118.4009m | 5+387.00 |
| 5389 | 1,059,908.4933m | 299,118.7096m | 5+388.00 |
| 5390 | 1,059,909.4445m | 299,119.0182m | 5+389.00 |
| 5391 | 1,059,910.3956m | 299,119.3269m | 5+390.00 |
| 5392 | 1,059,911.3468m | 299,119.6356m | 5+391.00 |
| 5393 | 1,059,912.2980m | 299,119.9443m | 5+392.00 |
| 5394 | 1,059,913.2491m | 299,120.2530m | 5+393.00 |
| 5395 | 1,059,914.2003m | 299,120.5617m | 5+394.00 |
| 5396 | 1,059,915.1515m | 299,120.8703m | 5+395.00 |
| 5397 | 1,059,916.1026m | 299,121.1790m | 5+396.00 |
| 5398 | 1,059,917.0538m | 299,121.4877m | 5+397.00 |
| 5399 | 1,059,918.0050m | 299,121.7964m | 5+398.00 |
| 5400 | 1,059,918.9561m | 299,122.1051m | 5+399.00 |
| 5401 | 1,059,919.9073m | 299,122.4137m | 5+400.00 |
| 5402 | 1,059,920.8585m | 299,122.7224m | 5+401.00 |
| 5403 | 1,059,921.8096m | 299,123.0311m | 5+402.00 |
| 5404 | 1,059,922.7608m | 299,123.3398m | 5+403.00 |
| 5405 | 1,059,923.7120m | 299,123.6485m | 5+404.00 |
| 5406 | 1,059,924.6631m | 299,123.9571m | 5+405.00 |
| 5407 | 1,059,925.6143m | 299,124.2658m | 5+406.00 |
| 5408 | 1,059,926.5655m | 299,124.5745m | 5+407.00 |
| 5409 | 1,059,927.5166m | 299,124.8832m | 5+408.00 |
| 5410 | 1,059,928.4678m | 299,125.1919m | 5+409.00 |
| 5411 | 1,059,929.4190m | 299,125.5005m | 5+410.00 |
| 5412 | 1,059,930.3701m | 299,125.8092m | 5+411.00 |
| 5413 | 1,059,931.3213m | 299,126.1179m | 5+412.00 |
| 5414 | 1,059,932.2725m | 299,126.4266m | 5+413.00 |
| 5415 | 1,059,933.2236m | 299,126.7353m | 5+414.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 5416 | 1,059,934.1748m | 299,127.0439m | 5+415.00 |
| 5417 | 1,059,935.1260m | 299,127.3526m | 5+416.00 |
| 5418 | 1,059,936.0771m | 299,127.6613m | 5+417.00 |
| 5419 | 1,059,937.0283m | 299,127.9700m | 5+418.00 |
| 5420 | 1,059,937.9795m | 299,128.2787m | 5+419.00 |
| 5421 | 1,059,938.9306m | 299,128.5873m | 5+420.00 |
| 5422 | 1,059,939.8818m | 299,128.8960m | 5+421.00 |
| 5423 | 1,059,940.8330m | 299,129.2047m | 5+422.00 |
| 5424 | 1,059,941.7841m | 299,129.5134m | 5+423.00 |
| 5425 | 1,059,942.7353m | 299,129.8221m | 5+424.00 |
| 5426 | 1,059,943.6865m | 299,130.1307m | 5+425.00 |
| 5427 | 1,059,944.6376m | 299,130.4394m | 5+426.00 |
| 5428 | 1,059,945.5888m | 299,130.7481m | 5+427.00 |
| 5429 | 1,059,946.5400m | 299,131.0568m | 5+428.00 |
| 5430 | 1,059,947.4911m | 299,131.3655m | 5+429.00 |
| 5431 | 1,059,948.4423m | 299,131.6741m | 5+430.00 |
| 5432 | 1,059,949.3934m | 299,131.9828m | 5+431.00 |
| 5433 | 1,059,950.3446m | 299,132.2915m | 5+432.00 |
| 5434 | 1,059,951.2958m | 299,132.6002m | 5+433.00 |
| 5435 | 1,059,952.2469m | 299,132.9089m | 5+434.00 |
| 5436 | 1,059,953.1981m | 299,133.2175m | 5+435.00 |
| 5437 | 1,059,954.1493m | 299,133.5262m | 5+436.00 |
| 5438 | 1,059,955.1004m | 299,133.8349m | 5+437.00 |
| 5439 | 1,059,956.0516m | 299,134.1436m | 5+438.00 |
| 5440 | 1,059,957.0028m | 299,134.4523m | 5+439.00 |
| 5441 | 1,059,957.9539m | 299,134.7609m | 5+440.00 |
| 5442 | 1,059,958.9051m | 299,135.0696m | 5+441.00 |
| 5443 | 1,059,959.8563m | 299,135.3783m | 5+442.00 |
| 5444 | 1,059,960.8074m | 299,135.6870m | 5+443.00 |
| 5445 | 1,059,961.7586m | 299,135.9957m | 5+444.00 |
| 5446 | 1,059,962.7098m | 299,136.3043m | 5+445.00 |
| 5447 | 1,059,963.6609m | 299,136.6130m | 5+446.00 |
| 5448 | 1,059,964.6121m | 299,136.9217m | 5+447.00 |
| 5449 | 1,059,965.5633m | 299,137.2304m | 5+448.00 |
| 5450 | 1,059,966.5144m | 299,137.5391m | 5+449.00 |
| 5451 | 1,059,967.4656m | 299,137.8477m | 5+450.00 |
| 5452 | 1,059,968.4168m | 299,138.1564m | 5+451.00 |
| 5453 | 1,059,969.3679m | 299,138.4651m | 5+452.00 |
| 5454 | 1,059,970.3191m | 299,138.7738m | 5+453.00 |
| 5455 | 1,059,971.2703m | 299,139.0825m | 5+454.00 |
| 5456 | 1,059,972.2214m | 299,139.3912m | 5+455.00 |
| 5457 | 1,059,973.1726m | 299,139.6998m | 5+456.00 |
| 5458 | 1,059,974.1238m | 299,140.0085m | 5+457.00 |
| 5459 | 1,059,975.0749m | 299,140.3172m | 5+458.00 |
| 5460 | 1,059,976.0261m | 299,140.6259m | 5+459.00 |
| 5461 | 1,059,976.9773m | 299,140.9346m | 5+460.00 |
| 5462 | 1,059,977.9284m | 299,141.2432m | 5+461.00 |
| 5463 | 1,059,978.8796m | 299,141.5519m | 5+462.00 |
| 5464 | 1,059,979.8308m | 299,141.8606m | 5+463.00 |
| 5465 | 1,059,980.7819m | 299,142.1693m | 5+464.00 |
| 5466 | 1,059,981.7331m | 299,142.4780m | 5+465.00 |
| 5467 | 1,059,982.6843m | 299,142.7866m | 5+466.00 |
| 5468 | 1,059,983.6354m | 299,143.0953m | 5+467.00 |
| 5469 | 1,059,984.5866m | 299,143.4040m | 5+468.00 |
| 5470 | 1,059,985.5378m | 299,143.7127m | 5+469.00 |
| 5471 | 1,059,986.4889m | 299,144.0214m | 5+470.00 |
| 5472 | 1,059,987.4401m | 299,144.3300m | 5+471.00 |
| 5473 | 1,059,988.3912m | 299,144.6387m | 5+472.00 |
| 5474 | 1,059,989.3424m | 299,144.9474m | 5+473.00 |
| 5475 | 1,059,990.2919m | 299,145.2613m | 5+474.00 |
| 5476 | 1,059,991.2289m | 299,145.6102m | 5+475.00 |
| 5477 | 1,059,992.1504m | 299,145.9985m | 5+476.00 |
| 5478 | 1,059,993.0545m | 299,146.4256m | 5+477.00 |
| 5479 | 1,059,993.9398m | 299,146.8905m | 5+478.00 |
| 5480 | 1,059,994.8045m | 299,147.3925m | 5+479.00 |
| 5481 | 1,059,995.6473m | 299,147.9307m | 5+480.00 |
| 5482 | 1,059,996.4664m | 299,148.5042m | 5+481.00 |
| 5483 | 1,059,997.2606m | 299,149.1118m | 5+482.00 |
| 5484 | 1,059,998.0283m | 299,149.7525m | 5+483.00 |
| 5485 | 1,059,998.7681m | 299,150.4251m | 5+484.00 |
| 5486 | 1,059,999.4789m | 299,151.1285m | 5+485.00 |
| 5487 | 1,060,000.1591m | 299,151.8613m | 5+486.00 |
| 5488 | 1,060,000.8077m | 299,152.6223m | 5+487.00 |
| 5489 | 1,060,001.4235m | 299,153.4102m | 5+488.00 |
| 5490 | 1,060,002.0054m | 299,154.2233m | 5+489.00 |
| 5491 | 1,060,002.5523m | 299,155.0604m | 5+490.00 |
| 5492 | 1,060,003.0651m | 299,155.9189m | 5+491.00 |
| 5493 | 1,060,003.5693m | 299,156.7825m | 5+492.00 |
| 5494 | 1,060,004.0735m | 299,157.6461m | 5+493.00 |
| 5495 | 1,060,004.5776m | 299,158.5097m | 5+494.00 |
| 5496 | 1,060,005.0829m | 299,159.3727m | 5+495.00 |
| 5497 | 1,060,005.6059m | 299,160.2250m | 5+496.00 |
| 5498 | 1,060,006.1521m | 299,161.0626m | 5+497.00 |
| 5499 | 1,060,006.7212m | 299,161.8848m | 5+498.00 |
| 5500 | 1,060,007.3126m | 299,162.6912m | 5+499.00 |
| 5501 | 1,060,007.9259m | 299,163.4810m | 5+500.00 |
| 5502 | 1,060,008.5607m | 299,164.2536m | 5+501.00 |
| 5503 | 1,060,009.2165m | 299,165.0085m | 5+502.00 |
| 5504 | 1,060,009.8928m | 299,165.7451m | 5+503.00 |
| 5505 | 1,060,010.5890m | 299,166.4629m | 5+504.00 |
| 5506 | 1,060,011.3047m | 299,167.1612m | 5+505.00 |
| 5507 | 1,060,012.0393m | 299,167.8397m | 5+506.00 |
| 5508 | 1,060,012.7923m | 299,168.4977m | 5+507.00 |
| 5509 | 1,060,013.5631m | 299,169.1348m | 5+508.00 |
| 5510 | 1,060,014.3510m | 299,169.7504m | 5+509.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 5511 | 1,060,015.1556m | 299,170.3442m | 5+510.00 |
| 5512 | 1,060,015.9762m | 299,170.9157m | 5+511.00 |
| 5513 | 1,060,016.8122m | 299,171.4644m | 5+512.00 |
| 5514 | 1,060,017.6629m | 299,171.9899m | 5+513.00 |
| 5515 | 1,060,018.5278m | 299,172.4918m | 5+514.00 |
| 5516 | 1,060,019.4061m | 299,172.9699m | 5+515.00 |
| 5517 | 1,060,020.2972m | 299,173.4236m | 5+516.00 |
| 5518 | 1,060,021.2005m | 299,173.8526m | 5+517.00 |
| 5519 | 1,060,022.1151m | 299,174.2567m | 5+518.00 |
| 5520 | 1,060,023.0406m | 299,174.6355m | 5+519.00 |
| 5521 | 1,060,023.9761m | 299,174.9888m | 5+520.00 |
| 5522 | 1,060,024.9209m | 299,175.3162m | 5+521.00 |
| 5523 | 1,060,025.8744m | 299,175.6175m | 5+522.00 |
| 5524 | 1,060,026.8358m | 299,175.8925m | 5+523.00 |
| 5525 | 1,060,027.8044m | 299,176.1411m | 5+524.00 |
| 5526 | 1,060,028.7795m | 299,176.3629m | 5+525.00 |
| 5527 | 1,060,029.7600m | 299,176.5589m | 5+526.00 |
| 5528 | 1,060,030.7420m | 299,176.7479m | 5+527.00 |
| 5529 | 1,060,031.7240m | 299,176.9369m | 5+528.00 |
| 5530 | 1,060,032.7060m | 299,177.1260m | 5+529.00 |
| 5531 | 1,060,033.6879m | 299,177.3150m | 5+530.00 |
| 5532 | 1,060,034.6699m | 299,177.5040m | 5+531.00 |
| 5533 | 1,060,035.6519m | 299,177.6930m | 5+532.00 |
| 5534 | 1,060,036.6339m | 299,177.8821m | 5+533.00 |
| 5535 | 1,060,037.6158m | 299,178.0711m | 5+534.00 |
| 5536 | 1,060,038.5978m | 299,178.2601m | 5+535.00 |
| 5537 | 1,060,039.5798m | 299,178.4491m | 5+536.00 |
| 5538 | 1,060,040.5617m | 299,178.6381m | 5+537.00 |
| 5539 | 1,060,041.5437m | 299,178.8272m | 5+538.00 |
| 5540 | 1,060,042.5257m | 299,179.0162m | 5+539.00 |
| 5541 | 1,060,043.5077m | 299,179.2052m | 5+540.00 |
| 5542 | 1,060,044.4896m | 299,179.3942m | 5+541.00 |
| 5543 | 1,060,045.4716m | 299,179.5833m | 5+542.00 |
| 5544 | 1,060,046.4536m | 299,179.7723m | 5+543.00 |
| 5545 | 1,060,047.4356m | 299,179.9613m | 5+544.00 |
| 5546 | 1,060,048.4175m | 299,180.1503m | 5+545.00 |
| 5547 | 1,060,049.3995m | 299,180.3394m | 5+546.00 |
| 5548 | 1,060,050.3815m | 299,180.5284m | 5+547.00 |
| 5549 | 1,060,051.3634m | 299,180.7174m | 5+548.00 |
| 5550 | 1,060,052.3454m | 299,180.9064m | 5+549.00 |
| 5551 | 1,060,053.3274m | 299,181.0955m | 5+550.00 |
| 5552 | 1,060,054.3094m | 299,181.2845m | 5+551.00 |
| 5553 | 1,060,055.2913m | 299,181.4735m | 5+552.00 |
| 5554 | 1,060,056.2733m | 299,181.6625m | 5+553.00 |
| 5555 | 1,060,057.2553m | 299,181.8515m | 5+554.00 |
| 5556 | 1,060,058.2373m | 299,182.0406m | 5+555.00 |
| 5557 | 1,060,059.2192m | 299,182.2296m | 5+556.00 |
| 5558 | 1,060,060.2012m | 299,182.4186m | 5+557.00 |
| 5559 | 1,060,061.1832m | 299,182.6076m | 5+558.00 |
| 5560 | 1,060,062.1651m | 299,182.7967m | 5+559.00 |
| 5561 | 1,060,063.1471m | 299,182.9857m | 5+560.00 |
| 5562 | 1,060,064.1291m | 299,183.1747m | 5+561.00 |
| 5563 | 1,060,065.1111m | 299,183.3637m | 5+562.00 |
| 5564 | 1,060,066.0930m | 299,183.5528m | 5+563.00 |
| 5565 | 1,060,067.0750m | 299,183.7418m | 5+564.00 |
| 5566 | 1,060,068.0570m | 299,183.9308m | 5+565.00 |
| 5567 | 1,060,069.0390m | 299,184.1198m | 5+566.00 |
| 5568 | 1,060,070.0209m | 299,184.3088m | 5+567.00 |
| 5569 | 1,060,071.0029m | 299,184.4979m | 5+568.00 |
| 5570 | 1,060,071.9849m | 299,184.6869m | 5+569.00 |
| 5571 | 1,060,072.9668m | 299,184.8759m | 5+570.00 |
| 5572 | 1,060,073.9488m | 299,185.0649m | 5+571.00 |
| 5573 | 1,060,074.9308m | 299,185.2540m | 5+572.00 |
| 5574 | 1,060,075.9128m | 299,185.4430m | 5+573.00 |
| 5575 | 1,060,076.8947m | 299,185.6320m | 5+574.00 |
| 5576 | 1,060,077.8767m | 299,185.8210m | 5+575.00 |
| 5577 | 1,060,078.8587m | 299,186.0101m | 5+576.00 |
| 5578 | 1,060,079.8406m | 299,186.1991m | 5+577.00 |
| 5579 | 1,060,080.8226m | 299,186.3881m | 5+578.00 |
| 5580 | 1,060,081.8046m | 299,186.5771m | 5+579.00 |
| 5581 | 1,060,082.7866m | 299,186.7662m | 5+580.00 |
| 5582 | 1,060,083.7685m | 299,186.9552m | 5+581.00 |
| 5583 | 1,060,084.7505m | 299,187.1442m | 5+582.00 |
| 5584 | 1,060,085.7325m | 299,187.3332m | 5+583.00 |
| 5585 | 1,060,086.7145m | 299,187.5222m | 5+584.00 |
| 5586 | 1,060,087.6964m | 299,187.7113m | 5+585.00 |
| 5587 | 1,060,088.6784m | 299,187.9003m | 5+586.00 |
| 5588 | 1,060,089.6604m | 299,188.0893m | 5+587.00 |
| 5589 | 1,060,090.6423m | 299,188.2783m | 5+588.00 |
| 5590 | 1,060,091.6243m | 299,188.4674m | 5+589.00 |
| 5591 | 1,060,092.6063m | 299,188.6564m | 5+590.00 |
| 5592 | 1,060,093.5883m | 299,188.8454m | 5+591.00 |
| 5593 | 1,060,094.5702m | 299,189.0344m | 5+592.00 |
| 5594 | 1,060,095.5522m | 299,189.2235m | 5+593.00 |
| 5595 | 1,060,096.5344m | 299,189.4115m | 5+594.00 |
| 5596 | 1,060,097.5172m | 299,189.5959m | 5+595.00 |
| 5597 | 1,060,098.5008m | 299,189.7764m | 5+596.00 |
| 5598 | 1,060,099.4851m | 299,189.9531m | 5+597.00 |
| 5599 | 1,060,100.4700m | 299,190.1260m | 5+598.00 |
| 5600 | 1,060,101.4556m | 299,190.2950m | 5+599.00 |
| 5601 | 1,060,102.4419m | 299,190.4602m | 5+600.00 |
| 5602 | 1,060,103.4288m | 299,190.6215m | 5+601.00 |
| 5603 | 1,060,104.4163m | 299,190.7790m | 5+602.00 |
| 5604 | 1,060,105.4044m | 299,190.9326m | 5+603.00 |
| 5605 | 1,060,106.3931m | 299,191.0824m | 5+604.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 5606 | 1,060,107.3824m | 299,191.2283m | 5+605.00 |
| 5607 | 1,060,108.3723m | 299,191.3704m | 5+606.00 |
| 5608 | 1,060,109.3627m | 299,191.5086m | 5+607.00 |
| 5609 | 1,060,110.3536m | 299,191.6429m | 5+608.00 |
| 5610 | 1,060,111.3451m | 299,191.7734m | 5+609.00 |
| 5611 | 1,060,112.3370m | 299,191.9000m | 5+610.00 |
| 5612 | 1,060,113.3295m | 299,192.0227m | 5+611.00 |
| 5613 | 1,060,114.3224m | 299,192.1415m | 5+612.00 |
| 5614 | 1,060,115.3158m | 299,192.2565m | 5+613.00 |
| 5615 | 1,060,116.3096m | 299,192.3676m | 5+614.00 |
| 5616 | 1,060,117.3038m | 299,192.4749m | 5+615.00 |
| 5617 | 1,060,118.2984m | 299,192.5782m | 5+616.00 |
| 5618 | 1,060,119.2935m | 299,192.6777m | 5+617.00 |
| 5619 | 1,060,120.2889m | 299,192.7733m | 5+618.00 |
| 5620 | 1,060,121.2847m | 299,192.8650m | 5+619.00 |
| 5621 | 1,060,122.2808m | 299,192.9528m | 5+620.00 |
| 5622 | 1,060,123.2773m | 299,193.0367m | 5+621.00 |
| 5623 | 1,060,124.2741m | 299,193.1168m | 5+622.00 |
| 5624 | 1,060,125.2712m | 299,193.1929m | 5+623.00 |
| 5625 | 1,060,126.2686m | 299,193.2652m | 5+624.00 |
| 5626 | 1,060,127.2662m | 299,193.3336m | 5+625.00 |
| 5627 | 1,060,128.2641m | 299,193.3981m | 5+626.00 |
| 5628 | 1,060,129.2623m | 299,193.4587m | 5+627.00 |
| 5629 | 1,060,130.2607m | 299,193.5154m | 5+628.00 |
| 5630 | 1,060,131.2593m | 299,193.5682m | 5+629.00 |
| 5631 | 1,060,132.2581m | 299,193.6171m | 5+630.00 |
| 5632 | 1,060,133.2571m | 299,193.6621m | 5+631.00 |
| 5633 | 1,060,134.2562m | 299,193.7033m | 5+632.00 |
| 5634 | 1,060,135.2555m | 299,193.7405m | 5+633.00 |
| 5635 | 1,060,136.2550m | 299,193.7740m | 5+634.00 |
| 5636 | 1,060,137.2545m | 299,193.8067m | 5+635.00 |
| 5637 | 1,060,138.2539m | 299,193.8393m | 5+636.00 |
| 5638 | 1,060,139.2534m | 299,193.8720m | 5+637.00 |
| 5639 | 1,060,140.2529m | 299,193.9047m | 5+638.00 |
| 5640 | 1,060,141.2523m | 299,193.9373m | 5+639.00 |
| 5641 | 1,060,142.2518m | 299,193.9700m | 5+640.00 |
| 5642 | 1,060,143.2513m | 299,194.0027m | 5+641.00 |
| 5643 | 1,060,144.2507m | 299,194.0353m | 5+642.00 |
| 5644 | 1,060,145.2502m | 299,194.0680m | 5+643.00 |
| 5645 | 1,060,146.2496m | 299,194.1007m | 5+644.00 |
| 5646 | 1,060,147.2491m | 299,194.1333m | 5+645.00 |
| 5647 | 1,060,148.2486m | 299,194.1660m | 5+646.00 |
| 5648 | 1,060,149.2480m | 299,194.1987m | 5+647.00 |
| 5649 | 1,060,150.2475m | 299,194.2313m | 5+648.00 |
| 5650 | 1,060,151.2470m | 299,194.2640m | 5+649.00 |
| 5651 | 1,060,152.2464m | 299,194.2967m | 5+650.00 |
| 5652 | 1,060,153.2459m | 299,194.3293m | 5+651.00 |
| 5653 | 1,060,154.2454m | 299,194.3620m | 5+652.00 |
| 5654 | 1,060,155.2448m | 299,194.3946m | 5+653.00 |
| 5655 | 1,060,156.2443m | 299,194.4273m | 5+654.00 |
| 5656 | 1,060,157.2438m | 299,194.4600m | 5+655.00 |
| 5657 | 1,060,158.2432m | 299,194.4926m | 5+656.00 |
| 5658 | 1,060,159.2427m | 299,194.5253m | 5+657.00 |
| 5659 | 1,060,160.2422m | 299,194.5580m | 5+658.00 |
| 5660 | 1,060,161.2416m | 299,194.5906m | 5+659.00 |
| 5661 | 1,060,162.2411m | 299,194.6233m | 5+660.00 |
| 5662 | 1,060,163.2406m | 299,194.6560m | 5+661.00 |
| 5663 | 1,060,164.2400m | 299,194.6886m | 5+662.00 |
| 5664 | 1,060,165.2395m | 299,194.7213m | 5+663.00 |
| 5665 | 1,060,166.2390m | 299,194.7540m | 5+664.00 |
| 5666 | 1,060,167.2384m | 299,194.7866m | 5+665.00 |
| 5667 | 1,060,168.2379m | 299,194.8193m | 5+666.00 |
| 5668 | 1,060,169.2374m | 299,194.8520m | 5+667.00 |
| 5669 | 1,060,170.2368m | 299,194.8846m | 5+668.00 |
| 5670 | 1,060,171.2363m | 299,194.9173m | 5+669.00 |
| 5671 | 1,060,172.2358m | 299,194.9499m | 5+670.00 |
| 5672 | 1,060,173.2352m | 299,194.9826m | 5+671.00 |
| 5673 | 1,060,174.2347m | 299,195.0153m | 5+672.00 |
| 5674 | 1,060,175.2342m | 299,195.0479m | 5+673.00 |
| 5675 | 1,060,176.2336m | 299,195.0806m | 5+674.00 |
| 5676 | 1,060,177.2331m | 299,195.1133m | 5+675.00 |
| 5677 | 1,060,178.2326m | 299,195.1459m | 5+676.00 |
| 5678 | 1,060,179.2320m | 299,195.1786m | 5+677.00 |
| 5679 | 1,060,180.2315m | 299,195.2113m | 5+678.00 |
| 5680 | 1,060,181.2310m | 299,195.2439m | 5+679.00 |
| 5681 | 1,060,182.2304m | 299,195.2766m | 5+680.00 |
| 5682 | 1,060,183.2299m | 299,195.3093m | 5+681.00 |
| 5683 | 1,060,184.2294m | 299,195.3419m | 5+682.00 |
| 5684 | 1,060,185.2288m | 299,195.3746m | 5+683.00 |
| 5685 | 1,060,186.2283m | 299,195.4073m | 5+684.00 |
| 5686 | 1,060,187.2278m | 299,195.4399m | 5+685.00 |
| 5687 | 1,060,188.2272m | 299,195.4726m | 5+686.00 |
| 5688 | 1,060,189.2267m | 299,195.5053m | 5+687.00 |
| 5689 | 1,060,190.2262m | 299,195.5379m | 5+688.00 |
| 5690 | 1,060,191.2256m | 299,195.5706m | 5+689.00 |
| 5691 | 1,060,192.2251m | 299,195.6032m | 5+690.00 |
| 5692 | 1,060,193.2246m | 299,195.6359m | 5+691.00 |
| 5693 | 1,060,194.2240m | 299,195.6686m | 5+692.00 |
| 5694 | 1,060,195.2235m | 299,195.7012m | 5+693.00 |
| 5695 | 1,060,196.2230m | 299,195.7339m | 5+694.00 |
| 5696 | 1,060,197.2224m | 299,195.7666m | 5+695.00 |
| 5697 | 1,060,198.2219m | 299,195.7992m | 5+696.00 |
| 5698 | 1,060,199.2214m | 299,195.8319m | 5+697.00 |
| 5699 | 1,060,200.2208m | 299,195.8646m | 5+698.00 |
| 5700 | 1,060,201.2203m | 299,195.8972m | 5+699.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 5701 | 1,060,202.2198m | 299,195.9299m | 5+700.00 |
| 5702 | 1,060,203.2192m | 299,195.9626m | 5+701.00 |
| 5703 | 1,060,204.2187m | 299,195.9952m | 5+702.00 |
| 5704 | 1,060,205.2182m | 299,196.0279m | 5+703.00 |
| 5705 | 1,060,206.2176m | 299,196.0606m | 5+704.00 |
| 5706 | 1,060,207.2171m | 299,196.0932m | 5+705.00 |
| 5707 | 1,060,208.2166m | 299,196.1259m | 5+706.00 |
| 5708 | 1,060,209.2160m | 299,196.1585m | 5+707.00 |
| 5709 | 1,060,210.2155m | 299,196.1912m | 5+708.00 |
| 5710 | 1,060,211.2150m | 299,196.2239m | 5+709.00 |
| 5711 | 1,060,212.2144m | 299,196.2565m | 5+710.00 |
| 5712 | 1,060,213.2139m | 299,196.2892m | 5+711.00 |
| 5713 | 1,060,214.2134m | 299,196.3219m | 5+712.00 |
| 5714 | 1,060,215.2128m | 299,196.3545m | 5+713.00 |
| 5715 | 1,060,216.2123m | 299,196.3872m | 5+714.00 |
| 5716 | 1,060,217.2118m | 299,196.4199m | 5+715.00 |
| 5717 | 1,060,218.2112m | 299,196.4525m | 5+716.00 |
| 5718 | 1,060,219.2107m | 299,196.4852m | 5+717.00 |
| 5719 | 1,060,220.2102m | 299,196.5179m | 5+718.00 |
| 5720 | 1,060,221.2096m | 299,196.5505m | 5+719.00 |
| 5721 | 1,060,222.2091m | 299,196.5832m | 5+720.00 |
| 5722 | 1,060,223.2086m | 299,196.6159m | 5+721.00 |
| 5723 | 1,060,224.2080m | 299,196.6485m | 5+722.00 |
| 5724 | 1,060,225.2075m | 299,196.6812m | 5+723.00 |
| 5725 | 1,060,226.2070m | 299,196.7138m | 5+724.00 |
| 5726 | 1,060,227.2064m | 299,196.7465m | 5+725.00 |
| 5727 | 1,060,228.2059m | 299,196.7792m | 5+726.00 |
| 5728 | 1,060,229.2054m | 299,196.8118m | 5+727.00 |
| 5729 | 1,060,230.2048m | 299,196.8445m | 5+728.00 |
| 5730 | 1,060,231.2043m | 299,196.8772m | 5+729.00 |
| 5731 | 1,060,232.2038m | 299,196.9098m | 5+730.00 |
| 5732 | 1,060,233.2032m | 299,196.9425m | 5+731.00 |
| 5733 | 1,060,234.2027m | 299,196.9752m | 5+732.00 |
| 5734 | 1,060,235.2022m | 299,197.0078m | 5+733.00 |
| 5735 | 1,060,236.2016m | 299,197.0405m | 5+734.00 |
| 5736 | 1,060,237.2011m | 299,197.0732m | 5+735.00 |
| 5737 | 1,060,238.2006m | 299,197.1058m | 5+736.00 |
| 5738 | 1,060,239.2000m | 299,197.1385m | 5+737.00 |
| 5739 | 1,060,240.1995m | 299,197.1712m | 5+738.00 |
| 5740 | 1,060,241.1990m | 299,197.2038m | 5+739.00 |
| 5741 | 1,060,242.1984m | 299,197.2365m | 5+740.00 |
| 5742 | 1,060,243.1979m | 299,197.2691m | 5+741.00 |
| 5743 | 1,060,244.1974m | 299,197.3018m | 5+742.00 |
| 5744 | 1,060,245.1968m | 299,197.3345m | 5+743.00 |
| 5745 | 1,060,246.1963m | 299,197.3671m | 5+744.00 |
| 5746 | 1,060,247.1958m | 299,197.3998m | 5+745.00 |
| 5747 | 1,060,248.1952m | 299,197.4325m | 5+746.00 |
| 5748 | 1,060,249.1947m | 299,197.4651m | 5+747.00 |
| 5749 | 1,060,250.1942m | 299,197.4978m | 5+748.00 |
| 5750 | 1,060,251.1936m | 299,197.5305m | 5+749.00 |
| 5751 | 1,060,252.1931m | 299,197.5631m | 5+750.00 |
| 5752 | 1,060,253.1926m | 299,197.5958m | 5+751.00 |
| 5753 | 1,060,254.1920m | 299,197.6285m | 5+752.00 |
| 5754 | 1,060,255.1915m | 299,197.6611m | 5+753.00 |
| 5755 | 1,060,256.1909m | 299,197.6938m | 5+754.00 |
| 5756 | 1,060,257.1904m | 299,197.7265m | 5+755.00 |
| 5757 | 1,060,258.1899m | 299,197.7591m | 5+756.00 |
| 5758 | 1,060,259.1893m | 299,197.7918m | 5+757.00 |
| 5759 | 1,060,260.1888m | 299,197.8245m | 5+758.00 |
| 5760 | 1,060,261.1883m | 299,197.8571m | 5+759.00 |
| 5761 | 1,060,262.1877m | 299,197.8898m | 5+760.00 |
| 5762 | 1,060,263.1872m | 299,197.9224m | 5+761.00 |
| 5763 | 1,060,264.1867m | 299,197.9551m | 5+762.00 |
| 5764 | 1,060,265.1861m | 299,197.9878m | 5+763.00 |
| 5765 | 1,060,266.1856m | 299,198.0204m | 5+764.00 |
| 5766 | 1,060,267.1851m | 299,198.0531m | 5+765.00 |
| 5767 | 1,060,268.1845m | 299,198.0858m | 5+766.00 |
| 5768 | 1,060,269.1840m | 299,198.1184m | 5+767.00 |
| 5769 | 1,060,270.1835m | 299,198.1511m | 5+768.00 |
| 5770 | 1,060,271.1829m | 299,198.1838m | 5+769.00 |
| 5771 | 1,060,272.1824m | 299,198.2164m | 5+770.00 |
| 5772 | 1,060,273.1819m | 299,198.2491m | 5+771.00 |
| 5773 | 1,060,274.1813m | 299,198.2818m | 5+772.00 |
| 5774 | 1,060,275.1808m | 299,198.3144m | 5+773.00 |
| 5775 | 1,060,276.1803m | 299,198.3471m | 5+774.00 |
| 5776 | 1,060,277.1797m | 299,198.3798m | 5+775.00 |
| 5777 | 1,060,278.1792m | 299,198.4124m | 5+776.00 |
| 5778 | 1,060,279.1787m | 299,198.4451m | 5+777.00 |
| 5779 | 1,060,280.1781m | 299,198.4777m | 5+778.00 |
| 5780 | 1,060,281.1776m | 299,198.5104m | 5+779.00 |
| 5781 | 1,060,282.1771m | 299,198.5431m | 5+780.00 |
| 5782 | 1,060,283.1765m | 299,198.5757m | 5+781.00 |
| 5783 | 1,060,284.1760m | 299,198.6084m | 5+782.00 |
| 5784 | 1,060,285.1755m | 299,198.6411m | 5+783.00 |
| 5785 | 1,060,286.1749m | 299,198.6737m | 5+784.00 |
| 5786 | 1,060,287.1744m | 299,198.7074m | 5+785.00 |
| 5787 | 1,060,288.1730m | 299,198.7584m | 5+786.00 |
| 5788 | 1,060,289.1703m | 299,198.8323m | 5+787.00 |
| 5789 | 1,060,290.1656m | 299,198.9291m | 5+788.00 |
| 5790 | 1,060,291.1584m | 299,199.0486m | 5+789.00 |
| 5791 | 1,060,292.1482m | 299,199.1909m | 5+790.00 |
| 5792 | 1,060,293.1345m | 299,199.3558m | 5+791.00 |
| 5793 | 1,060,294.1167m | 299,199.5434m | 5+792.00 |
| 5794 | 1,060,295.0944m | 299,199.7533m | 5+793.00 |
| 5795 | 1,060,296.0670m | 299,199.9857m | 5+794.00 |
| 5796 | 1,060,297.0340m | 299,200.2403m | 5+795.00 |
| 5797 | 1,060,297.9949m | 299,200.5170m | 5+796.00 |
| 5798 | 1,060,298.9493m | 299,200.8157m | 5+797.00 |
| 5799 | 1,060,299.8965m | 299,201.1362m | 5+798.00 |
| 5800 | 1,060,300.8361m | 299,201.4783m | 5+799.00 |
| 5801 | 1,060,301.7677m | 299,201.8419m | 5+800.00 |
| 5802 | 1,060,302.6926m | 299,202.2220m | 5+801.00 |
| 5803 | 1,060,303.6171m | 299,202.6032m | 5+802.00 |
| 5804 | 1,060,304.5416m | 299,202.9845m | 5+803.00 |
| 5805 | 1,060,305.4661m | 299,203.3657m | 5+804.00 |
| 5806 | 1,060,306.3905m | 299,203.7469m | 5+805.00 |
| 5807 | 1,060,307.3150m | 299,204.1282m | 5+806.00 |
| 5808 | 1,060,308.2395m | 299,204.5094m | 5+807.00 |
| 5809 | 1,060,309.1640m | 299,204.8907m | 5+808.00 |
| 5810 | 1,060,310.0884m | 299,205.2719m | 5+809.00 |
| 5811 | 1,060,311.0129m | 299,205.6531m | 5+810.00 |
| 5812 | 1,060,311.9374m | 299,206.0344m | 5+811.00 |
| 5813 | 1,060,312.8619m | 299,206.4156m | 5+812.00 |
| 5814 | 1,060,313.7864m | 299,206.7968m | 5+813.00 |
| 5815 | 1,060,314.7108m | 299,207.1781m | 5+814.00 |
| 5816 | 1,060,315.6353m | 299,207.5593m | 5+815.00 |
| 5817 | 1,060,316.5598m | 299,207.9405m | 5+816.00 |
| 5818 | 1,060,317.4843m | 299,208.3218m | 5+817.00 |
| 5819 | 1,060,318.4088m | 299,208.7030m | 5+818.00 |
| 5820 | 1,060,319.3332m | 299,209.0842m | 5+819.00 |
| 5821 | 1,060,320.2577m | 299,209.4655m | 5+820.00 |
| 5822 | 1,060,321.1822m | 299,209.8467m | 5+821.00 |
| 5823 | 1,060,322.1067m | 299,210.2279m | 5+822.00 |
| 5824 | 1,060,323.0311m | 299,210.6092m | 5+823.00 |
| 5825 | 1,060,323.9556m | 299,210.9904m | 5+824.00 |
| 5826 | 1,060,324.8801m | 299,211.3716m | 5+825.00 |
| 5827 | 1,060,325.8046m | 299,211.7529m | 5+826.00 |
| 5828 | 1,060,326.7291m | 299,212.1341m | 5+827.00 |
| 5829 | 1,060,327.6535m | 299,212.5153m | 5+828.00 |
| 5830 | 1,060,328.5780m | 299,212.8966m | 5+829.00 |
| 5831 | 1,060,329.5025m | 299,213.2778m | 5+830.00 |
| 5832 | 1,060,330.4270m | 299,213.6590m | 5+831.00 |
| 5833 | 1,060,331.3515m | 299,214.0403m | 5+832.00 |
| 5834 | 1,060,332.2759m | 299,214.4215m | 5+833.00 |
| 5835 | 1,060,333.2004m | 299,214.8027m | 5+834.00 |
| 5836 | 1,060,334.1249m | 299,215.1840m | 5+835.00 |
| 5837 | 1,060,335.0494m | 299,215.5652m | 5+836.00 |
| 5838 | 1,060,335.9738m | 299,215.9464m | 5+837.00 |
| 5839 | 1,060,336.8983m | 299,216.3277m | 5+838.00 |
| 5840 | 1,060,337.8228m | 299,216.7089m | 5+839.00 |
| 5841 | 1,060,338.7473m | 299,217.0901m | 5+840.00 |
| 5842 | 1,060,339.6718m | 299,217.4714m | 5+841.00 |
| 5843 | 1,060,340.5962m | 299,217.8526m | 5+842.00 |
| 5844 | 1,060,341.5207m | 299,218.2338m | 5+843.00 |
| 5845 | 1,060,342.4452m | 299,218.6151m | 5+844.00 |
| 5846 | 1,060,343.3697m | 299,218.9963m | 5+845.00 |
| 5847 | 1,060,344.2942m | 299,219.3775m | 5+846.00 |
| 5848 | 1,060,345.2186m | 299,219.7588m | 5+847.00 |
| 5849 | 1,060,346.1431m | 299,220.1400m | 5+848.00 |
| 5850 | 1,060,347.0676m | 299,220.5213m | 5+849.00 |
| 5851 | 1,060,347.9921m | 299,220.9025m | 5+850.00 |
| 5852 | 1,060,348.9165m | 299,221.2837m | 5+851.00 |
| 5853 | 1,060,349.8410m | 299,221.6650m | 5+852.00 |
| 5854 | 1,060,350.7655m | 299,222.0462m | 5+853.00 |
| 5855 | 1,060,351.6900m | 299,222.4274m | 5+854.00 |
| 5856 | 1,060,352.6145m | 299,222.8087m | 5+855.00 |
| 5857 | 1,060,353.5389m | 299,223.1899m | 5+856.00 |
| 5858 | 1,060,354.4634m | 299,223.5711m | 5+857.00 |
| 5859 | 1,060,355.3879m | 299,223.9524m | 5+858.00 |
| 5860 | 1,060,356.3124m | 299,224.3336m | 5+859.00 |
| 5861 | 1,060,357.2369m | 299,224.7148m | 5+860.00 |
| 5862 | 1,060,358.1613m | 299,225.0961m | 5+861.00 |
| 5863 | 1,060,359.0858m | 299,225.4773m | 5+862.00 |
| 5864 | 1,060,360.0103m | 299,225.8585m | 5+863.00 |
| 5865 | 1,060,360.9348m | 299,226.2398m | 5+864.00 |
| 5866 | 1,060,361.8592m | 299,226.6210m | 5+865.00 |
| 5867 | 1,060,362.7837m | 299,227.0022m | 5+866.00 |
| 5868 | 1,060,363.7082m | 299,227.3835m | 5+867.00 |
| 5869 | 1,060,364.6327m | 299,227.7647m | 5+868.00 |
| 5870 | 1,060,365.5572m | 299,228.1459m | 5+869.00 |
| 5871 | 1,060,366.4816m | 299,228.5272m | 5+870.00 |
| 5872 | 1,060,367.4061m | 299,228.9084m | 5+871.00 |
| 5873 | 1,060,368.3306m | 299,229.2896m | 5+872.00 |
| 5874 | 1,060,369.2551m | 299,229.6709m | 5+873.00 |
| 5875 | 1,060,370.1796m | 299,230.0521m | 5+874.00 |
| 5876 | 1,060,371.1040m | 299,230.4333m | 5+875.00 |
| 5877 | 1,060,372.0285m | 299,230.8146m | 5+876.00 |
| 5878 | 1,060,372.9530m | 299,231.1958m | 5+877.00 |
| 5879 | 1,060,373.8775m | 299,231.5770m | 5+878.00 |
| 5880 | 1,060,374.8019m | 299,231.9583m | 5+879.00 |
| 5881 | 1,060,375.7264m | 299,232.3395m | 5+880.00 |
| 5882 | 1,060,376.6509m | 299,232.7207m | 5+881.00 |
| 5883 | 1,060,377.5754m | 299,233.1020m | 5+882.00 |
| 5884 | 1,060,378.4999m | 299,233.4832m | 5+883.00 |
| 5885 | 1,060,379.4243m | 299,233.8644m | 5+884.00 |
| 5886 | 1,060,380.3488m | 299,234.2457m | 5+885.00 |
| 5887 | 1,060,381.2733m | 299,234.6269m | 5+886.00 |
| 5888 | 1,060,382.1978m | 299,235.0081m | 5+887.00 |
| 5889 | 1,060,383.1223m | 299,235.3894m | 5+888.00 |
| 5890 | 1,060,384.0467m | 299,235.7706m | 5+889.00 |
| 5891 | 1,060,384.9712m | 299,236.1519m | 5+890.00 |
| 5892 | 1,060,385.8957m | 299,236.5331m | 5+891.00 |
| 5893 | 1,060,386.8202m | 299,236.9143m | 5+892.00 |
| 5894 | 1,060,387.7446m | 299,237.2956m | 5+893.00 |
| 5895 | 1,060,388.6691m | 299,237.6768m | 5+894.00 |
| 5896 | 1,060,389.5936m | 299,238.0580m | 5+895.00 |
| 5897 | 1,060,390.5181m | 299,238.4393m | 5+896.00 |
| 5898 | 1,060,391.4426m | 299,238.8205m | 5+897.00 |
| 5899 | 1,060,392.3670m | 299,239.2017m | 5+898.00 |
| 5900 | 1,060,393.2915m | 299,239.5830m | 5+899.00 |
| 5901 | 1,060,394.2160m | 299,239.9642m | 5+900.00 |
| 5902 | 1,060,395.1405m | 299,240.3454m | 5+901.00 |
| 5903 | 1,060,396.0649m | 299,240.7267m | 5+902.00 |
| 5904 | 1,060,396.9894m | 299,241.1079m | 5+903.00 |
| 5905 | 1,060,397.9139m | 299,241.4891m | 5+904.00 |
| 5906 | 1,060,398.8384m | 299,241.8704m | 5+905.00 |
| 5907 | 1,060,399.7629m | 299,242.2516m | 5+906.00 |
| 5908 | 1,060,400.6873m | 299,242.6328m | 5+907.00 |
| 5909 | 1,060,401.6118m | 299,243.0141m | 5+908.00 |
| 5910 | 1,060,402.5363m | 299,243.3953m | 5+909.00 |
| 5911 | 1,060,403.4608m | 299,243.7765m | 5+910.00 |
| 5912 | 1,060,404.3853m | 299,244.1578m | 5+911.00 |
| 5913 | 1,060,405.3097m | 299,244.5390m | 5+912.00 |
| 5914 | 1,060,406.2342m | 299,244.9202m | 5+913.00 |
| 5915 | 1,060,407.1587m | 299,245.3015m | 5+914.00 |
| 5916 | 1,060,408.0832m | 299,245.6827m | 5+915.00 |
| 5917 | 1,060,409.0076m | 299,246.0639m | 5+916.00 |
| 5918 | 1,060,409.9321m | 299,246.4452m | 5+917.00 |
| 5919 | 1,060,410.8566m | 299,246.8264m | 5+918.00 |
| 5920 | 1,060,411.7811m | 299,247.2076m | 5+919.00 |
| 5921 | 1,060,412.7056m | 299,247.5889m | 5+920.00 |
| 5922 | 1,060,413.6300m | 299,247.9701m | 5+921.00 |
| 5923 | 1,060,414.5545m | 299,248.3513m | 5+922.00 |
| 5924 | 1,060,415.4790m | 299,248.7326m | 5+923.00 |
| 5925 | 1,060,416.4035m | 299,249.1138m | 5+924.00 |
| 5926 | 1,060,417.3280m | 299,249.4950m | 5+925.00 |
| 5927 | 1,060,418.2524m | 299,249.8763m | 5+926.00 |
| 5928 | 1,060,419.1769m | 299,250.2575m | 5+927.00 |
| 5929 | 1,060,420.1014m | 299,250.6387m | 5+928.00 |
| 5930 | 1,060,421.0259m | 299,251.0200m | 5+929.00 |
| 5931 | 1,060,421.9503m | 299,251.4012m | 5+930.00 |
| 5932 | 1,060,422.8748m | 299,251.7825m | 5+931.00 |
| 5933 | 1,060,423.7993m | 299,252.1637m | 5+932.00 |
| 5934 | 1,060,424.7238m | 299,252.5449m | 5+933.00 |
| 5935 | 1,060,425.6483m | 299,252.9262m | 5+934.00 |
| 5936 | 1,060,426.5727m | 299,253.3074m | 5+935.00 |
| 5937 | 1,060,427.4972m | 299,253.6886m | 5+936.00 |
| 5938 | 1,060,428.4217m | 299,254.0699m | 5+937.00 |
| 5939 | 1,060,429.3462m | 299,254.4511m | 5+938.00 |
| 5940 | 1,060,430.2707m | 299,254.8323m | 5+939.00 |
| 5941 | 1,060,431.1951m | 299,255.2136m | 5+940.00 |
| 5942 | 1,060,432.1196m | 299,255.5948m | 5+941.00 |
| 5943 | 1,060,433.0441m | 299,255.9760m | 5+942.00 |
| 5944 | 1,060,433.9686m | 299,256.3573m | 5+943.00 |
| 5945 | 1,060,434.8930m | 299,256.7385m | 5+944.00 |
| 5946 | 1,060,435.8175m | 299,257.1197m | 5+945.00 |
| 5947 | 1,060,436.7420m | 299,257.5010m | 5+946.00 |
| 5948 | 1,060,437.6665m | 299,257.8822m | 5+947.00 |
| 5949 | 1,060,438.5910m | 299,258.2634m | 5+948.00 |
| 5950 | 1,060,439.5154m | 299,258.6447m | 5+949.00 |
| 5951 | 1,060,440.4399m | 299,259.0259m | 5+950.00 |
| 5952 | 1,060,441.3644m | 299,259.4071m | 5+951.00 |
| 5953 | 1,060,442.2889m | 299,259.7884m | 5+952.00 |
| 5954 | 1,060,443.2134m | 299,260.1696m | 5+953.00 |
| 5955 | 1,060,444.1378m | 299,260.5508m | 5+954.00 |
| 5956 | 1,060,445.0623m | 299,260.9321m | 5+955.00 |
| 5957 | 1,060,445.9873m | 299,261.3120m | 5+956.00 |
| 5958 | 1,060,446.9155m | 299,261.6842m | 5+957.00 |
| 5959 | 1,060,447.8471m | 299,262.0476m | 5+958.00 |
| 5960 | 1,060,448.7821m | 299,262.4022m | 5+959.00 |
| 5961 | 1,060,449.7204m | 299,262.7481m | 5+960.00 |
| 5962 | 1,060,450.6619m | 299,263.0851m | 5+961.00 |
| 5963 | 1,060,451.6065m | 299,263.4132m | 5+962.00 |
| 5964 | 1,060,452.5542m | 299,263.7325m | 5+963.00 |
| 5965 | 1,060,453.5048m | 299,264.0428m | 5+964.00 |
| 5966 | 1,060,454.4583m | 299,264.3442m | 5+965.00 |
| 5967 | 1,060,455.4146m | 299,264.6366m | 5+966.00 |
| 5968 | 1,060,456.3736m | 299,264.9200m | 5+967.00 |
| 5969 | 1,060,457.3352m | 299,265.1944m | 5+968.00 |
| 5970 | 1,060,458.2994m | 299,265.4597m | 5+969.00 |
| 5971 | 1,060,459.2660m | 299,265.7160m | 5+970.00 |
| 5972 | 1,060,460.2349m | 299,265.9632m | 5+971.00 |
| 5973 | 1,060,461.2062m | 299,266.2012m | 5+972.00 |
| 5974 | 1,060,462.1796m | 299,266.4301m | 5+973.00 |
| 5975 | 1,060,463.1552m | 299,266.6499m | 5+974.00 |
| 5976 | 1,060,464.1327m | 299,266.8604m | 5+975.00 |
| 5977 | 1,060,465.1123m | 299,267.0618m | 5+976.00 |
| 5978 | 1,060,466.0936m | 299,267.2540m | 5+977.00 |
| 5979 | 1,060,467.0767m | 299,267.4369m | 5+978.00 |
| 5980 | 1,060,468.0615m | 299,267.6106m | 5+979.00 |
| 5981 | 1,060,469.0479m | 299,267.7750m | 5+980.00 |
| 5982 | 1,060,470.0358m | 299,267.9301m | 5+981.00 |
| 5983 | 1,060,471.0251m | 299,268.0760m | 5+982.00 |
| 5984 | 1,060,472.0157m | 299,268.2125m | 5+983.00 |
| 5985 | 1,060,473.0076m | 299,268.3398m | 5+984.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 5986 | 1,060,474.0006m | 299,268.4577m | 5+985.00 |
| 5987 | 1,060,474.9947m | 299,268.5662m | 5+986.00 |
| 5988 | 1,060,475.9895m | 299,268.6683m | 5+987.00 |
| 5989 | 1,060,476.9843m | 299,268.7702m | 5+988.00 |
| 5990 | 1,060,477.9791m | 299,268.8721m | 5+989.00 |
| 5991 | 1,060,478.9739m | 299,268.9740m | 5+990.00 |
| 5992 | 1,060,479.9687m | 299,269.0759m | 5+991.00 |
| 5993 | 1,060,480.9635m | 299,269.1778m | 5+992.00 |
| 5994 | 1,060,481.9583m | 299,269.2797m | 5+993.00 |
| 5995 | 1,060,482.9531m | 299,269.3816m | 5+994.00 |
| 5996 | 1,060,483.9479m | 299,269.4835m | 5+995.00 |
| 5997 | 1,060,484.9427m | 299,269.5854m | 5+996.00 |
| 5998 | 1,060,485.9374m | 299,269.6873m | 5+997.00 |
| 5999 | 1,060,486.9322m | 299,269.7892m | 5+998.00 |
| 6000 | 1,060,487.9270m | 299,269.8911m | 5+999.00 |
| 6001 | 1,060,488.9218m | 299,269.9930m | 6+000.00 |
| 6002 | 1,060,489.9166m | 299,270.0949m | 6+001.00 |
| 6003 | 1,060,490.9114m | 299,270.1968m | 6+002.00 |
| 6004 | 1,060,491.9062m | 299,270.2987m | 6+003.00 |
| 6005 | 1,060,492.9010m | 299,270.4006m | 6+004.00 |
| 6006 | 1,060,493.8958m | 299,270.5025m | 6+005.00 |
| 6007 | 1,060,494.8906m | 299,270.6044m | 6+006.00 |
| 6008 | 1,060,495.8854m | 299,270.7063m | 6+007.00 |
| 6009 | 1,060,496.8802m | 299,270.8082m | 6+008.00 |
| 6010 | 1,060,497.8750m | 299,270.9101m | 6+009.00 |
| 6011 | 1,060,498.8698m | 299,271.0120m | 6+010.00 |
| 6012 | 1,060,499.8646m | 299,271.1139m | 6+011.00 |
| 6013 | 1,060,500.8594m | 299,271.2158m | 6+012.00 |
| 6014 | 1,060,501.8542m | 299,271.3177m | 6+013.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 6015 | 1,060,502.8490m | 299,271.4196m | 6+014.00 |
| 6016 | 1,060,503.8438m | 299,271.5215m | 6+015.00 |
| 6017 | 1,060,504.8385m | 299,271.6234m | 6+016.00 |
| 6018 | 1,060,505.8333m | 299,271.7253m | 6+017.00 |
| 6019 | 1,060,506.8281m | 299,271.8272m | 6+018.00 |
| 6020 | 1,060,507.8229m | 299,271.9291m | 6+019.00 |
| 6021 | 1,060,508.8177m | 299,272.0310m | 6+020.00 |
| 6022 | 1,060,509.8125m | 299,272.1329m | 6+021.00 |
| 6023 | 1,060,510.8073m | 299,272.2348m | 6+022.00 |
| 6024 | 1,060,511.8021m | 299,272.3367m | 6+023.00 |
| 6025 | 1,060,512.7969m | 299,272.4386m | 6+024.00 |
| 6026 | 1,060,513.7917m | 299,272.5405m | 6+025.00 |
| 6027 | 1,060,514.7865m | 299,272.6424m | 6+026.00 |
| 6028 | 1,060,515.7813m | 299,272.7443m | 6+027.00 |
| 6029 | 1,060,516.7761m | 299,272.8462m | 6+028.00 |
| 6030 | 1,060,517.7709m | 299,272.9481m | 6+029.00 |
| 6031 | 1,060,518.7657m | 299,273.0500m | 6+030.00 |
| 6032 | 1,060,519.7605m | 299,273.1519m | 6+031.00 |
| 6033 | 1,060,520.7553m | 299,273.2538m | 6+032.00 |
| 6034 | 1,060,521.7501m | 299,273.3557m | 6+033.00 |
| 6035 | 1,060,522.7448m | 299,273.4576m | 6+034.00 |
| 6036 | 1,060,523.7396m | 299,273.5595m | 6+035.00 |
| 6037 | 1,060,524.7344m | 299,273.6614m | 6+036.00 |
| 6038 | 1,060,525.7292m | 299,273.7633m | 6+037.00 |
| 6039 | 1,060,526.7240m | 299,273.8652m | 6+038.00 |
| 6040 | 1,060,527.7188m | 299,273.9671m | 6+039.00 |
| 6041 | 1,060,528.7136m | 299,274.0690m | 6+040.00 |
| 6042 | 1,060,529.7084m | 299,274.1709m | 6+041.00 |
| 6043 | 1,060,530.7032m | 299,274.2728m | 6+042.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 6044 | 1,060,531.6980m | 299,274.3747m | 6+043.00 |
| 6045 | 1,060,532.6928m | 299,274.4766m | 6+044.00 |
| 6046 | 1,060,533.6876m | 299,274.5785m | 6+045.00 |
| 6047 | 1,060,534.6824m | 299,274.6804m | 6+046.00 |
| 6048 | 1,060,535.6772m | 299,274.7823m | 6+047.00 |
| 6049 | 1,060,536.6720m | 299,274.8842m | 6+048.00 |
| 6050 | 1,060,537.6668m | 299,274.9861m | 6+049.00 |
| 6051 | 1,060,538.6616m | 299,275.0880m | 6+050.00 |
| 6052 | 1,060,539.6564m | 299,275.1899m | 6+051.00 |
| 6053 | 1,060,540.6512m | 299,275.2918m | 6+052.00 |
| 6054 | 1,060,541.6459m | 299,275.3937m | 6+053.00 |
| 6055 | 1,060,542.6407m | 299,275.4956m | 6+054.00 |
| 6056 | 1,060,543.6355m | 299,275.5975m | 6+055.00 |
| 6057 | 1,060,544.6303m | 299,275.6994m | 6+056.00 |
| 6058 | 1,060,545.6251m | 299,275.8013m | 6+057.00 |
| 6059 | 1,060,546.6199m | 299,275.9032m | 6+058.00 |
| 6060 | 1,060,547.6147m | 299,276.0051m | 6+059.00 |
| 6061 | 1,060,548.6095m | 299,276.1070m | 6+060.00 |
| 6062 | 1,060,549.6043m | 299,276.2089m | 6+061.00 |
| 6063 | 1,060,550.5991m | 299,276.3108m | 6+062.00 |
| 6064 | 1,060,551.5939m | 299,276.4127m | 6+063.00 |
| 6065 | 1,060,552.5887m | 299,276.5146m | 6+064.00 |
| 6066 | 1,060,553.5835m | 299,276.6165m | 6+065.00 |
| 6067 | 1,060,553.9715m | 299,276.6563m | 6+065.39 |

**Cuadro N°4. Coordenadas del Área de afectación camino de Acceso al tanque de Almacenamiento las Tablas (C4) = 1.0612446 Ha**

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1 | 1,055,015.6102m | 308,800.9836m | 0+000.00 |
| 2 | 1,055,012.5122m | 308,797.2146m | 0+005.00 |
| 3 | 1,055,010.7892m | 308,792.5208m | 0+010.00 |
| 4 | 1,055,009.1582m | 308,787.7988m | 0+015.00 |
| 5 | 1,055,009.8254m | 308,782.9340m | 0+020.00 |
| 6 | 1,055,013.1716m | 308,779.2757m | 0+025.00 |
| 7 | 1,055,016.9531m | 308,776.0046m | 0+030.00 |
| 8 | 1,055,020.6621m | 308,772.6550m | 0+035.00 |
| 9 | 1,055,023.6752m | 308,768.6779m | 0+040.00 |
| 10 | 1,055,025.7332m | 308,764.1325m | 0+045.00 |
| 11 | 1,055,026.7339m | 308,759.2442m | 0+050.00 |
| 12 | 1,055,026.6277m | 308,754.2557m | 0+055.00 |
| 13 | 1,055,025.5023m | 308,749.3892m | 0+060.00 |
| 14 | 1,055,024.1768m | 308,744.5681m | 0+065.00 |
| 15 | 1,055,022.8512m | 308,739.7470m | 0+070.00 |
| 16 | 1,055,021.5257m | 308,734.9259m | 0+075.00 |
| 17 | 1,055,020.2001m | 308,730.1048m | 0+080.00 |
| 18 | 1,055,018.8745m | 308,725.2837m | 0+085.00 |
| 19 | 1,055,017.5490m | 308,720.4626m | 0+090.00 |
| 20 | 1,055,016.2234m | 308,715.6416m | 0+095.00 |
| 21 | 1,055,014.8979m | 308,710.8205m | 0+100.00 |
| 22 | 1,055,013.5723m | 308,705.9994m | 0+105.00 |
| 23 | 1,055,012.2468m | 308,701.1783m | 0+110.00 |
| 24 | 1,055,010.9212m | 308,696.3572m | 0+115.00 |
| 25 | 1,055,009.5957m | 308,691.5361m | 0+120.00 |
| 26 | 1,055,008.2701m | 308,686.7150m | 0+125.00 |
| 27 | 1,055,006.9445m | 308,681.8939m | 0+130.00 |
| 28 | 1,055,005.6190m | 308,677.0728m | 0+135.00 |
| 29 | 1,055,004.2934m | 308,672.2518m | 0+140.00 |
| 30 | 1,055,002.9679m | 308,667.4307m | 0+145.00 |
| 31 | 1,055,001.6423m | 308,662.6096m | 0+150.00 |
| 32 | 1,055,000.3168m | 308,657.7885m | 0+155.00 |
| 33 | 1,054,998.9912m | 308,652.9674m | 0+160.00 |
| 34 | 1,054,997.6657m | 308,648.1463m | 0+165.00 |
| 35 | 1,054,996.3401m | 308,643.3252m | 0+170.00 |
| 36 | 1,054,995.0145m | 308,638.5041m | 0+175.00 |
| 37 | 1,054,993.6890m | 308,633.6830m | 0+180.00 |
| 38 | 1,054,992.3634m | 308,628.8620m | 0+185.00 |
| 39 | 1,054,991.0379m | 308,624.0409m | 0+190.00 |
| 40 | 1,054,989.7123m | 308,619.2198m | 0+195.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 41 | 1,054,988.3868m | 308,614.3987m | 0+200.00 |
| 42 | 1,054,987.0612m | 308,609.5776m | 0+205.00 |
| 43 | 1,054,985.7357m | 308,604.7565m | 0+210.00 |
| 44 | 1,054,984.4101m | 308,599.9354m | 0+215.00 |
| 45 | 1,054,983.0845m | 308,595.1143m | 0+220.00 |
| 46 | 1,054,981.7590m | 308,590.2932m | 0+225.00 |
| 47 | 1,054,980.4334m | 308,585.4721m | 0+230.00 |
| 48 | 1,054,979.1079m | 308,580.6511m | 0+235.00 |
| 49 | 1,054,977.7823m | 308,575.8300m | 0+240.00 |
| 50 | 1,054,976.4568m | 308,571.0089m | 0+245.00 |
| 51 | 1,054,975.1312m | 308,566.1878m | 0+250.00 |
| 52 | 1,054,973.8216m | 308,561.3624m | 0+255.00 |
| 53 | 1,054,972.7169m | 308,556.4866m | 0+260.00 |
| 54 | 1,054,971.8741m | 308,551.5587m | 0+265.00 |
| 55 | 1,054,971.2956m | 308,546.5929m | 0+270.00 |
| 56 | 1,054,970.9831m | 308,541.6033m | 0+275.00 |
| 57 | 1,054,970.9068m | 308,536.6041m | 0+280.00 |
| 58 | 1,054,970.8667m | 308,531.6042m | 0+285.00 |
| 59 | 1,054,970.8267m | 308,526.6044m | 0+290.00 |
| 60 | 1,054,970.7867m | 308,521.6046m | 0+295.00 |
| 61 | 1,054,970.8526m | 308,516.6063m | 0+300.00 |
| 62 | 1,054,971.4463m | 308,511.6445m | 0+305.00 |
| 63 | 1,054,972.6038m | 308,506.7831m | 0+310.00 |
| 64 | 1,054,974.3046m | 308,502.0839m | 0+315.00 |
| 65 | 1,054,976.2028m | 308,497.4582m | 0+320.00 |
| 66 | 1,054,978.1010m | 308,492.8326m | 0+325.00 |
| 67 | 1,054,979.9993m | 308,488.2069m | 0+330.00 |
| 68 | 1,054,981.7897m | 308,483.5397m | 0+335.00 |
| 69 | 1,054,983.1761m | 308,478.7374m | 0+340.00 |
| 70 | 1,054,984.1319m | 308,473.8313m | 0+345.00 |
| 71 | 1,054,984.6496m | 308,468.8598m | 0+350.00 |
| 72 | 1,054,984.7251m | 308,463.8620m | 0+355.00 |
| 73 | 1,054,984.5285m | 308,458.8659m | 0+360.00 |
| 74 | 1,054,984.3284m | 308,453.8699m | 0+365.00 |
| 75 | 1,054,984.0404m | 308,448.8784m | 0+370.00 |
| 76 | 1,054,983.5929m | 308,443.8987m | 0+375.00 |
| 77 | 1,054,982.9865m | 308,438.9358m | 0+380.00 |
| 78 | 1,054,982.2218m | 308,433.9949m | 0+385.00 |
| 79 | 1,054,981.2996m | 308,429.0809m | 0+390.00 |
| 80 | 1,054,980.2207m | 308,424.1989m | 0+395.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 81 | 1,054,978.9864m | 308,419.3538m | 0+400.00 |
| 82 | 1,054,977.6238m | 308,414.5431m | 0+405.00 |
| 83 | 1,054,976.0601m | 308,409.7956m | 0+410.00 |
| 84 | 1,054,974.0830m | 308,405.2049m | 0+415.00 |
| 85 | 1,054,971.7072m | 308,400.8073m | 0+420.00 |
| 86 | 1,054,968.9552m | 308,396.6346m | 0+425.00 |
| 87 | 1,054,966.0685m | 308,392.5520m | 0+430.00 |
| 88 | 1,054,963.1818m | 308,388.4695m | 0+435.00 |
| 89 | 1,054,960.2952m | 308,384.3869m | 0+440.00 |
| 90 | 1,054,957.4088m | 308,380.3041m | 0+445.00 |
| 91 | 1,054,954.8578m | 308,376.0093m | 0+450.00 |
| 92 | 1,054,952.9716m | 308,371.3837m | 0+455.00 |
| 93 | 1,054,951.7921m | 308,366.5295m | 0+460.00 |
| 94 | 1,054,951.3453m | 308,361.5541m | 0+465.00 |
| 95 | 1,054,951.6159m | 308,356.5648m | 0+470.00 |
| 96 | 1,054,952.0891m | 308,351.5872m | 0+475.00 |
| 97 | 1,054,952.5623m | 308,346.6097m | 0+480.00 |
| 98 | 1,054,953.0355m | 308,341.6321m | 0+485.00 |
| 99 | 1,054,953.5087m | 308,336.6546m | 0+490.00 |
| 100 | 1,054,953.9820m | 308,331.6770m | 0+495.00 |
| 101 | 1,054,954.4552m | 308,326.6995m | 0+500.00 |
| 102 | 1,054,954.9284m | 308,321.7219m | 0+505.00 |
| 103 | 1,054,955.4016m | 308,316.7443m | 0+510.00 |
| 104 | 1,054,955.8748m | 308,311.7668m | 0+515.00 |
| 105 | 1,054,956.3480m | 308,306.7892m | 0+520.00 |
| 106 | 1,054,956.8212m | 308,301.8117m | 0+525.00 |
| 107 | 1,054,957.2944m | 308,296.8341m | 0+530.00 |
| 108 | 1,054,957.7676m | 308,291.8566m | 0+535.00 |
| 109 | 1,054,958.2408m | 308,286.8790m | 0+540.00 |
| 110 | 1,054,958.7141m | 308,281.9014m | 0+545.00 |
| 111 | 1,054,959.1794m | 308,276.9232m | 0+550.00 |
| 112 | 1,054,959.4745m | 308,271.9323m | 0+555.00 |
| 113 | 1,054,959.5349m | 308,266.9332m | 0+560.00 |
| 114 | 1,054,959.3603m | 308,261.9367m | 0+565.00 |
| 115 | 1,054,958.9513m | 308,256.9539m | 0+570.00 |
| 116 | 1,054,963.4417m | 308,255.7061m | 0+575.00 |
| 117 | 1,054,968.3534m | 308,254.7704m | 0+580.00 |
| 118 | 1,054,973.2650m | 308,253.8347m | 0+585.00 |
| 119 | 1,054,978.1767m | 308,252.8991m | 0+590.00 |
| 120 | 1,054,983.0884m | 308,251.9634m | 0+595.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 121 | 1,054,988.0000m | 308,251.0277m | 0+600.00 |
| 122 | 1,054,992.9117m | 308,250.0920m | 0+605.00 |
| 123 | 1,054,996.3559m | 308,248.1585m | 0+610.00 |
| 124 | 1,054,995.4202m | 308,243.2468m | 0+615.00 |
| 125 | 1,054,994.4846m | 308,238.3352m | 0+620.00 |
| 126 | 1,054,993.5489m | 308,233.4235m | 0+625.00 |
| 127 | 1,054,992.6132m | 308,228.5118m | 0+630.00 |
| 128 | 1,054,991.6775m | 308,223.6002m | 0+635.00 |
| 129 | 1,054,990.7418m | 308,218.6885m | 0+640.00 |
| 130 | 1,054,989.8061m | 308,213.7768m | 0+645.00 |
| 131 | 1,054,988.8704m | 308,208.8651m | 0+650.00 |
| 132 | 1,054,987.9348m | 308,203.9535m | 0+655.00 |
| 133 | 1,054,986.9991m | 308,199.0418m | 0+660.00 |
| 134 | 1,054,986.0634m | 308,194.1301m | 0+665.00 |
| 135 | 1,054,983.4068m | 308,191.7494m | 0+670.00 |
| 136 | 1,054,978.4951m | 308,192.6851m | 0+675.00 |
| 137 | 1,054,973.5834m | 308,193.6208m | 0+680.00 |
| 138 | 1,054,968.6718m | 308,194.5565m | 0+685.00 |
| 139 | 1,054,963.7601m | 308,195.4922m | 0+690.00 |
| 140 | 1,054,958.8484m | 308,196.4278m | 0+695.00 |
| 141 | 1,054,953.9367m | 308,197.3635m | 0+700.00 |
| 142 | 1,054,949.0251m | 308,198.2992m | 0+705.00 |
| 143 | 1,054,947.0022m | 308,194.9439m | 0+710.00 |
| 144 | 1,054,946.0211m | 308,190.0411m | 0+715.00 |
| 145 | 1,054,945.0400m | 308,185.1383m | 0+720.00 |
| 146 | 1,054,942.6821m | 308,182.3011m | 0+725.00 |
| 147 | 1,054,937.7793m | 308,183.2822m | 0+730.00 |
| 148 | 1,054,932.8765m | 308,184.2633m | 0+735.00 |
| 149 | 1,054,932.6282m | 308,188.3467m | 0+740.00 |
| 150 | 1,054,933.6093m | 308,193.2495m | 0+745.00 |
| 151 | 1,054,934.5904m | 308,198.1523m | 0+750.00 |
| 152 | 1,054,935.5716m | 308,203.0551m | 0+755.00 |
| 153 | 1,054,936.5527m | 308,207.9579m | 0+760.00 |
| 154 | 1,054,937.5338m | 308,212.8607m | 0+765.00 |
| 155 | 1,054,938.5149m | 308,217.7635m | 0+770.00 |
| 156 | 1,054,939.4960m | 308,222.6663m | 0+775.00 |
| 157 | 1,054,940.4771m | 308,227.5691m | 0+780.00 |
| 158 | 1,054,941.4582m | 308,232.4719m | 0+785.00 |
| 159 | 1,054,942.4393m | 308,237.3747m | 0+790.00 |
| 160 | 1,054,943.4204m | 308,242.2775m | 0+795.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 161 | 1,054,944.4015m | 308,247.1802m | 0+800.00 |
| 162 | 1,054,945.3538m | 308,252.0886m | 0+805.00 |
| 163 | 1,054,946.0797m | 308,257.0350m | 0+810.00 |
| 164 | 1,054,946.5405m | 308,262.0131m | 0+815.00 |
| 165 | 1,054,946.7349m | 308,267.0087m | 0+820.00 |
| 166 | 1,054,946.6622m | 308,272.0076m | 0+825.00 |
| 167 | 1,054,946.3227m | 308,276.9955m | 0+830.00 |
| 168 | 1,054,945.8495m | 308,281.9730m | 0+835.00 |
| 169 | 1,054,945.3763m | 308,286.9506m | 0+840.00 |
| 170 | 1,054,944.9031m | 308,291.9282m | 0+845.00 |
| 171 | 1,054,944.4299m | 308,296.9057m | 0+850.00 |
| 172 | 1,054,943.9567m | 308,301.8833m | 0+855.00 |
| 173 | 1,054,943.4835m | 308,306.8608m | 0+860.00 |
| 174 | 1,054,943.0103m | 308,311.8384m | 0+865.00 |
| 175 | 1,054,942.5371m | 308,316.8159m | 0+870.00 |
| 176 | 1,054,942.0639m | 308,321.7935m | 0+875.00 |
| 177 | 1,054,941.5906m | 308,326.7711m | 0+880.00 |
| 178 | 1,054,941.1174m | 308,331.7486m | 0+885.00 |
| 179 | 1,054,940.6442m | 308,336.7262m | 0+890.00 |
| 180 | 1,054,940.1710m | 308,341.7037m | 0+895.00 |
| 181 | 1,054,939.6978m | 308,346.6813m | 0+900.00 |
| 182 | 1,054,939.2246m | 308,351.6588m | 0+905.00 |
| 183 | 1,054,938.7514m | 308,356.6364m | 0+910.00 |
| 184 | 1,054,938.5452m | 308,361.6297m | 0+915.00 |
| 185 | 1,054,938.8772m | 308,366.6163m | 0+920.00 |
| 186 | 1,054,939.7435m | 308,371.5382m | 0+925.00 |
| 187 | 1,054,941.1342m | 308,376.3384m | 0+930.00 |
| 188 | 1,054,943.0331m | 308,380.9611m | 0+935.00 |
| 189 | 1,054,945.4182m | 308,385.3529m | 0+940.00 |
| 190 | 1,054,948.2260m | 308,389.4887m | 0+945.00 |
| 191 | 1,054,951.1127m | 308,393.5712m | 0+950.00 |
| 192 | 1,054,953.9993m | 308,397.6538m | 0+955.00 |
| 193 | 1,054,956.8860m | 308,401.7363m | 0+960.00 |
| 194 | 1,054,959.7522m | 308,405.8330m | 0+965.00 |
| 195 | 1,054,962.2540m | 308,410.1589m | 0+970.00 |
| 196 | 1,054,964.2443m | 308,414.7427m | 0+975.00 |
| 197 | 1,054,965.7328m | 308,419.5145m | 0+980.00 |
| 198 | 1,054,967.0654m | 308,424.3334m | 0+985.00 |
| 199 | 1,054,968.2361m | 308,429.1942m | 0+990.00 |
| 200 | 1,054,969.2369m | 308,434.0927m | 0+995.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 201 | 1,054,970.0666m | 308,439.0232m | 1+000.00 |
| 202 | 1,054,970.7241m | 308,443.9795m | 1+005.00 |
| 203 | 1,054,971.2087m | 308,448.9557m | 1+010.00 |
| 204 | 1,054,971.5197m | 308,453.9458m | 1+015.00 |
| 205 | 1,054,971.7213m | 308,458.9417m | 1+020.00 |
| 206 | 1,054,971.9208m | 308,463.9377m | 1+025.00 |
| 207 | 1,054,971.8145m | 308,468.9338m | 1+030.00 |
| 208 | 1,054,971.1372m | 308,473.8850m | 1+035.00 |
| 209 | 1,054,969.8978m | 308,478.7261m | 1+040.00 |
| 210 | 1,054,968.1348m | 308,483.4030m | 1+045.00 |
| 211 | 1,054,966.2366m | 308,488.0287m | 1+050.00 |
| 212 | 1,054,964.3383m | 308,492.6543m | 1+055.00 |
| 213 | 1,054,962.4401m | 308,497.2800m | 1+060.00 |
| 214 | 1,054,960.6984m | 308,501.9652m | 1+065.00 |
| 215 | 1,054,959.3747m | 308,506.7851m | 1+070.00 |
| 216 | 1,054,958.4830m | 308,511.7033m | 1+075.00 |
| 217 | 1,054,958.0302m | 308,516.6811m | 1+080.00 |
| 218 | 1,054,957.9869m | 308,521.6801m | 1+085.00 |
| 219 | 1,054,958.0269m | 308,526.6800m | 1+090.00 |
| 220 | 1,054,958.0669m | 308,531.6798m | 1+095.00 |
| 221 | 1,054,958.1070m | 308,536.6796m | 1+100.00 |
| 222 | 1,054,958.1782m | 308,541.6790m | 1+105.00 |
| 223 | 1,054,958.4568m | 308,546.6708m | 1+110.00 |
| 224 | 1,054,958.9695m | 308,551.6439m | 1+115.00 |
| 225 | 1,054,959.7152m | 308,556.5875m | 1+120.00 |
| 226 | 1,054,960.6924m | 308,561.4907m | 1+125.00 |
| 227 | 1,054,961.8988m | 308,566.3425m | 1+130.00 |
| 228 | 1,054,963.2243m | 308,571.1636m | 1+135.00 |
| 229 | 1,054,964.5498m | 308,575.9847m | 1+140.00 |
| 230 | 1,054,965.8754m | 308,580.8058m | 1+145.00 |
| 231 | 1,054,967.2010m | 308,585.6268m | 1+150.00 |
| 232 | 1,054,968.5265m | 308,590.4479m | 1+155.00 |
| 233 | 1,054,969.8521m | 308,595.2690m | 1+160.00 |
| 234 | 1,054,971.1776m | 308,600.0901m | 1+165.00 |
| 235 | 1,054,972.5032m | 308,604.9112m | 1+170.00 |
| 236 | 1,054,973.8287m | 308,609.7323m | 1+175.00 |
| 237 | 1,054,975.1543m | 308,614.5534m | 1+180.00 |
| 238 | 1,054,976.4798m | 308,619.3745m | 1+185.00 |
| 239 | 1,054,977.8054m | 308,624.1956m | 1+190.00 |
| 240 | 1,054,979.1310m | 308,629.0166m | 1+195.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 241 | 1,054,980.4565m | 308,633.8377m | 1+200.00 |
| 242 | 1,054,981.7821m | 308,638.6588m | 1+205.00 |
| 243 | 1,054,983.1076m | 308,643.4799m | 1+210.00 |
| 244 | 1,054,984.4332m | 308,648.3010m | 1+215.00 |
| 245 | 1,054,985.7587m | 308,653.1221m | 1+220.00 |
| 246 | 1,054,987.0843m | 308,657.9432m | 1+225.00 |
| 247 | 1,054,988.4098m | 308,662.7643m | 1+230.00 |
| 248 | 1,054,989.7354m | 308,667.5854m | 1+235.00 |
| 249 | 1,054,991.0610m | 308,672.4065m | 1+240.00 |
| 250 | 1,054,992.3865m | 308,677.2275m | 1+245.00 |
| 251 | 1,054,993.7121m | 308,682.0486m | 1+250.00 |
| 252 | 1,054,995.0376m | 308,686.8697m | 1+255.00 |
| 253 | 1,054,996.3632m | 308,691.6908m | 1+260.00 |
| 254 | 1,054,997.6887m | 308,696.5119m | 1+265.00 |
| 255 | 1,054,999.0143m | 308,701.3330m | 1+270.00 |
| 256 | 1,055,000.3398m | 308,706.1541m | 1+275.00 |
| 257 | 1,055,001.6654m | 308,710.9752m | 1+280.00 |
| 258 | 1,055,002.9910m | 308,715.7963m | 1+285.00 |
| 259 | 1,055,004.3165m | 308,720.6173m | 1+290.00 |
| 260 | 1,055,005.6421m | 308,725.4384m | 1+295.00 |
| 261 | 1,055,006.9676m | 308,730.2595m | 1+300.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 262 | 1,055,008.2932m | 308,735.0806m | 1+305.00 |
| 263 | 1,055,009.6187m | 308,739.9017m | 1+310.00 |
| 264 | 1,055,010.9443m | 308,744.7228m | 1+315.00 |
| 265 | 1,055,012.2698m | 308,749.5439m | 1+320.00 |
| 266 | 1,055,013.5954m | 308,754.3650m | 1+325.00 |
| 267 | 1,055,013.7967m | 308,759.3059m | 1+330.00 |
| 268 | 1,055,011.5181m | 308,763.6931m | 1+335.00 |
| 269 | 1,055,007.7824m | 308,767.0131m | 1+340.00 |
| 270 | 1,055,004.0008m | 308,770.2842m | 1+345.00 |
| 271 | 1,055,000.4995m | 308,773.8390m | 1+350.00 |
| 272 | 1,054,997.9469m | 308,778.1238m | 1+355.00 |
| 273 | 1,054,996.5103m | 308,782.8999m | 1+360.00 |
| 274 | 1,054,996.2756m | 308,787.8819m | 1+365.00 |
| 275 | 1,054,997.2568m | 308,792.7719m | 1+370.00 |
| 276 | 1,054,998.9705m | 308,797.4690m | 1+375.00 |
| 277 | 1,055,000.6940m | 308,802.1625m | 1+380.00 |
| 278 | 1,055,003.0493m | 308,806.5565m | 1+385.00 |
| 279 | 1,055,006.4716m | 308,810.1818m | 1+390.00 |
| 280 | 1,055,010.4139m | 308,812.8808m | 1+394.78 |
| 280 | 1,055,015.6102m | 308,800.9836m | 0+000.00 |

**Cuadro N°5. Coordenadas Área de afectación Acceso al tanque de Almacenamiento de la Mesa (C5) = 2.6566266 Ha**

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 1 | 1,049,741.5992m | 316,119.2889m | 0+000.00 |
| 2 | 1,049,736.8231m | 316,117.8093m | 0+005.00 |
| 3 | 1,049,732.0471m | 316,116.3297m | 0+010.00 |
| 4 | 1,049,727.2710m | 316,114.8501m | 0+015.00 |
| 5 | 1,049,722.4949m | 316,113.3705m | 0+020.00 |
| 6 | 1,049,717.7180m | 316,111.8938m | 0+025.00 |
| 7 | 1,049,712.9061m | 316,110.5362m | 0+030.00 |
| 8 | 1,049,708.0468m | 316,109.3597m | 0+035.00 |
| 9 | 1,049,703.1468m | 316,108.3662m | 0+040.00 |
| 10 | 1,049,698.2167m | 316,107.5337m | 0+045.00 |
| 11 | 1,049,693.2826m | 316,106.7243m | 0+050.00 |
| 12 | 1,049,688.3486m | 316,105.9150m | 0+055.00 |
| 13 | 1,049,683.4288m | 316,105.0325m | 0+060.00 |
| 14 | 1,049,679.1712m | 316,102.7137m | 0+065.00 |
| 15 | 1,049,675.9815m | 316,098.9516m | 0+070.00 |
| 16 | 1,049,673.8977m | 316,094.4957m | 0+075.00 |
| 17 | 1,049,672.8953m | 316,089.6270m | 0+080.00 |
| 18 | 1,049,673.7886m | 316,084.7559m | 0+085.00 |
| 19 | 1,049,675.2312m | 316,079.9777m | 0+090.00 |
| 20 | 1,049,673.3055m | 316,075.8599m | 0+095.00 |
| 21 | 1,049,674.6594m | 316,071.0468m | 0+100.00 |
| 22 | 1,049,675.8429m | 316,066.1892m | 0+105.00 |
| 23 | 1,049,676.8402m | 316,061.2900m | 0+110.00 |
| 24 | 1,049,677.6497m | 316,056.3562m | 0+115.00 |
| 25 | 1,049,678.2702m | 316,051.3952m | 0+120.00 |
| 26 | 1,049,678.7010m | 316,046.4141m | 0+125.00 |
| 27 | 1,049,678.9413m | 316,041.4202m | 0+130.00 |
| 28 | 1,049,678.9908m | 316,036.4207m | 0+135.00 |
| 29 | 1,049,678.9177m | 316,031.4213m | 0+140.00 |
| 30 | 1,049,678.8093m | 316,026.4225m | 0+145.00 |
| 31 | 1,049,678.6241m | 316,021.4260m | 0+150.00 |
| 32 | 1,049,678.3621m | 316,016.4329m | 0+155.00 |
| 33 | 1,049,678.0232m | 316,011.4444m | 0+160.00 |
| 34 | 1,049,677.6076m | 316,006.4618m | 0+165.00 |
| 35 | 1,049,677.1154m | 316,001.4861m | 0+170.00 |
| 36 | 1,049,676.5760m | 315,996.5153m | 0+175.00 |
| 37 | 1,049,676.0361m | 315,991.5445m | 0+180.00 |
| 38 | 1,049,675.4962m | 315,986.5738m | 0+185.00 |
| 39 | 1,049,674.9562m | 315,981.6030m | 0+190.00 |
| 40 | 1,049,674.4163m | 315,976.6323m | 0+195.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 41 | 1,049,673.8764m | 315,971.6615m | 0+200.00 |
| 42 | 1,049,673.3364m | 315,966.6907m | 0+205.00 |
| 43 | 1,049,672.7965m | 315,961.7200m | 0+210.00 |
| 44 | 1,049,672.2566m | 315,956.7492m | 0+215.00 |
| 45 | 1,049,671.7167m | 315,951.7784m | 0+220.00 |
| 46 | 1,049,671.1707m | 315,946.8084m | 0+225.00 |
| 47 | 1,049,670.3443m | 315,941.8787m | 0+230.00 |
| 48 | 1,049,669.0943m | 315,937.0391m | 0+235.00 |
| 49 | 1,049,667.4300m | 315,932.3259m | 0+240.00 |
| 50 | 1,049,665.3639m | 315,927.7744m | 0+245.00 |
| 51 | 1,049,662.9116m | 315,923.4189m | 0+250.00 |
| 52 | 1,049,660.0915m | 315,919.2921m | 0+255.00 |
| 53 | 1,049,656.9246m | 315,915.4248m | 0+260.00 |
| 54 | 1,049,653.4349m | 315,911.8463m | 0+265.00 |
| 55 | 1,049,649.7047m | 315,908.5171m | 0+270.00 |
| 56 | 1,049,645.9549m | 315,905.2096m | 0+275.00 |
| 57 | 1,049,642.2052m | 315,901.9021m | 0+280.00 |
| 58 | 1,049,638.4554m | 315,898.5946m | 0+285.00 |
| 59 | 1,049,634.7057m | 315,895.2872m | 0+290.00 |
| 60 | 1,049,630.9560m | 315,891.9797m | 0+295.00 |
| 61 | 1,049,627.2449m | 315,888.6291m | 0+300.00 |
| 62 | 1,049,623.6310m | 315,885.1740m | 0+305.00 |
| 63 | 1,049,620.1178m | 315,881.6165m | 0+310.00 |
| 64 | 1,049,616.7047m | 315,877.9628m | 0+315.00 |
| 65 | 1,049,613.3207m | 315,874.2819m | 0+320.00 |
| 66 | 1,049,609.9368m | 315,870.6010m | 0+325.00 |
| 67 | 1,049,606.5528m | 315,866.9202m | 0+330.00 |
| 68 | 1,049,603.1689m | 315,863.2393m | 0+335.00 |
| 69 | 1,049,599.7175m | 315,859.6220m | 0+340.00 |
| 70 | 1,049,596.1258m | 315,856.1440m | 0+345.00 |
| 71 | 1,049,592.4008m | 315,852.8091m | 0+350.00 |
| 72 | 1,049,588.6206m | 315,849.5366m | 0+355.00 |
| 73 | 1,049,584.7027m | 315,846.4313m | 0+360.00 |
| 74 | 1,049,580.6093m | 315,843.5613m | 0+365.00 |
| 75 | 1,049,576.3544m | 315,840.9366m | 0+370.00 |
| 76 | 1,049,571.9528m | 315,838.5663m | 0+375.00 |
| 77 | 1,049,567.4196m | 315,836.4584m | 0+380.00 |
| 78 | 1,049,562.7705m | 315,834.6203m | 0+385.00 |
| 79 | 1,049,558.0215m | 315,833.0583m | 0+390.00 |
| 80 | 1,049,553.1890m | 315,831.7778m | 0+395.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 81 | 1,049,548.2897m | 315,830.7832m | 0+400.00 |
| 82 | 1,049,543.3404m | 315,830.0780m | 0+405.00 |
| 83 | 1,049,538.3582m | 315,829.6646m | 0+410.00 |
| 84 | 1,049,533.3604m | 315,829.5435m | 0+415.00 |
| 85 | 1,049,528.3604m | 315,829.5476m | 0+420.00 |
| 86 | 1,049,523.3604m | 315,829.5517m | 0+425.00 |
| 87 | 1,049,518.3604m | 315,829.5559m | 0+430.00 |
| 88 | 1,049,513.3604m | 315,829.5600m | 0+435.00 |
| 89 | 1,049,508.3604m | 315,829.5641m | 0+440.00 |
| 90 | 1,049,503.3604m | 315,829.5682m | 0+445.00 |
| 91 | 1,049,498.3604m | 315,829.5724m | 0+450.00 |
| 92 | 1,049,493.3605m | 315,829.5663m | 0+455.00 |
| 93 | 1,049,488.3798m | 315,829.1626m | 0+460.00 |
| 94 | 1,049,483.4825m | 315,828.1689m | 0+465.00 |
| 95 | 1,049,478.7383m | 315,826.5994m | 0+470.00 |
| 96 | 1,049,474.2147m | 315,824.4765m | 0+475.00 |
| 97 | 1,049,469.9758m | 315,821.8303m | 0+480.00 |
| 98 | 1,049,466.0821m | 315,818.6983m | 0+485.00 |
| 99 | 1,049,462.5888m | 315,815.1252m | 0+490.00 |
| 100 | 1,049,459.3830m | 315,811.2882m | 0+495.00 |
| 101 | 1,049,456.1837m | 315,807.4457m | 0+500.00 |
| 102 | 1,049,452.9845m | 315,803.6032m | 0+505.00 |
| 103 | 1,049,449.7852m | 315,799.7607m | 0+510.00 |
| 104 | 1,049,446.4992m | 315,795.9936m | 0+515.00 |
| 105 | 1,049,442.9173m | 315,792.5072m | 0+520.00 |
| 106 | 1,049,439.0538m | 315,789.3357m | 0+525.00 |
| 107 | 1,049,434.9363m | 315,786.5017m | 0+530.00 |
| 108 | 1,049,430.5942m | 315,784.0255m | 0+535.00 |
| 109 | 1,049,426.0586m | 315,781.9248m | 0+540.00 |
| 110 | 1,049,421.3618m | 315,780.2145m | 0+545.00 |
| 111 | 1,049,416.5373m | 315,778.9069m | 0+550.00 |
| 112 | 1,049,411.6197m | 315,778.0113m | 0+555.00 |
| 113 | 1,049,406.6440m | 315,777.5342m | 0+560.00 |
| 114 | 1,049,401.6458m | 315,777.4788m | 0+565.00 |
| 115 | 1,049,396.6608m | 315,777.8457m | 0+570.00 |
| 116 | 1,049,391.7004m | 315,778.4741m | 0+575.00 |
| 117 | 1,049,386.7405m | 315,779.1060m | 0+580.00 |
| 118 | 1,049,381.7806m | 315,779.7380m | 0+585.00 |
| 119 | 1,049,376.8207m | 315,780.3699m | 0+590.00 |
| 120 | 1,049,371.8544m | 315,780.9425m | 0+595.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 121 | 1,049,366.8592m | 315,780.9075m | 0+600.00 |
| 122 | 1,049,361.9239m | 315,780.1343m | 0+605.00 |
| 123 | 1,049,357.1573m | 315,778.6399m | 0+610.00 |
| 124 | 1,049,352.6640m | 315,776.4571m | 0+615.00 |
| 125 | 1,049,348.5285m | 315,773.6528m | 0+620.00 |
| 126 | 1,049,344.5099m | 315,770.6778m | 0+625.00 |
| 127 | 1,049,340.4913m | 315,767.7027m | 0+630.00 |
| 128 | 1,049,336.4727m | 315,764.7277m | 0+635.00 |
| 129 | 1,049,332.4541m | 315,761.7526m | 0+640.00 |
| 130 | 1,049,328.4355m | 315,758.7776m | 0+645.00 |
| 131 | 1,049,324.3981m | 315,755.8283m | 0+650.00 |
| 132 | 1,049,320.2994m | 315,752.9648m | 0+655.00 |
| 133 | 1,049,316.1396m | 315,750.1907m | 0+660.00 |
| 134 | 1,049,311.9208m | 315,747.5073m | 0+665.00 |
| 135 | 1,049,307.6449m | 315,744.9159m | 0+670.00 |
| 136 | 1,049,303.3154m | 315,742.4150m | 0+675.00 |
| 137 | 1,049,298.9702m | 315,739.9412m | 0+680.00 |
| 138 | 1,049,294.6251m | 315,737.4674m | 0+685.00 |
| 139 | 1,049,290.2799m | 315,734.9936m | 0+690.00 |
| 140 | 1,049,285.9348m | 315,732.5198m | 0+695.00 |
| 141 | 1,049,281.5896m | 315,730.0460m | 0+700.00 |
| 142 | 1,049,277.2445m | 315,727.5722m | 0+705.00 |
| 143 | 1,049,272.8993m | 315,725.0984m | 0+710.00 |
| 144 | 1,049,268.5542m | 315,722.6246m | 0+715.00 |
| 145 | 1,049,264.2091m | 315,720.1508m | 0+720.00 |
| 146 | 1,049,259.8639m | 315,717.6770m | 0+725.00 |
| 147 | 1,049,255.5188m | 315,715.2032m | 0+730.00 |
| 148 | 1,049,251.1736m | 315,712.7293m | 0+735.00 |
| 149 | 1,049,246.8285m | 315,710.2555m | 0+740.00 |
| 150 | 1,049,242.4833m | 315,707.7817m | 0+745.00 |
| 151 | 1,049,238.1382m | 315,705.3079m | 0+750.00 |
| 152 | 1,049,233.7930m | 315,702.8341m | 0+755.00 |
| 153 | 1,049,229.4479m | 315,700.3603m | 0+760.00 |
| 154 | 1,049,225.1027m | 315,697.8865m | 0+765.00 |
| 155 | 1,049,220.7576m | 315,695.4127m | 0+770.00 |
| 156 | 1,049,216.4124m | 315,692.9389m | 0+775.00 |
| 157 | 1,049,212.0673m | 315,690.4651m | 0+780.00 |
| 158 | 1,049,208.9462m | 315,687.0382m | 0+785.00 |
| 159 | 1,049,207.3926m | 315,682.3072m | 0+790.00 |
| 160 | 1,049,205.2194m | 315,677.8369m | 0+795.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 161 | 1,049,203.6910m | 315,673.0953m | 0+800.00 |
| 162 | 1,049,202.1963m | 315,668.3251m | 0+805.00 |
| 163 | 1,049,200.4738m | 315,663.6353m | 0+810.00 |
| 164 | 1,049,198.2012m | 315,659.1827m | 0+815.00 |
| 165 | 1,049,195.8082m | 315,654.8018m | 0+820.00 |
| 166 | 1,049,193.5825m | 315,650.3246m | 0+825.00 |
| 167 | 1,049,192.0970m | 315,645.5590m | 0+830.00 |
| 168 | 1,049,191.5972m | 315,640.5994m | 0+835.00 |
| 169 | 1,049,190.2160m | 315,635.8539m | 0+840.00 |
| 170 | 1,049,188.2528m | 315,631.2724m | 0+845.00 |
| 171 | 1,049,184.8339m | 315,627.7545m | 0+850.00 |
| 172 | 1,049,182.7152m | 315,623.2416m | 0+855.00 |
| 173 | 1,049,181.7554m | 315,618.3701m | 0+860.00 |
| 174 | 1,049,180.6348m | 315,613.5028m | 0+865.00 |
| 175 | 1,049,180.4489m | 315,608.5512m | 0+870.00 |
| 176 | 1,049,179.0005m | 315,603.7821m | 0+875.00 |
| 177 | 1,049,177.3134m | 315,599.1313m | 0+880.00 |
| 178 | 1,049,174.6258m | 315,594.9537m | 0+885.00 |
| 179 | 1,049,171.4713m | 315,591.1133m | 0+890.00 |
| 180 | 1,049,169.1870m | 315,586.6885m | 0+895.00 |
| 181 | 1,049,167.3204m | 315,582.0500m | 0+900.00 |
| 182 | 1,049,165.6459m | 315,577.3467m | 0+905.00 |
| 183 | 1,049,165.5167m | 315,572.3765m | 0+910.00 |
| 184 | 1,049,167.1824m | 315,567.6920m | 0+915.00 |
| 185 | 1,049,170.4206m | 315,563.9192m | 0+920.00 |
| 186 | 1,049,174.7966m | 315,561.5582m | 0+925.00 |
| 187 | 1,049,179.7244m | 315,560.9522m | 0+930.00 |
| 188 | 1,049,184.6192m | 315,561.9706m | 0+935.00 |
| 189 | 1,049,189.5359m | 315,562.8660m | 0+940.00 |
| 190 | 1,049,194.3203m | 315,564.2894m | 0+945.00 |
| 191 | 1,049,198.9031m | 315,566.2772m | 0+950.00 |
| 192 | 1,049,202.8865m | 315,569.2875m | 0+955.00 |
| 193 | 1,049,206.2091m | 315,573.0013m | 0+960.00 |
| 194 | 1,049,209.5203m | 315,576.7437m | 0+965.00 |
| 195 | 1,049,212.5113m | 315,580.7483m | 0+970.00 |
| 196 | 1,049,215.4430m | 315,584.7986m | 0+975.00 |
| 197 | 1,049,218.3748m | 315,588.8488m | 0+980.00 |
| 198 | 1,049,221.3065m | 315,592.8991m | 0+985.00 |
| 199 | 1,049,224.2383m | 315,596.9494m | 0+990.00 |
| 200 | 1,049,227.1701m | 315,600.9997m | 0+995.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 201 | 1,049,230.1018m | 315,605.0500m | 1+000.00 |
| 202 | 1,049,233.0336m | 315,609.1003m | 1+005.00 |
| 203 | 1,049,235.9653m | 315,613.1505m | 1+010.00 |
| 204 | 1,049,238.8971m | 315,617.2008m | 1+015.00 |
| 205 | 1,049,241.8289m | 315,621.2511m | 1+020.00 |
| 206 | 1,049,244.7606m | 315,625.3014m | 1+025.00 |
| 207 | 1,049,247.7618m | 315,629.2988m | 1+030.00 |
| 208 | 1,049,251.2770m | 315,632.8470m | 1+035.00 |
| 209 | 1,049,255.3104m | 315,635.7930m | 1+040.00 |
| 210 | 1,049,259.7600m | 315,638.0621m | 1+045.00 |
| 211 | 1,049,264.5130m | 315,639.5970m | 1+050.00 |
| 212 | 1,049,269.4019m | 315,640.6393m | 1+055.00 |
| 213 | 1,049,274.3856m | 315,640.9450m | 1+060.00 |
| 214 | 1,049,279.3421m | 315,640.3412m | 1+065.00 |
| 215 | 1,049,284.1066m | 315,638.8480m | 1+070.00 |
| 216 | 1,049,288.5211m | 315,636.5150m | 1+075.00 |
| 217 | 1,049,293.0726m | 315,634.4651m | 1+080.00 |
| 218 | 1,049,297.5387m | 315,632.2442m | 1+085.00 |
| 219 | 1,049,302.2650m | 315,633.0732m | 1+090.00 |
| 220 | 1,049,305.7810m | 315,629.5516m | 1+095.00 |
| 221 | 1,049,308.1801m | 315,625.1682m | 1+100.00 |
| 222 | 1,049,310.1270m | 315,620.5646m | 1+105.00 |
| 223 | 1,049,312.0747m | 315,615.9614m | 1+110.00 |
| 224 | 1,049,316.5368m | 315,614.1930m | 1+115.00 |
| 225 | 1,049,317.8483m | 315,609.5024m | 1+120.00 |
| 226 | 1,049,318.5797m | 315,604.5753m | 1+125.00 |
| 227 | 1,049,318.0929m | 315,599.6126m | 1+130.00 |
| 228 | 1,049,317.6643m | 315,594.6347m | 1+135.00 |
| 229 | 1,049,318.1647m | 315,589.8932m | 1+140.00 |
| 230 | 1,049,319.8603m | 315,585.4935m | 1+145.00 |
| 231 | 1,049,319.3943m | 315,580.5291m | 1+150.00 |
| 232 | 1,049,317.8743m | 315,575.8671m | 1+155.00 |
| 233 | 1,049,315.4407m | 315,571.5094m | 1+160.00 |
| 234 | 1,049,312.9124m | 315,567.2006m | 1+165.00 |
| 235 | 1,049,311.1765m | 315,562.5229m | 1+170.00 |
| 236 | 1,049,307.5132m | 315,560.7483m | 1+175.00 |
| 237 | 1,049,304.0834m | 315,558.6820m | 1+180.00 |
| 238 | 1,049,301.6124m | 315,554.3360m | 1+185.00 |
| 239 | 1,049,299.1802m | 315,549.9737m | 1+190.00 |
| 240 | 1,049,294.6861m | 315,549.7357m | 1+195.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 241 | 1,049,290.9171m | 315,548.2330m | 1+200.00 |
| 242 | 1,049,288.2023m | 315,544.0383m | 1+205.00 |
| 243 | 1,049,285.2813m | 315,539.9880m | 1+210.00 |
| 244 | 1,049,281.6330m | 315,537.3816m | 1+215.00 |
| 245 | 1,049,277.6867m | 315,535.9317m | 1+220.00 |
| 246 | 1,049,277.0869m | 315,531.0289m | 1+225.00 |
| 247 | 1,049,279.8878m | 315,527.0422m | 1+230.00 |
| 248 | 1,049,283.4386m | 315,523.5875m | 1+235.00 |
| 249 | 1,049,288.1423m | 315,522.2425m | 1+240.00 |
| 250 | 1,049,293.1353m | 315,522.2799m | 1+245.00 |
| 251 | 1,049,297.5798m | 315,524.3149m | 1+250.00 |
| 252 | 1,049,300.3724m | 315,528.3152m | 1+255.00 |
| 253 | 1,049,301.4702m | 315,532.8836m | 1+260.00 |
| 254 | 1,049,305.3237m | 315,535.6033m | 1+265.00 |
| 255 | 1,049,308.5136m | 315,539.4322m | 1+270.00 |
| 256 | 1,049,311.0901m | 315,543.6761m | 1+275.00 |
| 257 | 1,049,313.7846m | 315,547.4493m | 1+280.00 |
| 258 | 1,049,316.3462m | 315,551.6993m | 1+285.00 |
| 259 | 1,049,319.2410m | 315,555.7630m | 1+290.00 |
| 260 | 1,049,322.5864m | 315,559.4567m | 1+295.00 |
| 261 | 1,049,324.3962m | 315,564.0810m | 1+300.00 |
| 262 | 1,049,327.9207m | 315,567.4664m | 1+305.00 |
| 263 | 1,049,331.8603m | 315,570.5063m | 1+310.00 |
| 264 | 1,049,336.0632m | 315,573.1938m | 1+315.00 |
| 265 | 1,049,339.8986m | 315,576.2343m | 1+320.00 |
| 266 | 1,049,338.4787m | 315,579.5565m | 1+325.00 |
| 267 | 1,049,341.0190m | 315,583.3554m | 1+330.00 |
| 268 | 1,049,343.9477m | 315,587.0259m | 1+335.00 |
| 269 | 1,049,346.7878m | 315,591.0543m | 1+340.00 |
| 270 | 1,049,348.8374m | 315,595.5945m | 1+345.00 |
| 271 | 1,049,350.1957m | 315,598.7573m | 1+350.00 |
| 272 | 1,049,351.8297m | 315,603.3061m | 1+355.00 |
| 273 | 1,049,356.1165m | 315,604.9293m | 1+360.00 |
| 274 | 1,049,358.1316m | 315,609.3043m | 1+365.00 |
| 275 | 1,049,359.8518m | 315,613.8601m | 1+370.00 |
| 276 | 1,049,363.0860m | 315,617.1623m | 1+375.00 |
| 277 | 1,049,366.3305m | 315,620.8420m | 1+380.00 |
| 278 | 1,049,368.0762m | 315,625.3743m | 1+385.00 |
| 279 | 1,049,371.3676m | 315,628.8769m | 1+390.00 |
| 280 | 1,049,373.7110m | 315,633.2651m | 1+395.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 281 | 1,049,374.3854m | 315,638.0393m | 1+400.00 |
| 282 | 1,049,376.2634m | 315,642.4387m | 1+405.00 |
| 283 | 1,049,380.6464m | 315,641.3365m | 1+410.00 |
| 284 | 1,049,383.5063m | 315,638.8997m | 1+415.00 |
| 285 | 1,049,388.2469m | 315,637.2962m | 1+420.00 |
| 286 | 1,049,393.0486m | 315,635.9529m | 1+425.00 |
| 287 | 1,049,397.6076m | 315,633.9194m | 1+430.00 |
| 288 | 1,049,401.9066m | 315,631.3925m | 1+435.00 |
| 289 | 1,049,405.9956m | 315,628.5182m | 1+440.00 |
| 290 | 1,049,409.7417m | 315,625.2262m | 1+445.00 |
| 291 | 1,049,411.6296m | 315,620.6456m | 1+450.00 |
| 292 | 1,049,410.5886m | 315,615.8930m | 1+455.00 |
| 293 | 1,049,408.8860m | 315,611.2044m | 1+460.00 |
| 294 | 1,049,406.6215m | 315,606.7592m | 1+465.00 |
| 295 | 1,049,404.7016m | 315,602.2206m | 1+470.00 |
| 296 | 1,049,402.7143m | 315,597.6998m | 1+475.00 |
| 297 | 1,049,400.7897m | 315,593.1237m | 1+480.00 |
| 298 | 1,049,398.0335m | 315,589.1074m | 1+485.00 |
| 299 | 1,049,395.3932m | 315,584.9308m | 1+490.00 |
| 300 | 1,049,391.5016m | 315,581.8372m | 1+495.00 |
| 301 | 1,049,386.7451m | 315,580.3903m | 1+500.00 |
| 302 | 1,049,381.7731m | 315,580.2175m | 1+505.00 |
| 303 | 1,049,377.2303m | 315,582.0770m | 1+510.00 |
| 304 | 1,049,373.4404m | 315,585.3308m | 1+515.00 |
| 305 | 1,049,369.5214m | 315,583.5129m | 1+520.00 |
| 306 | 1,049,366.2670m | 315,579.7336m | 1+525.00 |
| 307 | 1,049,364.2582m | 315,575.1775m | 1+530.00 |
| 308 | 1,049,362.6704m | 315,570.4508m | 1+535.00 |
| 309 | 1,049,365.4204m | 315,566.6593m | 1+540.00 |
| 310 | 1,049,364.4128m | 315,562.1082m | 1+545.00 |
| 311 | 1,049,362.8115m | 315,557.3717m | 1+550.00 |
| 312 | 1,049,363.0918m | 315,552.9640m | 1+555.00 |
| 313 | 1,049,363.0580m | 315,548.4549m | 1+560.00 |
| 314 | 1,049,361.4917m | 315,543.7083m | 1+565.00 |
| 315 | 1,049,360.1079m | 315,538.9077m | 1+570.00 |
| 316 | 1,049,358.1103m | 315,534.3280m | 1+575.00 |
| 317 | 1,049,359.9757m | 315,530.3262m | 1+580.00 |
| 318 | 1,049,357.7383m | 315,525.8559m | 1+585.00 |
| 319 | 1,049,355.3183m | 315,521.4809m | 1+590.00 |
| 320 | 1,049,352.8205m | 315,517.1509m | 1+595.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 321 | 1,049,349.3937m | 315,515.4386m | 1+600.00 |
| 322 | 1,049,345.4015m | 315,515.0796m | 1+605.00 |
| 323 | 1,049,342.5952m | 315,510.9679m | 1+610.00 |
| 324 | 1,049,340.0233m | 315,506.6877m | 1+615.00 |
| 325 | 1,049,336.8599m | 315,502.8607m | 1+620.00 |
| 326 | 1,049,333.7488m | 315,499.1134m | 1+625.00 |
| 327 | 1,049,329.2789m | 315,496.9133m | 1+630.00 |
| 328 | 1,049,324.8338m | 315,494.8430m | 1+635.00 |
| 329 | 1,049,320.5398m | 315,493.6091m | 1+640.00 |
| 330 | 1,049,316.0185m | 315,495.1568m | 1+645.00 |
| 331 | 1,049,311.0432m | 315,494.7219m | 1+650.00 |
| 332 | 1,049,306.1614m | 315,493.7119m | 1+655.00 |
| 333 | 1,049,302.3340m | 315,496.2908m | 1+660.00 |
| 334 | 1,049,297.7791m | 315,498.0679m | 1+665.00 |
| 335 | 1,049,292.9930m | 315,499.5097m | 1+670.00 |
| 336 | 1,049,290.3781m | 315,503.4743m | 1+675.00 |
| 337 | 1,049,285.6195m | 315,504.9354m | 1+680.00 |
| 338 | 1,049,281.2948m | 315,507.2670m | 1+685.00 |
| 339 | 1,049,277.9378m | 315,510.9609m | 1+690.00 |
| 340 | 1,049,274.5730m | 315,513.9909m | 1+695.00 |
| 341 | 1,049,270.6106m | 315,516.9715m | 1+700.00 |
| 342 | 1,049,266.6732m | 315,520.0383m | 1+705.00 |
| 343 | 1,049,265.2885m | 315,524.7475m | 1+710.00 |
| 344 | 1,049,263.1421m | 315,529.1077m | 1+715.00 |
| 345 | 1,049,264.3897m | 315,533.7154m | 1+720.00 |
| 346 | 1,049,264.0379m | 315,537.5760m | 1+725.00 |
| 347 | 1,049,264.7266m | 315,542.5162m | 1+730.00 |
| 348 | 1,049,266.0613m | 315,547.3323m | 1+735.00 |
| 349 | 1,049,267.0327m | 315,552.2334m | 1+740.00 |
| 350 | 1,049,267.9850m | 315,557.1390m | 1+745.00 |
| 351 | 1,049,269.5590m | 315,561.8811m | 1+750.00 |
| 352 | 1,049,271.1804m | 315,566.6004m | 1+755.00 |
| 353 | 1,049,272.6900m | 315,571.3664m | 1+760.00 |
| 354 | 1,049,274.3898m | 315,576.0663m | 1+765.00 |
| 355 | 1,049,276.2438m | 315,580.7054m | 1+770.00 |
| 356 | 1,049,278.0737m | 315,585.3580m | 1+775.00 |
| 357 | 1,049,279.6494m | 315,590.1024m | 1+780.00 |
| 358 | 1,049,281.0853m | 315,594.8904m | 1+785.00 |
| 359 | 1,049,282.8595m | 315,599.4519m | 1+790.00 |
| 360 | 1,049,281.5619m | 315,604.1338m | 1+795.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 361 | 1,049,282.1546m | 315,609.0832m | 1+800.00 |
| 362 | 1,049,281.6431m | 315,614.0535m | 1+805.00 |
| 363 | 1,049,282.6824m | 315,617.9338m | 1+810.00 |
| 364 | 1,049,281.9036m | 315,621.7953m | 1+815.00 |
| 365 | 1,049,277.7817m | 315,624.4632m | 1+820.00 |
| 366 | 1,049,275.2417m | 315,621.2520m | 1+825.00 |
| 367 | 1,049,270.7586m | 315,620.0863m | 1+830.00 |
| 368 | 1,049,268.3705m | 315,623.3450m | 1+835.00 |
| 369 | 1,049,263.9823m | 315,623.6583m | 1+840.00 |
| 370 | 1,049,260.0079m | 315,620.8377m | 1+845.00 |
| 371 | 1,049,257.0037m | 315,616.8812m | 1+850.00 |
| 372 | 1,049,255.0068m | 315,612.3052m | 1+855.00 |
| 373 | 1,049,254.3323m | 315,608.4094m | 1+860.00 |
| 374 | 1,049,254.9470m | 315,604.5997m | 1+865.00 |
| 375 | 1,049,252.0088m | 315,600.5695m | 1+870.00 |
| 376 | 1,049,249.3318m | 315,596.3490m | 1+875.00 |
| 377 | 1,049,246.5366m | 315,592.2072m | 1+880.00 |
| 378 | 1,049,243.7515m | 315,588.0660m | 1+885.00 |
| 379 | 1,049,240.6868m | 315,584.1213m | 1+890.00 |
| 380 | 1,049,238.2203m | 315,579.7763m | 1+895.00 |
| 381 | 1,049,235.5181m | 315,575.5718m | 1+900.00 |
| 382 | 1,049,232.4015m | 315,571.6682m | 1+905.00 |
| 383 | 1,049,229.3873m | 315,567.6903m | 1+910.00 |
| 384 | 1,049,227.0449m | 315,563.2769m | 1+915.00 |
| 385 | 1,049,225.2705m | 315,558.6539m | 1+920.00 |
| 386 | 1,049,227.7903m | 315,554.8801m | 1+925.00 |
| 387 | 1,049,226.2832m | 315,550.6259m | 1+930.00 |
| 388 | 1,049,222.8336m | 315,547.0118m | 1+935.00 |
| 389 | 1,049,219.1596m | 315,543.6255m | 1+940.00 |
| 390 | 1,049,214.9380m | 315,540.9783m | 1+945.00 |
| 391 | 1,049,210.2398m | 315,539.3048m | 1+950.00 |
| 392 | 1,049,205.7920m | 315,539.9885m | 1+955.00 |
| 393 | 1,049,201.2578m | 315,540.5147m | 1+960.00 |
| 394 | 1,049,196.2759m | 315,540.3893m | 1+965.00 |
| 395 | 1,049,191.2841m | 315,540.3939m | 1+970.00 |
| 396 | 1,049,186.3079m | 315,540.5444m | 1+975.00 |
| 397 | 1,049,181.3377m | 315,541.0462m | 1+980.00 |
| 398 | 1,049,179.2779m | 315,544.9732m | 1+985.00 |
| 399 | 1,049,174.5770m | 315,546.2456m | 1+990.00 |
| 400 | 1,049,170.1615m | 315,548.5883m | 1+995.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 401 | 1,049,166.0824m | 315,551.4606m | 2+000.00 |
| 402 | 1,049,161.9725m | 315,554.2951m | 2+005.00 |
| 403 | 1,049,158.4696m | 315,557.8524m | 2+010.00 |
| 404 | 1,049,155.6990m | 315,562.0057m | 2+015.00 |
| 405 | 1,049,153.7598m | 315,566.6062m | 2+020.00 |
| 406 | 1,049,152.7215m | 315,571.4896m | 2+025.00 |
| 407 | 1,049,152.6210m | 315,576.4811m | 2+030.00 |
| 408 | 1,049,153.4621m | 315,581.4023m | 2+035.00 |
| 409 | 1,049,155.1539m | 315,586.1032m | 2+040.00 |
| 410 | 1,049,157.0206m | 315,590.7417m | 2+045.00 |
| 411 | 1,049,158.8872m | 315,595.3802m | 2+050.00 |
| 412 | 1,049,160.7539m | 315,600.0187m | 2+055.00 |
| 413 | 1,049,162.6205m | 315,604.6572m | 2+060.00 |
| 414 | 1,049,164.4872m | 315,609.2957m | 2+065.00 |
| 415 | 1,049,166.3538m | 315,613.9342m | 2+070.00 |
| 416 | 1,049,168.2205m | 315,618.5726m | 2+075.00 |
| 417 | 1,049,170.0871m | 315,623.2111m | 2+080.00 |
| 418 | 1,049,171.9538m | 315,627.8496m | 2+085.00 |
| 419 | 1,049,173.8204m | 315,632.4881m | 2+090.00 |
| 420 | 1,049,175.6871m | 315,637.1266m | 2+095.00 |
| 421 | 1,049,177.5537m | 315,641.7651m | 2+100.00 |
| 422 | 1,049,179.4204m | 315,646.4036m | 2+105.00 |
| 423 | 1,049,181.2871m | 315,651.0421m | 2+110.00 |
| 424 | 1,049,183.1537m | 315,655.6806m | 2+115.00 |
| 425 | 1,049,185.0204m | 315,660.3191m | 2+120.00 |
| 426 | 1,049,186.8870m | 315,664.9576m | 2+125.00 |
| 427 | 1,049,188.7537m | 315,669.5961m | 2+130.00 |
| 428 | 1,049,190.6203m | 315,674.2346m | 2+135.00 |
| 429 | 1,049,192.4870m | 315,678.8730m | 2+140.00 |
| 430 | 1,049,189.5362m | 315,678.2308m | 2+145.00 |
| 431 | 1,049,185.0664m | 315,675.9902m | 2+150.00 |
| 432 | 1,049,180.5724m | 315,673.7984m | 2+155.00 |
| 433 | 1,049,176.0548m | 315,671.6558m | 2+160.00 |
| 434 | 1,049,171.5141m | 315,669.5625m | 2+165.00 |
| 435 | 1,049,166.9517m | 315,667.5171m | 2+170.00 |
| 436 | 1,049,162.3833m | 315,665.4847m | 2+175.00 |
| 437 | 1,049,157.8150m | 315,663.4524m | 2+180.00 |
| 438 | 1,049,153.2467m | 315,661.4200m | 2+185.00 |
| 439 | 1,049,148.6784m | 315,659.3877m | 2+190.00 |
| 440 | 1,049,144.7420m | 315,659.0002m | 2+195.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 441 | 1,049,142.7097m | 315,663.5686m | 2+200.00 |
| 442 | 1,049,140.6773m | 315,668.1369m | 2+205.00 |
| 443 | 1,049,143.1942m | 315,670.9574m | 2+210.00 |
| 444 | 1,049,147.7625m | 315,672.9898m | 2+215.00 |
| 445 | 1,049,152.3308m | 315,675.0221m | 2+220.00 |
| 446 | 1,049,156.8991m | 315,677.0544m | 2+225.00 |
| 447 | 1,049,161.4674m | 315,679.0868m | 2+230.00 |
| 448 | 1,049,166.0307m | 315,681.1304m | 2+235.00 |
| 449 | 1,049,170.5721m | 315,683.2223m | 2+240.00 |
| 450 | 1,049,175.0897m | 315,685.3649m | 2+245.00 |
| 451 | 1,049,179.5829m | 315,687.5581m | 2+250.00 |
| 452 | 1,049,184.0513m | 315,689.8016m | 2+255.00 |
| 453 | 1,049,188.4943m | 315,692.0951m | 2+260.00 |
| 454 | 1,049,192.9112m | 315,694.4383m | 2+265.00 |
| 455 | 1,049,197.3016m | 315,696.8309m | 2+270.00 |
| 456 | 1,049,201.6648m | 315,699.2726m | 2+275.00 |
| 457 | 1,049,206.0103m | 315,701.7458m | 2+280.00 |
| 458 | 1,049,210.3554m | 315,704.2196m | 2+285.00 |
| 459 | 1,049,214.7006m | 315,706.6934m | 2+290.00 |
| 460 | 1,049,219.0457m | 315,709.1672m | 2+295.00 |
| 461 | 1,049,223.3909m | 315,711.6410m | 2+300.00 |
| 462 | 1,049,227.7360m | 315,714.1148m | 2+305.00 |
| 463 | 1,049,232.0812m | 315,716.5886m | 2+310.00 |
| 464 | 1,049,236.4263m | 315,719.0624m | 2+315.00 |
| 465 | 1,049,240.7715m | 315,721.5362m | 2+320.00 |
| 466 | 1,049,245.1166m | 315,724.0100m | 2+325.00 |
| 467 | 1,049,249.4618m | 315,726.4838m | 2+330.00 |
| 468 | 1,049,253.8069m | 315,728.9576m | 2+335.00 |
| 469 | 1,049,258.1520m | 315,731.4314m | 2+340.00 |
| 470 | 1,049,262.4972m | 315,733.9052m | 2+345.00 |
| 471 | 1,049,266.8423m | 315,736.3790m | 2+350.00 |
| 472 | 1,049,271.1875m | 315,738.8528m | 2+355.00 |
| 473 | 1,049,275.5326m | 315,741.3266m | 2+360.00 |
| 474 | 1,049,279.8778m | 315,743.8004m | 2+365.00 |
| 475 | 1,049,284.2229m | 315,746.2742m | 2+370.00 |
| 476 | 1,049,288.5681m | 315,748.7480m | 2+375.00 |
| 477 | 1,049,292.9132m | 315,751.2218m | 2+380.00 |
| 478 | 1,049,297.2584m | 315,753.6956m | 2+385.00 |
| 479 | 1,049,301.5841m | 315,756.2031m | 2+390.00 |
| 480 | 1,049,305.8520m | 315,758.8076m | 2+395.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 481 | 1,049,310.0592m | 315,761.5092m | 2+400.00 |
| 482 | 1,049,314.2033m | 315,764.3066m | 2+405.00 |
| 483 | 1,049,318.2822m | 315,767.1982m | 2+410.00 |
| 484 | 1,049,322.3062m | 315,770.1659m | 2+415.00 |
| 485 | 1,049,326.3248m | 315,773.1409m | 2+420.00 |
| 486 | 1,049,330.3434m | 315,776.1160m | 2+425.00 |
| 487 | 1,049,334.3620m | 315,779.0910m | 2+430.00 |
| 488 | 1,049,338.3806m | 315,782.0661m | 2+435.00 |
| 489 | 1,049,342.4013m | 315,785.0382m | 2+440.00 |
| 490 | 1,049,346.6063m | 315,787.7389m | 2+445.00 |
| 491 | 1,049,351.0769m | 315,789.9727m | 2+450.00 |
| 492 | 1,049,355.7615m | 315,791.7136m | 2+455.00 |
| 493 | 1,049,360.6058m | 315,792.9418m | 2+460.00 |
| 494 | 1,049,365.5540m | 315,793.6428m | 2+465.00 |
| 495 | 1,049,370.4158m | 315,794.1582m | 2+470.00 |
| 496 | 1,049,374.5595m | 315,796.7742m | 2+475.00 |
| 497 | 1,049,377.0747m | 315,800.2529m | 2+480.00 |
| 498 | 1,049,378.7693m | 315,798.3620m | 2+485.00 |
| 499 | 1,049,381.9990m | 315,796.0111m | 2+490.00 |
| 500 | 1,049,386.9296m | 315,795.2889m | 2+495.00 |
| 501 | 1,049,391.6590m | 315,793.8860m | 2+500.00 |
| 502 | 1,049,396.1929m | 315,792.2882m | 2+505.00 |
| 503 | 1,049,400.3648m | 315,790.4834m | 2+510.00 |
| 504 | 1,049,404.9045m | 315,791.6458m | 2+515.00 |
| 505 | 1,049,409.5644m | 315,792.6777m | 2+520.00 |
| 506 | 1,049,414.4487m | 315,792.6926m | 2+525.00 |
| 507 | 1,049,418.8860m | 315,794.2538m | 2+530.00 |
| 508 | 1,049,423.5861m | 315,795.3863m | 2+535.00 |
| 509 | 1,049,428.0884m | 315,797.3160m | 2+540.00 |
| 510 | 1,049,432.1749m | 315,800.1929m | 2+545.00 |
| 511 | 1,049,435.9279m | 315,803.4930m | 2+550.00 |
| 512 | 1,049,439.3045m | 315,807.1774m | 2+555.00 |
| 513 | 1,049,442.5037m | 315,811.0199m | 2+560.00 |
| 514 | 1,049,445.7030m | 315,814.8624m | 2+565.00 |
| 515 | 1,049,448.9022m | 315,818.7049m | 2+570.00 |
| 516 | 1,049,452.1015m | 315,822.5474m | 2+575.00 |
| 517 | 1,049,455.4610m | 315,826.2482m | 2+580.00 |
| 518 | 1,049,459.1441m | 315,829.6272m | 2+585.00 |
| 519 | 1,049,463.1202m | 315,832.6560m | 2+590.00 |
| 520 | 1,049,467.3561m | 315,835.3092m | 2+595.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 521 | 1,049,471.8165m | 315,837.5648m | 2+600.00 |
| 522 | 1,049,476.4641m | 315,839.4039m | 2+605.00 |
| 523 | 1,049,481.2601m | 315,840.8112m | 2+610.00 |
| 524 | 1,049,486.1646m | 315,841.7750m | 2+615.00 |
| 525 | 1,049,491.1365m | 315,842.2871m | 2+620.00 |
| 526 | 1,049,496.1349m | 315,842.3742m | 2+625.00 |
| 527 | 1,049,501.1349m | 315,842.3701m | 2+630.00 |
| 528 | 1,049,506.1349m | 315,842.3660m | 2+635.00 |
| 529 | 1,049,511.1349m | 315,842.3618m | 2+640.00 |
| 530 | 1,049,516.1349m | 315,842.3577m | 2+645.00 |
| 531 | 1,049,521.1348m | 315,842.3536m | 2+650.00 |
| 532 | 1,049,526.1348m | 315,842.3494m | 2+655.00 |
| 533 | 1,049,531.1348m | 315,842.3453m | 2+660.00 |
| 534 | 1,049,536.1344m | 315,842.3804m | 2+665.00 |
| 535 | 1,049,541.1223m | 315,842.7135m | 2+670.00 |
| 536 | 1,049,546.0753m | 315,843.3903m | 2+675.00 |
| 537 | 1,049,550.9697m | 315,844.4077m | 2+680.00 |
| 538 | 1,049,555.7821m | 315,845.7608m | 2+685.00 |
| 539 | 1,049,560.4895m | 315,847.4431m | 2+690.00 |
| 540 | 1,049,565.0695m | 315,849.4467m | 2+695.00 |
| 541 | 1,049,569.5001m | 315,851.7618m | 2+700.00 |
| 542 | 1,049,573.7601m | 315,854.3775m | 2+705.00 |
| 543 | 1,049,577.8293m | 315,857.2812m | 2+710.00 |
| 544 | 1,049,581.6896m | 315,860.4575m | 2+715.00 |
| 545 | 1,049,585.4584m | 315,863.7432m | 2+720.00 |
| 546 | 1,049,589.1220m | 315,867.1453m | 2+725.00 |
| 547 | 1,049,592.6324m | 315,870.7052m | 2+730.00 |
| 548 | 1,049,596.0234m | 315,874.3796m | 2+735.00 |
| 549 | 1,049,599.4073m | 315,878.0605m | 2+740.00 |
| 550 | 1,049,602.7913m | 315,881.7414m | 2+745.00 |
| 551 | 1,049,606.1752m | 315,885.4222m | 2+750.00 |
| 552 | 1,049,609.5678m | 315,889.0952m | 2+755.00 |
| 553 | 1,049,613.0410m | 315,892.6917m | 2+760.00 |
| 554 | 1,049,616.6091m | 315,896.1942m | 2+765.00 |
| 555 | 1,049,620.2696m | 315,899.5999m | 2+770.00 |
| 556 | 1,049,624.0086m | 315,902.9195m | 2+775.00 |
| 557 | 1,049,627.7583m | 315,906.2270m | 2+780.00 |
| 558 | 1,049,631.5080m | 315,909.5345m | 2+785.00 |
| 559 | 1,049,635.2578m | 315,912.8420m | 2+790.00 |
| 560 | 1,049,639.0075m | 315,916.1495m | 2+795.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 561 | 1,049,642.7572m | 315,919.4570m | 2+800.00 |
| 562 | 1,049,646.3936m | 315,922.8858m | 2+805.00 |
| 563 | 1,049,649.6369m | 315,926.6878m | 2+810.00 |
| 564 | 1,049,652.4374m | 315,930.8268m | 2+815.00 |
| 565 | 1,049,654.7604m | 315,935.2515m | 2+820.00 |
| 566 | 1,049,656.5772m | 315,939.9070m | 2+825.00 |
| 567 | 1,049,657.8651m | 315,944.7355m | 2+830.00 |
| 568 | 1,049,658.6131m | 315,949.6769m | 2+835.00 |
| 569 | 1,049,659.1530m | 315,954.6477m | 2+840.00 |
| 570 | 1,049,659.6930m | 315,959.6184m | 2+845.00 |
| 571 | 1,049,660.2329m | 315,964.5892m | 2+850.00 |
| 572 | 1,049,660.7728m | 315,969.5599m | 2+855.00 |
| 573 | 1,049,661.3127m | 315,974.5307m | 2+860.00 |
| 574 | 1,049,661.8527m | 315,979.5015m | 2+865.00 |
| 575 | 1,049,662.3926m | 315,984.4722m | 2+870.00 |
| 576 | 1,049,662.9325m | 315,989.4430m | 2+875.00 |
| 577 | 1,049,663.4725m | 315,994.4138m | 2+880.00 |
| 578 | 1,049,664.0124m | 315,999.3845m | 2+885.00 |
| 579 | 1,049,664.5452m | 316,004.3560m | 2+890.00 |
| 580 | 1,049,665.0117m | 316,009.3342m | 2+895.00 |
| 581 | 1,049,665.3983m | 316,014.3192m | 2+900.00 |
| 582 | 1,049,665.7049m | 316,019.3097m | 2+905.00 |
| 583 | 1,049,665.9316m | 316,024.3045m | 2+910.00 |
| 584 | 1,049,666.0782m | 316,029.3023m | 2+915.00 |
| 585 | 1,049,666.1596m | 316,034.3016m | 2+920.00 |
| 586 | 1,049,666.1844m | 316,039.3013m | 2+925.00 |
| 587 | 1,049,666.0077m | 316,044.2978m | 2+930.00 |
| 588 | 1,049,665.6198m | 316,049.2824m | 2+935.00 |
| 589 | 1,049,665.0213m | 316,054.2461m | 2+940.00 |
| 590 | 1,049,664.2134m | 316,059.1800m | 2+945.00 |
| 591 | 1,049,663.1975m | 316,064.0753m | 2+950.00 |
| 592 | 1,049,661.9753m | 316,068.9233m | 2+955.00 |
| 593 | 1,049,660.5976m | 316,073.7296m | 2+960.00 |
| 594 | 1,049,659.2101m | 316,078.5333m | 2+965.00 |
| 595 | 1,049,658.0341m | 316,083.3889m | 2+970.00 |
| 596 | 1,049,657.6443m | 316,088.3680m | 2+975.00 |
| 597 | 1,049,658.0812m | 316,093.3431m | 2+980.00 |
| 598 | 1,049,659.3329m | 316,098.1780m | 2+985.00 |
| 599 | 1,049,661.3650m | 316,102.7401m | 2+990.00 |
| 600 | 1,049,664.1219m | 316,106.9045m | 2+995.00 |

| PTOP | NORTE | ESTE | ESTACION |
|---|---|---|---|
| 601 | 1,049,667.5281m | 316,110.5571m | 3+000.00 |
| 602 | 1,049,671.4901m | 316,113.5976m | 3+005.00 |
| 603 | 1,049,675.8995m | 316,115.9429m | 3+010.00 |
| 604 | 1,049,680.6353m | 316,117.5287m | 3+015.00 |
| 605 | 1,049,685.5523m | 316,118.4274m | 3+020.00 |
| 606 | 1,049,690.4864m | 316,119.2367m | 3+025.00 |
| 607 | 1,049,695.4205m | 316,120.0461m | 3+030.00 |
| 608 | 1,049,700.3524m | 316,120.8682m | 3+035.00 |
| 609 | 1,049,705.2544m | 316,121.8514m | 3+040.00 |
| 610 | 1,049,710.1114m | 316,123.0369m | 3+045.00 |
| 611 | 1,049,714.9152m | 316,124.4225m | 3+050.00 |
| 612 | 1,049,719.6913m | 316,125.9021m | 3+055.00 |
| 613 | 1,049,724.4674m | 316,127.3817m | 3+060.00 |
| 614 | 1,049,729.2434m | 316,128.8613m | 3+065.00 |
| 615 | 1,049,734.0195m | 316,130.3409m | 3+070.00 |
| 616 | 1,049,737.8114m | 316,131.5156m | 3+073.97 |

**Cuadro N° 6. Coordenadas de la línea eléctrica hacia la Planta Potabilizadora en Sibubé = 1893 mts**.

| Número de Poste | Coordenadas | |
|---|---|---|
| | N | E |
| PN01 | 1061611.72 | 299879.03 |
| PN02 | 1061597.86 | 299791.71 |
| PN03 | 1061557.07 | 299722.03 |
| PN04 | 1061512.53 | 299655.56 |
| PN05 | 1061459.17 | 299576.44 |
| PN06 | 1061407.19 | 299498.63 |
| PN07 | 1061360.52 | 299428.86 |
| PN08 | 1061318.55 | 299375.20 |
| PN09 | 1061232.80 | 299334.56 |
| PN10 | 1061145.14 | 299325.25 |
| PN11 | 1061062.75 | 299317.39 |
| PN12 | 1060992.33 | 299310.25 |
| PN13 | 1060916.79 | 299302.60 |
| PN14 | 1060832.73 | 299293.43 |
| PN15 | 1060741.29 | 299284.61 |
| PN16 | 1060657.52 | 299274.99 |
| PN17 | 1060567.74 | 299279.40 |
| PN18 | 1060562.51 | 299233.92 |
| PN19 | 1060581.75 | 299198.02 |
| PN20 | 1060600.74 | 299106.51 |
| PN21 | 1060628.28 | 299016.09 |
| PN22 | 1060688.29 | 298953.93 |
| PN23 | 1060729.73 | 298888.83 |
| PN24 | 1060747.24 | 298862.85 |
| PN25 | 1060746.96 | 298840.59 |
| PN26 | 1060720.73 | 298806.97 |

b) **Aclarar si la línea eléctrica desde el punto de suministro hasta el proyecto forma parte del alcance del proyecto y en caso de formar parte:**

b.1 Incluir las coordenadas en el punto (a) y presentar los registros de propiedad emitido por registro público de los sitios a intervenir, autorizaciones para el uso del terreno y copia de cédula de los propietarios, ambos documentos debidamente notariados, y en caso de que el dueño sea persona jurídica, presentar registro de la

empresa y copia de cédula notariada del representante legal.

**Respuesta:** La línea eléctrica a utilizarse en el proyecto forma parte del alcance del mismo y se ubica dentro de la servidumbre de calle. **Ver Anexo N°1. Nota 14.1003.922-2024 – Servidumbre.**

Para los predios que se adquirirán nuevas servidumbres, se han aportados las autorizaciones, certificados de propiedad, en las anuencias del Estudio de impacto ambiental presentado. No se requiere incluir nuevas servidumbres para llevar a cabo esta actividad.

**Cuadro N° 7. Coordenadas de la línea eléctrica hacia la Planta Potabilizadora en Sibubé**

| Número de Poste | Coordenadas | |
|---|---|---|
| | N | E |
| PN01 | 1061611.72 | 299879.03 |
| PN02 | 1061597.86 | 299791.71 |
| PN03 | 1061557.07 | 299722.03 |
| PN04 | 1061512.53 | 299655.56 |
| PN05 | 1061459.17 | 299576.44 |
| PN06 | 1061407.19 | 299498.63 |
| PN07 | 1061360.52 | 299428.86 |
| PN08 | 1061318.55 | 299375.20 |
| PN09 | 1061232.80 | 299334.56 |
| PN10 | 1061145.14 | 299325.25 |
| PN11 | 1061062.75 | 299317.39 |
| PN12 | 1060992.33 | 299310.25 |
| PN13 | 1060916.79 | 299302.60 |
| PN14 | 1060832.73 | 299293.43 |
| PN15 | 1060741.29 | 299284.61 |
| PN16 | 1060657.52 | 299274.99 |

| | | |
|---|---|---|
| PN17 | 1060567.74 | 299279.40 |
| PN18 | 1060562.51 | 299233.92 |
| PN19 | 1060581.75 | 299198.02 |
| PN20 | 1060600.74 | 299106.51 |
| PN21 | 1060628.28 | 299016.09 |
| PN22 | 1060688.29 | 298953.93 |
| PN23 | 1060729.73 | 298888.83 |
| PN24 | 1060747.24 | 298862.85 |
| PN25 | 1060746.96 | 298840.59 |
| PN26 | 1060720.73 | 298806.97 |

**Imagen 1. Planos de la línea eléctrica hacia la Planta Potabilizadora Sibube.**

PROYECTO

**LÍNEA ELÉCTRICA HACIA LA PLANTA POTABILIZADORA EN SIBUBÉ**

INSTITUTO DE ACUEDUCTOS Y ALCANTARILLADOS NACIONALES

PROYECTO : "ESTUDIO, DISEÑO Y CONSTRUCCIÓN, OPERACIÓN, MANTENIMIENTO Y FINANCIAMIENTO DEL NUEVO SISTEMA DE AGUA POTABLE PARA LAS COMUNIDADES DE LAS TABLAS, LA MESA, GUABITO, DISTRITO DE CHANGUINOLA"

UBICACIÓN : EN LA CARRETERA A SIN/STRE./SIBUBÉ CORREGIMIENTO DE LAS DELICIAS, DISTRITO DE CHANGUINOLA PROVINCIA DE BOCAS DEL TORO, PANAMÁ.

ELECTRICIDAD : ING. BOSCO MENDOZA

INFRAESTRUCTURA :

MECANICA

ARQUITECTURA :

ELECTRONICA :

FONTANERIA :

DESCRIPCIÓN :

FIRMA DE DISEÑADOR DE MEDIA TENSIÓN

IDAAN

CONSORCIO LAS TABLAS

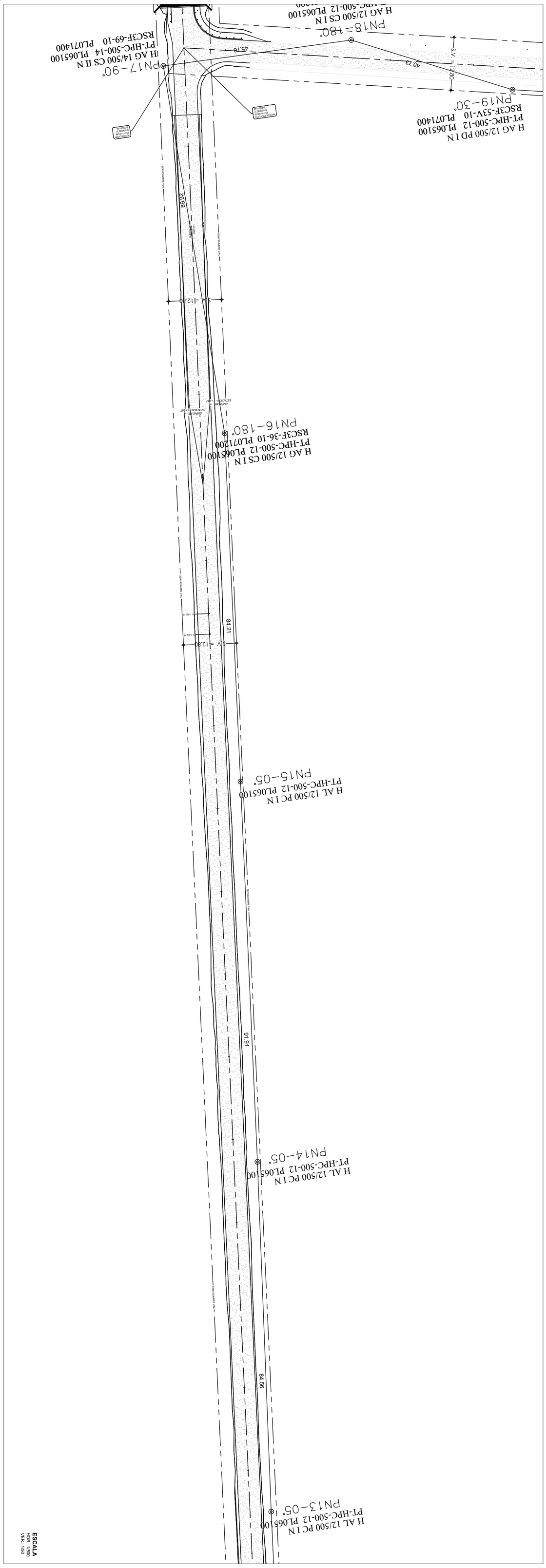
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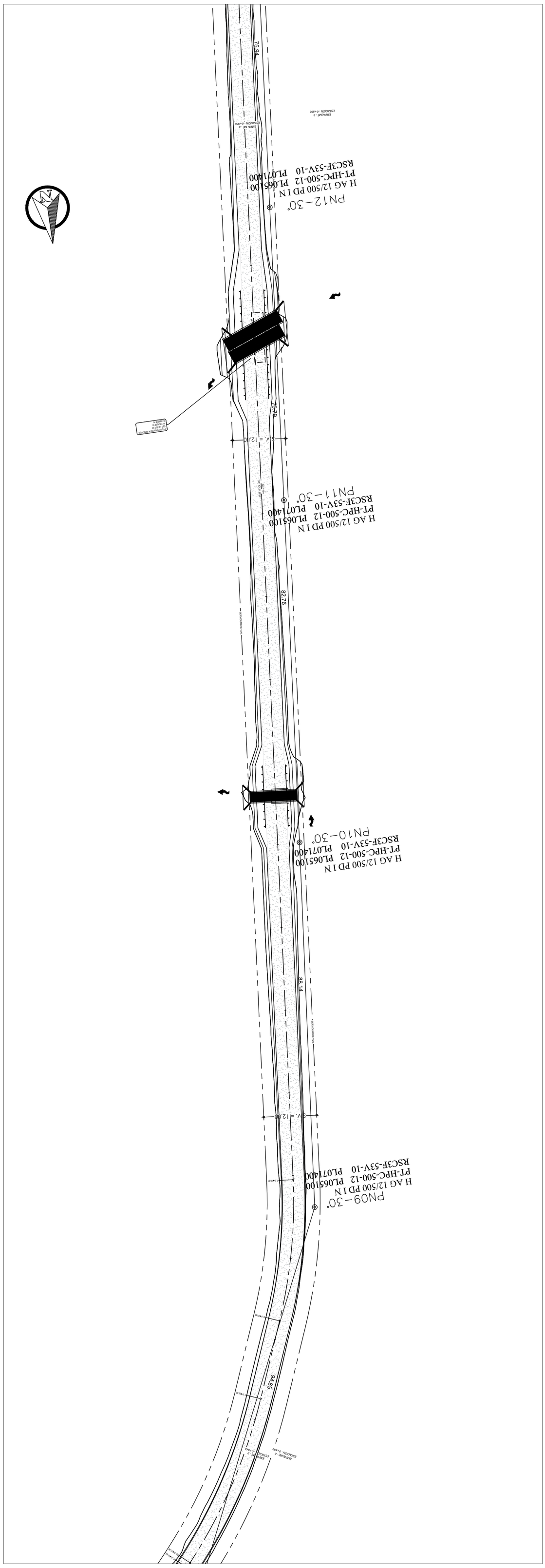
DIBUJO : BOSCORE S.A.

DESARROLLO : CUSA

No. DE HOJA :

TOTAL : DE




IDAAN

CONSORCIO LAS TABLAS

**LÍNEA ELÉCTRICA HACIA LA PLANTA POTABILIZADORA EN SIBUBÉ**

INSTITUTO DE ACUEDUCTOS Y ALCANTARILLADOS NACIONALES

PROYECTO : "ESTUDIO, DISEÑO Y CONSTRUCCIÓN, OPERACIÓN - MANTENIMIENTO Y FINANCIAMIENTO DEL NUEVO SISTEMA DE AGUA POTABLE PARA LAS COMUNIDADES DE LAS TABLAS, LA MESA, GUABITO, DISTRITO DE CHANGUINOLA"

UBICACION : EN LA CARRETERA A SINOSTRE-SIBUBÉ CORREGIMIENTO DE LAS DELICIAS,DISTRITO DE CHANGUINOLA PROVINCIA DE BOCAS DEL TORO, PANAMÁ.

| | | |
|---|---|---|
| ARQUITECTURA : | INFRAESTRUCTURA : | ELECTRICIDAD : ING. BOSCO MENDOZA |
| ELECTRONICA : | FONTANERIA : | MECANICA |

FECHA :

DIBUJO : BOSCORE S.A.

DESARROLLO : CUSA

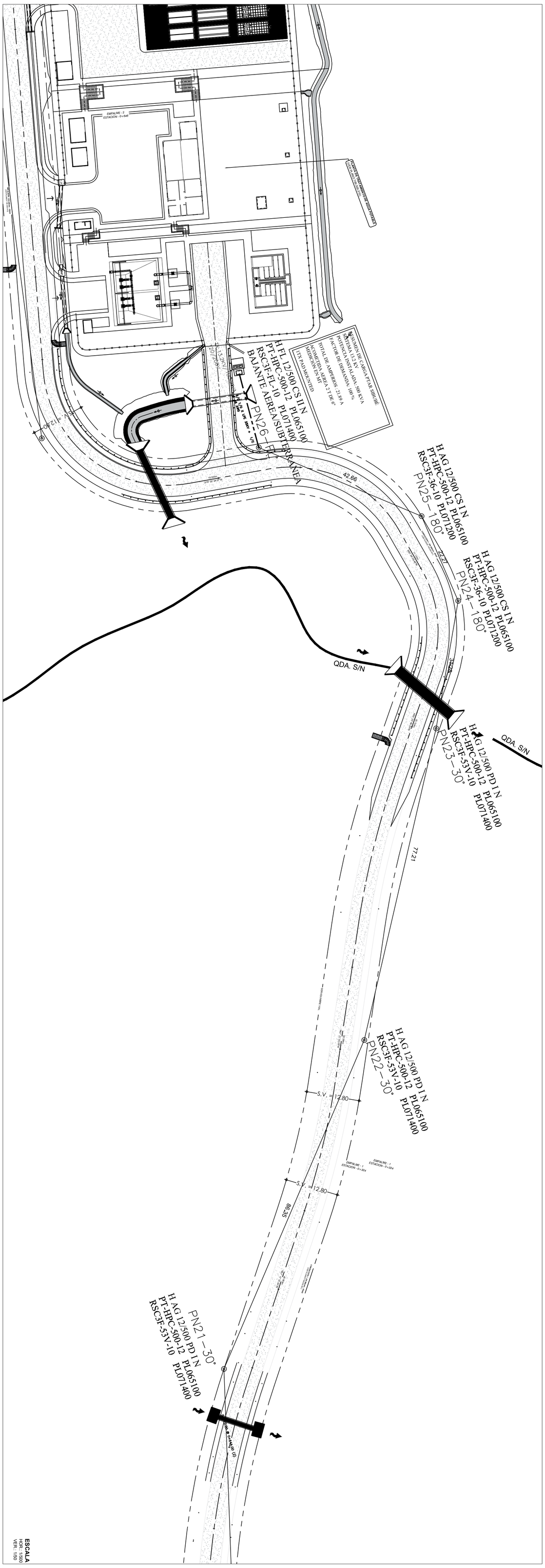
No. DE HOJA :

TOTAL : DE

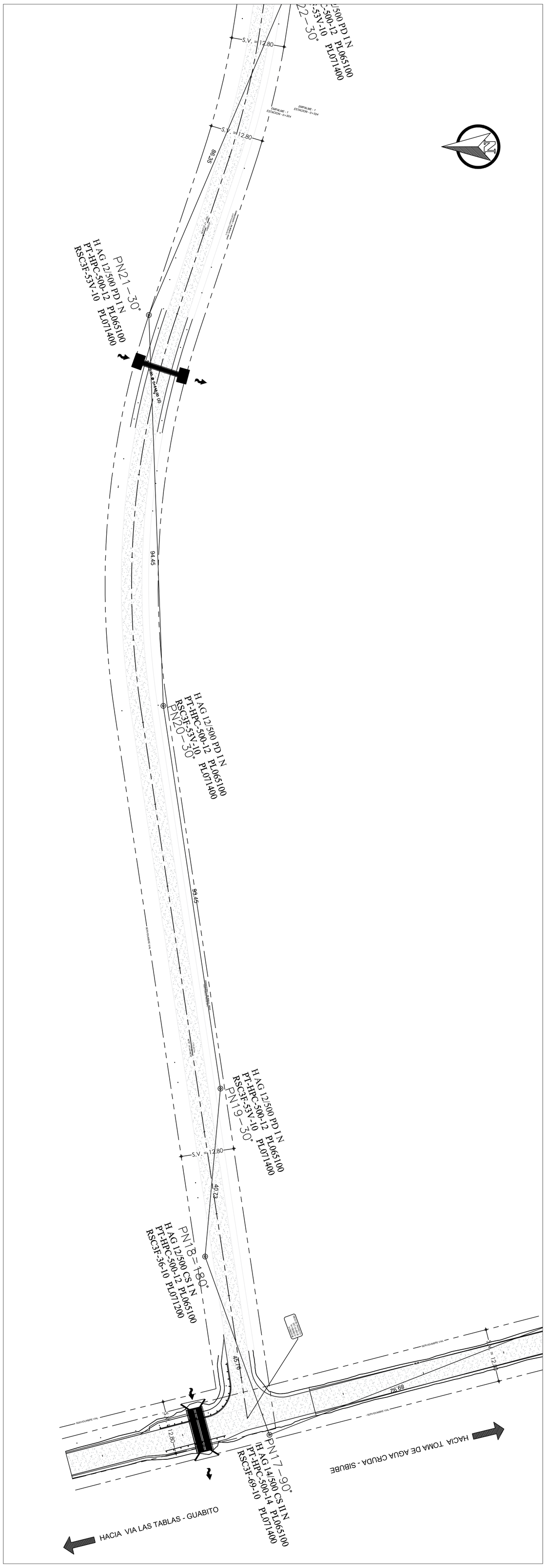
DESCRIPCIÓN :

FIRMA DE DISEÑADOR DE MEDIA TENSIÓN

PROYECTO




HACIA PTAP - SIBUBE




**IDAAN**

CONSORCIO LAS TABLAS

# LÍNEA ELÉCTRICA HACIA LA PLANTA POTABILIZADORA EN SIBUBÉ

INSTITUTO DE ACUEDUCTOS Y ALCANTARILLADOS NACIONALES

PROYECTO : "ESTUDIO, DISEÑO Y CONSTRUCCIÓN, OPERACIÓN - MANTENIMIENTO Y FINANCIAMIENTO DEL NUEVO SISTEMA DE AGUA POTABLE PARA LAS COMUNIDADES DE LAS TABLAS, LA MESA, GUABITO, DISTRITO DE CHANGUINOLA"

UBICACION : EN LA CARRETERA A SINOSTRE-SIBUBÉ CORREGIMIENTO DE LAS DELICIAS,DISTRITO DE CHANGUINOLA PROVINCIA DE BOCAS DEL TORO, PANAMÁ.

| | | |
|---|---|---|
| ARQUITECTURA : | INFRAESTRUCTURA : | ELECTRICIDAD : ING. BOSCO MENDOZA |
| ELECTRONICA : | FONTANERIA : | MECANICA |

FECHA :

DIBUJO : BOSCORE S.A.

DESARRROLLO : CUSA

No. DE HOJA :

TOTAL : DE

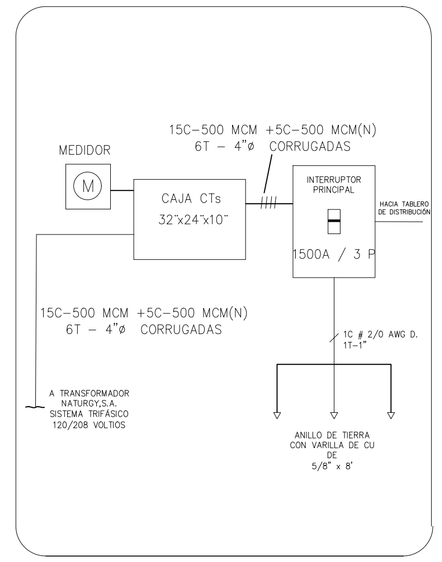
DESCRIPCIÓN :

FIRMA DE DISEÑADOR DE MEDIA TENSIÓN

PROYECTO




| RESUMEN DE CARGAS | |
|---|---|
| CARGA TOTAL INSTALADA | 500,000 VA |
| FASE A | 160,000 VA |
| FASE B | 160,000 VA |
| FASE C | 160,000 VA |
| CARGA TRIFÁSICA | 480,000 VA |
| CARGA MONOFÁSICA | 0 VA |
| INTERRUPTOR PRINCIPAL | 1500 A, 3POLOS, 208V |
| ATERRIZAJE | 1C # 2 AWG CU – VARILLA 5/8" X 8' |
| SERVICIO SOLICITADO | 120/208V, 3F, 4H |
| ACOMETIDA | 15/C #500 MCM AL + 5/C #500 MCM AL, 6T–4" CORR. |
| ALIMENTADOR | MCM 4/0, 6T–4 |




NOTA:

– ESTOS PLANOS FUERON CONFECCIONADOS APEGANDOSE ESTRICTAMENTE A LOS PROYECTOS TIPO MT Y BT DE LA EMPRESA NATURGY S.A.

NOTAS

– LA INTERCONEXION DEL PROYECTO SERA EJECUTADA Y COORDINADA POR NATURGY S.A.

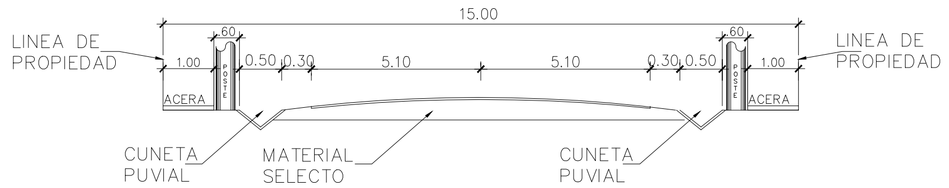
– LOS APOYOS Y SUS RETENIDAS ESTARAN UBICADAS EN LA SERVIDUMBRE PUBLICA Y EN LOS LIMITES DE PROPIEDAD ENTRE FINCAS

NOTA

– LA DISTANCIA DE VANOS ENTRE POSTES ESTA DIRECTAMENTE RELACIONADA POR EL TIPO DE RELIEVE DEL AREA ESTO APLICA PARA VANOS DE MAS DE 80 mts.

NOTA

– LAS RETINADAS DE LOS POSTES LLEVARAN AISLADOR PARA RETENIDAS DE ACUERDO CON EL CALIBRE DEL CABLE DE ACERO.




DERECHO DE VIA – 15.00 m

NOTA

– LOS VANOS QUE SEN DE MAS DE 50 mts ESTAN SUJETOS A ZONAS METEREOLOGICAS, LOS POSTES NO PUEDEN ESTAR LOCALIZADOS VERTICALMENTE A LOS 50 mts.

HPC–500–12m**24 postes

HPC–500–14m**2 postes

Pararrayo 15 kv**2 Pararrayo

Línea de MT 3F a extender 1/0**1.89Kmt

Línea subterranea 4/0**31mt

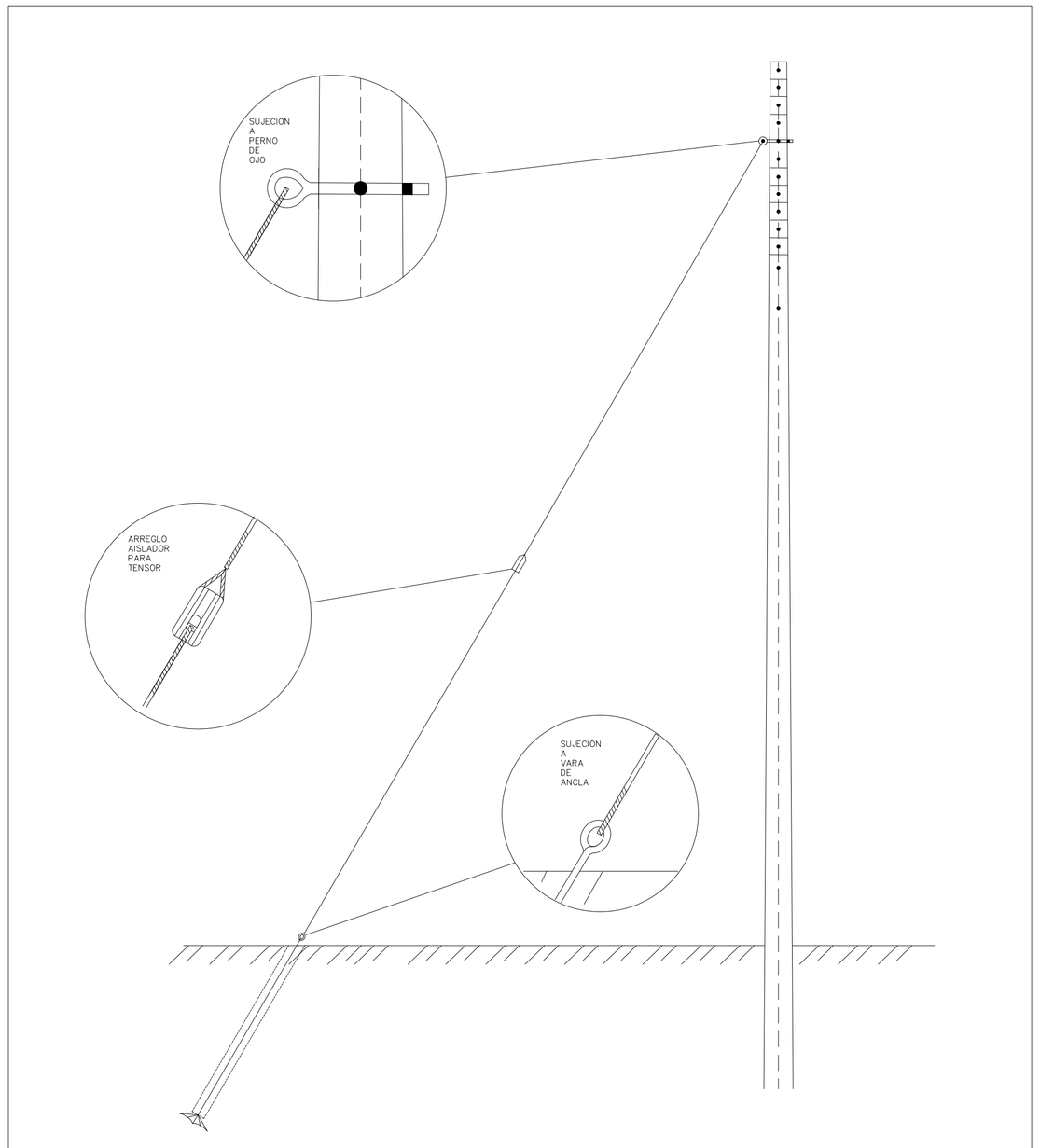
NOTAS:
LOS PLANOS FUERON CONFECCIONADOS APEGANDOSE ESTRICTAMENTE A LOS PROYECTOS TIPO MT Y BT DE NATURGY, EDEMET-EDECHI,S.A.

ESTE PROYECTO SERA CONSTRUIDO POR PERSONAL IDÓNEO DE ACUERDO A LO ESTIPULADO EN LA RESOLUCIÓN Nº 114 DE LA JUNTA TÉCNICA DE INGENIERÍA Y ARQUITECTURA DEL 27 DE NOVIEMBRE DE 1974 Y CONFORME A LOS REGLAMENTOS Y NORMAS DE LA OFICINA DE SEGURIDAD Y DE LA EMPRESA DISTRIBUIDORA EDECHI,S.A.

EDECHI,S.A. REALIZARÁ LA INTERCONEXIÓN ENTRE LA LMTT Y EL POSTE PE1.
EDECHI,S.A INFORMA SI ES NECESARIO EL FUSIBLE LIMITADOR EN EL TRANSFORMADOR.
EL MEDIDOR Y EL INTERRUPTOR PRINCIPAL SERAN INSTALADOS EN EL LIMITE DE PROPIEDAD AMBOS FRONTALMENTE Y ORIENTADOS HACIA LA VIA PUBLICA A UNA ALTURA QUE OSCILA ENTRE 1.65 A 2.10 METROS DEL NIVEL DE SUELO. DEBEN RESPETARSE LAS ALTURAS DEL SERVICIO AEREO (CRUCE DE CALLE 5.5 METROS Y CRUCE DE ACERAS 4 METROS.)

CONSUMO ESTIMADO POR TRANSFORMADOR:

TIPO DE SUELO NORMAL.




MONTAJE CONJUNTO RETENIDA 3/4" CON AISLADOR TENSOR PARA LINEAS AEREAS.

PROYECTO

**LÍNEA ELÉCTRICA HACIA LA PLANTA POTABILIZADORA EN SIBUBÉ**

INSTITUTO DE ACUEDUCTOS Y ALCANTARILLADOS NACIONALES

PROYECTO : "ESTUDIO, DISEÑO Y CONSTRUCCIÓN, OPERACIÓN, MANTENIMIENTO Y FINANCIAMIENTO DEL NUEVO SISTEMA DE AGUA POTABLE PARA LAS COMUNIDADES DE LAS TABLAS, LA MESA, GUABITO, DISTRITO DE CHANGUINOLA"

UBICACIÓN : EN LA CARRETERA A SINCHE-SIBUBÉ CORREGIMIENTO DE LAS DELICIAS,DISTRITO DE CHANGUINOLA PROVINCIA DE BOCAS DEL TORO, PANAMÁ.

ARQUITECTURA : | INFRAESTRUCTURA : | ELECTRICIDAD : ING. BOSCO MENDOZA.

ELECTRONICA : | FONTANERIA : | MECANICA

DESCRIPCIÓN : | FIRMA DE DISEÑADOR DE MEDIA TENSIÓN

IDAAN

CONSORCIO LAS TABLAS

FECHA :

DIBUJO : BOSCORE S.A.

DESARROLLO : CUSA

No. DE HOJA :

TOTAL : DE

**b.2 Descripción de las actividades a desarrollar.**

**Respuesta:** Las actividades, a realizar para la instalación de la línea eléctrica hacia la planta potabilizadora de agua potable son las siguientes:

- Suministro y Acopio e instalación de postes de Concreto de 12 mts.
- Suministro, acopio e instalación de Herrajes para conexión de Trifásica en poste nuevo (cond.1/0/Raven/neutral/1/0 Rven)
- Ahoyado.
- Poda y tala.
- Almacenaje y transporte de los postes.
- Suministro, acopio e instalación de Transformador Trifásico de 500KVA FL en 15kV

**b.3 Línea base de los sitios a intervenir.**

**Respuesta:** La línea base de los sitios donde se instalarán los postes eléctricos fue descrita anteriormente en el EsIA, ya que los postes serán instalados en la servidumbre pública y en algunos casos las servidumbres que están por constituirse. En este caso la electrificación tendrá una distancia de 1893 mts, que iniciará desde la vía Las Tablas - Las Delicias, en este punto se llevará el sistema eléctrico hasta la Planta Potabilizadora. A continuación, se describe la línea base observada.

**Cuadro Nº8. Línea base de los sitios a intervenirse con la construcción del proyecto:**

| Factor | Descripción |
|---|---|
| **Suelo** | El suelo del área donde irán los postes para la electrificación de la planta potabilizadora, están alterados debido actividades previas a las actividades del proyecto.<br><br>Los terrenos colindantes han sido utilizados por años en la actividad de agricultura (producción de plátano) y ganadería (ganado vacuno), |

| | |
|---|---|
| | actualmente el camino que conduce hacia la planta potabilizadora se encuentra con una vegetación tipo rastrojo. |
| **Agua** | Se observaron algunos cruces de agua intermitentes, los cuales se les realizo el análisis de calidad de agua y fueron presentados en el EsIA, categoría II desarrollado para este proyecto. Con la actividad de instalación de postes no se prevé que se den afectaciones a este recurso. |
| **Fauna** | El listado de la fauna de la zona de intervención directa e indirecta del proyecto se presentó en el Punto 6.0 del Estudio de impacto ambiental. Se observan aves como lo es talingo, casanga, bin bin, azulejos entre otros, en sitios cercanos al proyecto.<br><br>Para la actividad de la instalación de postes habrá ruido y molestia temporales a él habitad de las aves. |
| **Flora** | La flora que se puede encontrar en el área de influencia directa del proyecto donde se instalaran los postes que conducirán la electricidad, está constituida principalmente por cerca viva tales como: jobo, macano, indio desnudo, palo santo entre otras especies. Esto se observa a lo largo del camino existente.<br><br>En el nuevo camino que inicia desde el camino existente hasta la planta potabilizadora el cual se constituirá en calle y servidumbre. se observa la vegetación tipo rastrojo. |



**Imagen Nº2. Calle de acceso principal, lado izquierdo se observa el rastrojo y la cerca viva**



**Imagen Nº3. Cerca viva en calle a orilla de la calle.**



**Imagen N°4. Suelo alterado con piedras.**



**Imagen N°5. Área de rastrojo donde irá el camino hacia la planta de tratamiento de agua potable.**

**b.4 Impactos a generar y medidas producto de la instalación de esta línea eléctrica para suministro de energía de la planta.**

**Respuesta:** Para la instalación de la línea eléctrica se han identificado los posibles impactos y sus medidas de mitigación, las cuales de detallan a continuación:

**Cuadro N°9. Posibles impactos y medidas de mitigación.**

| Posibles Impactos | Medida de Mitigación |
|---|---|
| Erosión y Sedimentación | Realizar la poda o tala de los árboles estrictamente necesarios.<br>Compensar y conservar las áreas verdes.<br>Al realizar la excavación para la instalación de los postes se debe disponer en los sitios de botadero el material (tierra), generado producto de la actividad.<br>Al momento de realizar la excavación se deberá tener material plástico o lona para tapar el suelo removido temporalmente. |
| **Contaminación del Suelo y aguas** | Trabajar de manera ordenada para evitar los cúmulos de tierra.<br>No verter concreto al suelo.<br>Construir una tina de lavado de las herramientas y concreteras en caso de requerir su uso. |
| **Contaminación del Suelo y aguas por Derrames** | Mantener en buen estado la maquinaria y equipos.<br>Los mantenimientos de los equipos se deben realizar en un área con piso de concreto o impermeabilizado.<br>Almacenamiento adecuado de los residuos peligrosos. |
| | Trabajar en horario diurno.<br>No molestar a la fauna silvestre. |

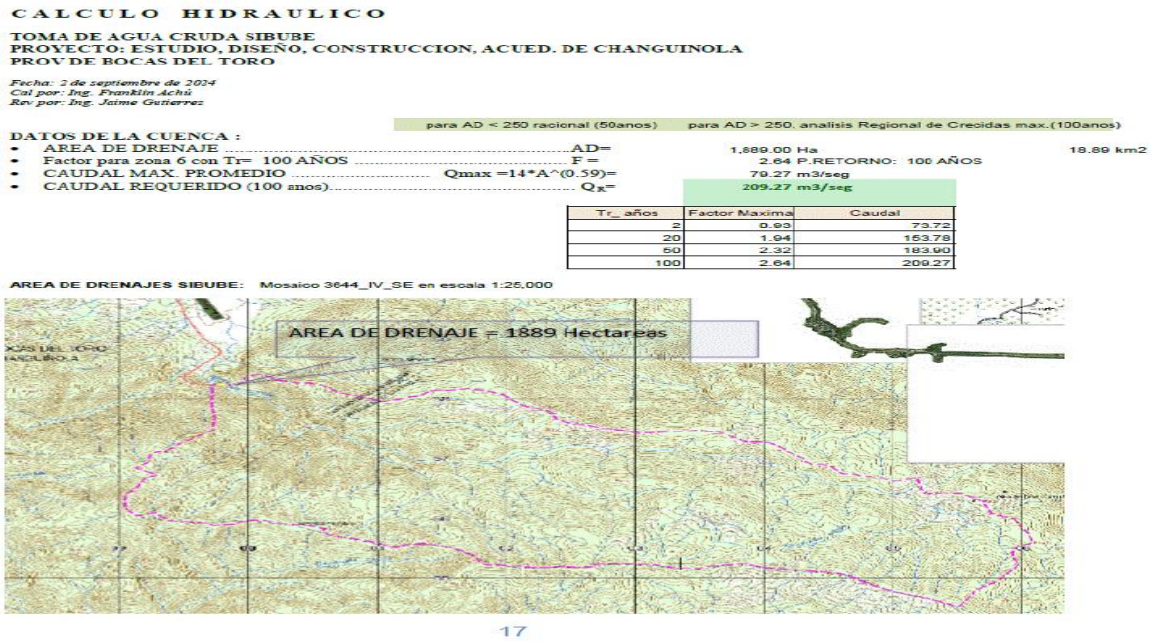
| | |
|---|---|
| **Alteración de la Fauna silvestre** | Apagar los equipos al momento de no usarlos.<br>Prohibido la extracción de animales silvestre dentro del área del proyecto. |
| **Accidentes viales** | Solicitar los permisos ante la autoridad competente.<br>Señalizar continuamente el área de trabajo.<br>Prevenir a los moradores por medio de Volanteos sobre las actividades a realizar.<br>Contratar personal con comunicación visual o radial para manejar el tráfico. |
| **Socioeconómico** | Mantener a la comunidad informada de las actividades del proyecto. |
| **Aumento del ruido ambiental.**<br>**Alteración temporal de calidad de aire por emisiones de los equipos a utilizar.** | Llevar al proyecto equipos en buen estado mecánico.<br>Brindarle orejeras y equipo de protección personal adecuado a los trabajadores.<br>Brindarles mantenimiento adecuado a los equipos. |

2. En atención a la respuesta de la pregunta 2, donde se solicitaba presentar las coordenadas de la obra de captación, el promotor presenta las coordenadas del polígono de captación, así como los diseños de las infraestructuras a construir. Dentro de estos diseños se puede observar que las obras de captación corresponden a un embalse de 1.40 a 1.60 metros de altura, por lo cual, en atención a las obras a construir, se solicita aclarar.

a) **Medidas, con justificación técnica, respecto al caudal del río Sibube en temporada seca y lluviosa, para la subsistencia de las especies de fauna acuática y el uso del agua de las poblaciones aguas abajo.**

**Respuesta:** Se realizo Análisis hidráulico-"Modelo HEC-RAS 6.3" como

complemento de la modelación inicial en el sitio de la toma realizado para el estudio en cuestión, se procedió a realizar una simulación hidráulica de comparación con la estructura en el sitio de la estructura de captación, mediante el programa HEC-RAS 6.3. La toma de captación de agua cruda se ubica en la estación 0k+145.45 del modelo analizado en HEC-RAS, por lo que el nivel de aguas máximas extraordinarias (NAME) para la lluvia de periodo de retorno de 1 en 100 años es de 78.92 metros sobre la cresta de la presa COANDA de 76.70m**. Ver Anexo N°4. Informe de Modelación de la toma de Captación construida – Qda Sibube**.



CALCULO HIDRAULICO

TOMA DE AGUA CRUDA SIBUBE
PROYECTO: ESTUDIO, DISEÑO, CONSTRUCCION, ACUED. DE CHANGUINOLA
PROV DE BOCAS DEL TORO

*Fecha: 3 de septiembre de 2024*
*Cal por: Ing. Franklin Achú*
*Rev por: Ing. Jaime Gutierrez*

para AD < 250 racional (50anos) para AD > 250, analisis Regional de Crecidas max.(100anos)

DATOS DE LA CUENCA :

- AREA DE DRENAJE ..... AD= 1,889.00 Ha 18.89 km2
- Factor para zona 6 con Tr= 100 AÑOS ..... F = 2.64 P.RETORNO: 100 AÑOS
- CAUDAL MAX. PROMEDIO ..... Qmax =14*A^(0.59)= 79.27 m3/seg
- CAUDAL REQUERIDO (100 anos)..... $Q_R$= 209.27 m3/seg

| Tr_ años | Factor Maxima | Caudal |
|---|---|---|
| 2 | 0.93 | 73.72 |
| 20 | 1.94 | 153.78 |
| 50 | 2.32 | 183.90 |
| 100 | 2.64 | 209.27 |

AREA DE DRENAJES SIBUBE: Mosaico 3644_IV_SE en escala 1:25,000



17

**Figura N°6. Calculo Hidráulico**

b) **Medidas que implementará el proyecto para evitar que las especies acuáticas sean atrapadas en el punto de captación de agua.**

**Respuesta:** Durante el desarrollo del proyecto se implementará en la etapa de construcción y operación, a fin de preservar y conservar las especies acuáticas para que las mismas no sean atrapadas en el punto de captación de agua, serán aplicadas las siguientes medidas:

- Uso de rejas de protección que consiste en la colocación de barreras físicas, instaladas en la parte más externa del punto de captación.
- Programa de mantenimiento adecuado de las rejillas.
- Presentar inventario de las especies de ictiofauna.
- Monitoreo periódico de la ictiofauna.

3. En atención a la respuesta de la pregunta 3, donde se solicitaba información, respecto a la infraestructura a construir en los caminos para el paso sobre fuentes hídricas, análisis de calidad de agua, así como los impactos y medidas producto de estas actividades. Al respecto, el promotor identificó algunos sitios donde se instalarán infraestructuras, sin embargo, no incluye la totalidad de los sitios donde se contempla la construcción de estructuras de paso, tampoco se presentan los análisis de calidad de agua de todos los sitios que serán afectado por la construcción de estos caminos. Adicional, dentro de las medidas propuestas para evitar la alteración de la calidad de agua se establece *"No se debe interrumpir ningún drenaje o realizar el desvío de quebradas"* sin embargo dentro de los planos mostrados se visualizan sitios donde se proponen desviar el cauce, por lo cual se solicita:

**a) Definir el tipo de infraestructura a construir, anexando justificación técnica y actividades a realizar sobre todas las fuentes hídricas afectadas por el desarrollo del proyecto y aportar coordenadas UTM de ubicación (superficie) de las mismas.**

**Respuesta:** A continuación, se listan los tipos de infraestructuras a construir con sus respectivas coordenadas y se adjunta **el anexo N°5.** Informe de Drenajes Pluviales para el Camino Potabilizadora de Sibube hasta Guabito, Changuinola, provincia de Bocas del Toro.

**Cuadro N° 10. Coordenadas de ubicación y superficie de los cajones pluviales.**

| Estación | Infraestructura | Coord. Este | Coord. Norte | Longitud |
|---|---|---|---|---|
| 0+801.73 | Cajón Sencillo | 299322.944 | 1061130.165 | 11.376 m |
| 0+818.93 | Cajón Doble | 299061.407 | 1059783.620 | 14.410 m |
| 0+831.53 | Cajón Sencillo | 315670.310 | 1049166.206 | 13.630 m |
| 0+914.13 | Cajón Doble | 299310.210 | 1061018.485 | 13.932 m |
| 2+548.66 | Cajón Sencillo | 299580.041 | 1058437.207 | 14.168 m |

**Ver Anexo N°6. Ubicación de los cajones pluviales.**

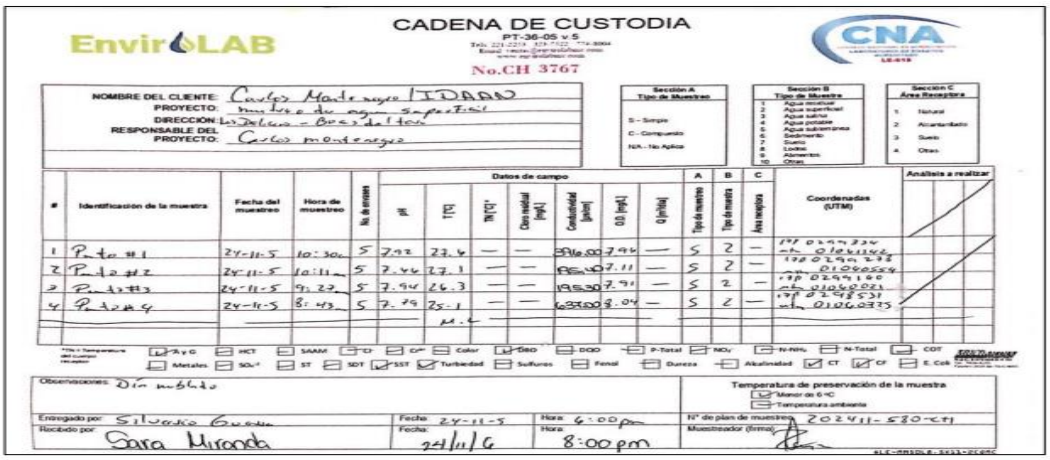
c) **Presentar análisis de calidad de agua de las fuentes hídricas que no fueron incluidas (original o copia notariada)**

**Respuesta:** El día 5 de noviembre del presente año, se realizó la toma de muestra de agua a 4 nuevas fuentes dentro del polígono del proyecto. Las cuales se listan a continuación: **Cuadro N° 11. Punto de muestreo.**

| Punto de muestreo | Identificación de la muestra | Coordenadas | |
|---|---|---|---|
| | | Coord. Este | Coord. Norte |
| 1 | 10353-24 | 299334 | 1061142 |
| 2 | 10354-24 | 299278 | 1060554 |
| 3 | 10355-24 | 299160 | 1060021 |
| 4 | 10356-24 | 299160 | 1060021 |

**Ver anexo N°3. Resultados de análisis de calidad de agua.**

Los resultados que se adjuntan al documento son copias, por lo cual queda pendiente la entrega del documento original a la dirección de Evaluación de Impacto Ambiental. Dicha tardanza se debe a que no fue posible recibir el informe antes de la fecha de entrega, establecida hasta el 18 de noviembre del presente año.


CADENA DE CUSTODIA

PT-36-05 v 5

EnvirLAB

CNA

No.CH 3767

NOMBRE DEL CLIENTE: Carlos Montenegro IDAAN

PROYECTO: muestreo de aguas superficiales

DIRECCION: Las Palmas - Boca de Toro

RESPONSABLE DEL PROYECTO: Carlos Montenegro

Sección A Tipo de Muestreo: S - Simple; C - Compuesto; N/A - No Aplica

Sección B Tipo de Muestra: 1 Agua residual; 2 Agua superficial; 3 Agua salina; 4 Agua potable; 5 Agua subterránea; 6 Sedimento; 7 Suelo; 8 Lodos; 9 Alimentos; 10 Otros

Sección C Área Receptora: 1 Natural; 2 Alcantarillado; 3 Suelo; 4 Otros

| # | Identificación de la muestra | Fecha del muestreo | Hora de muestreo | No. de envases | Datos de campo: pH | T(C) | TN/TC* | Cloro residual (mg/L) | Conductividad (µs/cm) | O.D. (mg/L) | O (mV/ORP) | A Tipo de muestra | B Tipo de muestra | C Área receptora | Coordenadas (UTM) | Análisis a realizar |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Pto #1 | 24-11-5 | 10:30 | 5 | 7.92 | 23.4 | — | — | 216.00 | 7.96 | — | S | 2 | — | 17P 0149334 mN 0124114 | |
| 2 | Pto #2 | 24-11-5 | 10:11 | 5 | 7.94 | 27.1 | — | — | 85.40 | 7.11 | — | S | 2 | — | 17P 0102940 mN 0104556 | |
| 3 | Pto #3 | 24-11-5 | 9:22 | 5 | 7.94 | 26.3 | — | — | 195.30 | 7.91 | — | S | 2 | — | 17P 0249160 mN 0124502 | |
| 4 | Pto #4 | 24-11-5 | 8:43 | 5 | 7.79 | 25.1 | — | — | 627.00 | 8.04 | — | S | 2 | — | 17P 0248531 mN 0126037 | |

Parámetros: pH; T°C; HCT; SAAM; Cl; Cl²; Color; DBO; DQO; P-Total; NO₃; N-NH₃; N-Total; COT; Metales; SO₄; ST; SDT; SST; Turbiedad; Sulfuros; Fenol; Dureza; Alcalinidad; CT; CF; E.Coli

Observaciones: Día nublado

Temperatura de preservación de la muestra: Menor de 6 °C; Temperatura ambiente

Entregado por: Silvana Guerra — Fecha: 24-11-5 — Hora: 6:00 pm

Recibido por: Sara Miranda — Fecha: 24/11/6 — Hora: 8:00 pm

N° de plan de muestreo: 2024 11- 580-CTI

Muestreador (firma):

**Figura N° 8. Cadena de Custodia**

d) En caso de contemplar desvío de cauce para el desarrollo de las actividades del proyecto, presentar las coordenadas de los sitios a intervenir y justificación técnica de las actividades a realizar en cumplimiento de la Resolución DM-0431-2021 de 16 de agosto de 2021 *"Por la cual se establecen los requisitos para la autorización de las obras en cauces naturales en la República de Panamá y se dictan otras disposiciones".*

**Respuesta:** Los desvíos de cauces se realizan en los puntos donde se construirán los cajónes pluviales según se muestran en el **anexo 6.** El tiempo del desvío dependerá de la duración de la ejecución de la actividad.

En cumplimiento con la normativa vigente se deberá aplicar la Resolución DM- 0431-2021 de 16 de agosto de 2021 *"Por la cual se establecen los requisitos para la autorización de las obras en cauces naturales en la República de Panamá y se dictan otras disposiciones.*

4. Mediante **MEMORANDO-DCC-509-2024,** la Dirección de Cambio Climático (DCC), señala que *"Luego de la revisión técnica del estudio, la Dirección de Cambio Climático necesita que se desarrollen los siguientes puntos:*

**Adaptación:**

**5.5.2.3 Análisis de identificación de Peligros o Amenazas.**

El riesgo se define como la combinación de la probabilidad en la ocurrencia de un evento y las consecuencias asociadas a este.

Se identificaron los siguientes riesgos climáticos: inundación, deslizamientos de tierra y/o rocas y hundimientos.

**Cuadro 12. Identificación de Peligros o Amenazas climáticas para el proyecto**

| FASES | TIPOS DE PELIGROS climáticas identificadas | IDENTIFICACIÓN DE PELIGROS O AMENAZAS EN EL PROYECTO ELÉCTRICO |
|---|---|---|
| Construcción Y operación | Deslizamientos de tierra y/o rocas, erosión de suelos y deslizamientos, Hundimientos | En los sitios de la obra de toma, de la planta potabilizadora y tuberías, se harán las medidas necesarias establecidas en el Plan de Manejo para evitar erosión de suelo, deslizamientos y erosiones.<br>En la zona hay taludes expuestos, respecto a los estudios de suelo para la asegurar estabilización. |

Los estudios de simulación de inundaciones de las fuentes de agua, para la toma y conducción no indican que se vean afectadas por cambio climáticos y los diseños y construcción consideran las cotas de inundación, para hacer los trabajos en las ataguías de manera segura, para construir la obra de toma.

**Adjuntamos en formato digital los siguientes archivos:**

- Archivo DEM utilizado para elaborar el “terrain”
- Archivo proyecto generado por la simulación
- Archivo de geometría generado por la simulación
- Archivo plan generado por la simulación
- Archivo de flujo constante y no constante generado por la simulación.
- Archivo raster final de resultado de simulación tanto con o sin proyecto.

### *5.5.3 Análisis e Identificación de vulnerabilidad frente a amenazas por* **factores naturales y climáticos en el área de influencia.**

El Proyecto se encuentra ubicado en la Provincia de Bocas del Toro. El Ministerio de Ambiente en el documento **Índice de Vulnerabilidad de Panamá**, establece que para el Polígono de Proyecto la vulnerabilidad es de 0.37 a 0.49 (alta).
La fórmula matemática simple para el cálculo de vulnerabilidad es V= S x E
Mapa sobre Vulnerabilidad al Cambio Climático.

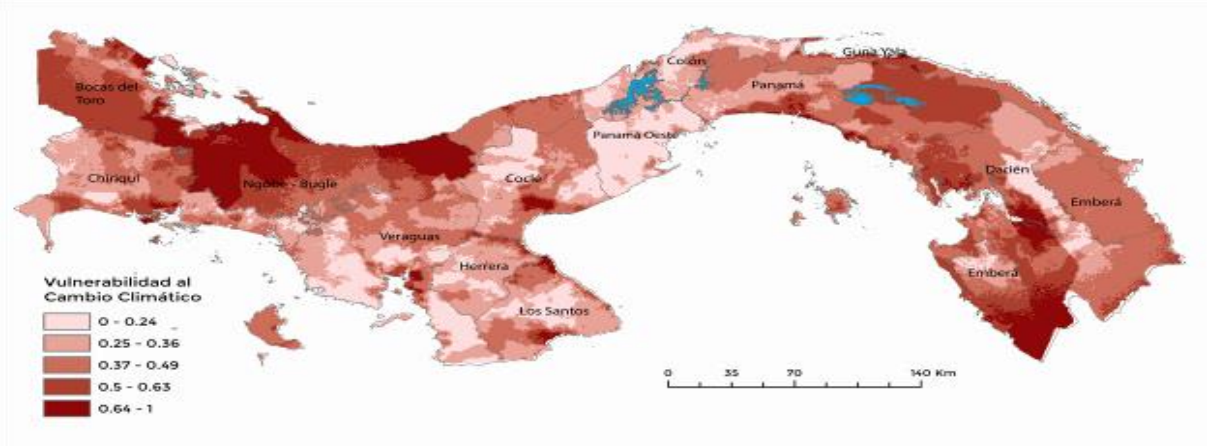



***Figura 9. Mapa del Índice de Vulnerabilidad***

Según el mapa de Ministerio de Ambiente la Vulnerabilidad donde se encuentra el proyecto tiene una Vulnerabilidad Media.
Tomando en consideración la guía técnica de cambio climático para proyectos de inversión pública. Se hace la matriz para cada uno de los riesgos climáticos identificados para el proyecto planta potabilizadora de agua potable y líneas de aducción y conducción, y tanques de reserva.

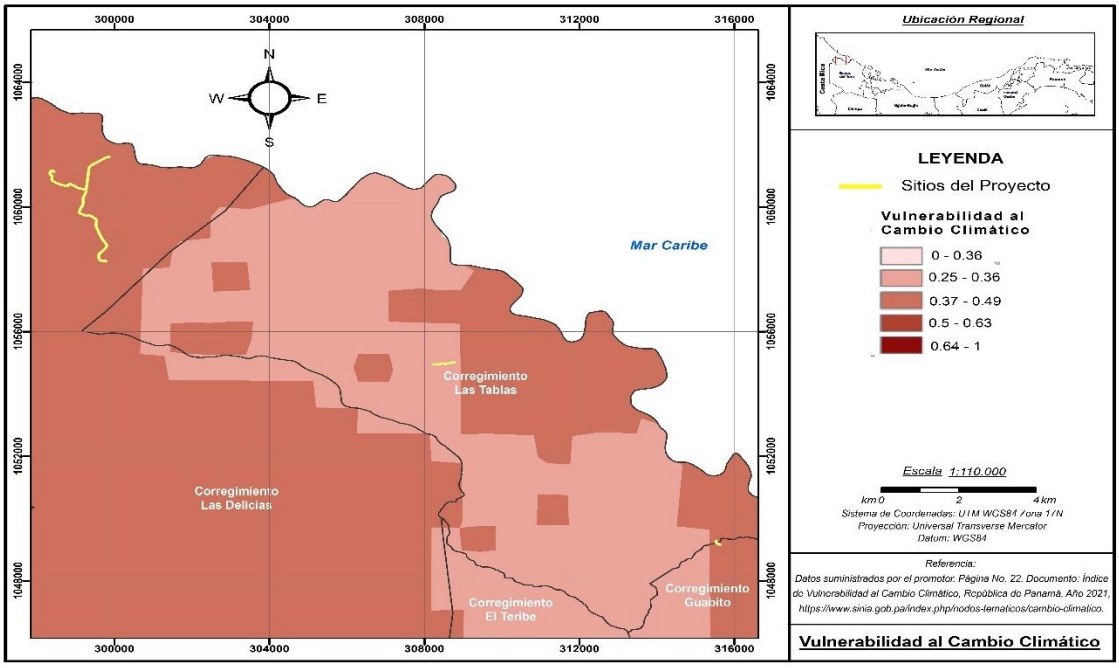



**Figura 10. Mapa del Índice de Vulnerabilidad para el proyecto.**

La vulnerabilidad de todo el proyecto está influenciada por dos factores la sensibilidad media, afectada por los aumentos de temperaturas, sequías, pueden generar incendios forestales; anomalías en las precipitaciones que pueden causar hundimientos, erosiones del suelo, y la exposición de las infraestructuras de obra de toma, planta, tanques de reserva y líneas de conducción y aducción son media, condicionada por ser área de riesgo de deslizamientos de los taludes y daños de la vía. La capacidad adaptativa es baja por los bajos niveles educativos, de salud, organización.

A continuación, se presentan las vulnerabilidades por tipo de amenaza.

**Vulnerabilidad Media**. Áreas propensas a deslizamientos de tierra, erosión de suelo, causado por cambios en los patrones de lluvia o anomalías de precipitaciones, y velocidad máxima del viento, en las conexiones de transporte (accesos) y a las infraestructuras del proyecto, durante la construcción y operación.

**Cuadro 13. Matriz de identificación de vulnerabilidad, según riesgo climático, anomalías de precipitaciones que causan Hundimientos, deslizamiento de tierra:**

| | EXPOSICIÓN | | | |
|---|---|---|---|---|
| SENSIBILIDAD | | BAJA | MEDIA | ALTA |
| | BAJA | | | |
| | MEDIA | | Hundimientos, deslizamiento de tierra, | |
| | ALTA | | | |
| Nivel de Vulnerabilidad | | | | |
| | Nula / Baja | | | |
| | Media | | | |
| | Alta | | | |

En el pasado no se han dado amenazas naturales que puedan poner en peligro la ejecución del proyecto como: Terremotos, huracanes, tifones, etc., sin embargo, las vías a las áreas montañosas han sufrido derrumbes, deslizamientos de tierra.
**Vulnerabilidad Media. Áreas propensas a hundimientos y deslizamientos en la zona montañosa donde está la toma,** en las conexiones de transporte (accesos) e inundaciones del río Sixaola en el área de la servidumbre de las vías por donde van las tuberías, durante la construcción y operación.

**Cuadro 14. Matriz de identificación de vulnerabilidad, para cada riesgo climático erosión y deslizamiento.**

| | EXPOSICIÓN | | | |
|---|---|---|---|---|
| SENSIBILIDAD | | BAJA | MEDIA | ALTA |
| | BAJA | | | |
| | MEDIA | | inundaciones. | |
| | ALTA | | | |
| Nivel de Vulnerabilidad | | | | |
| | Nula / Baja | | | |
| | Media | | | |

| | |
|---|---|
| | Alta |

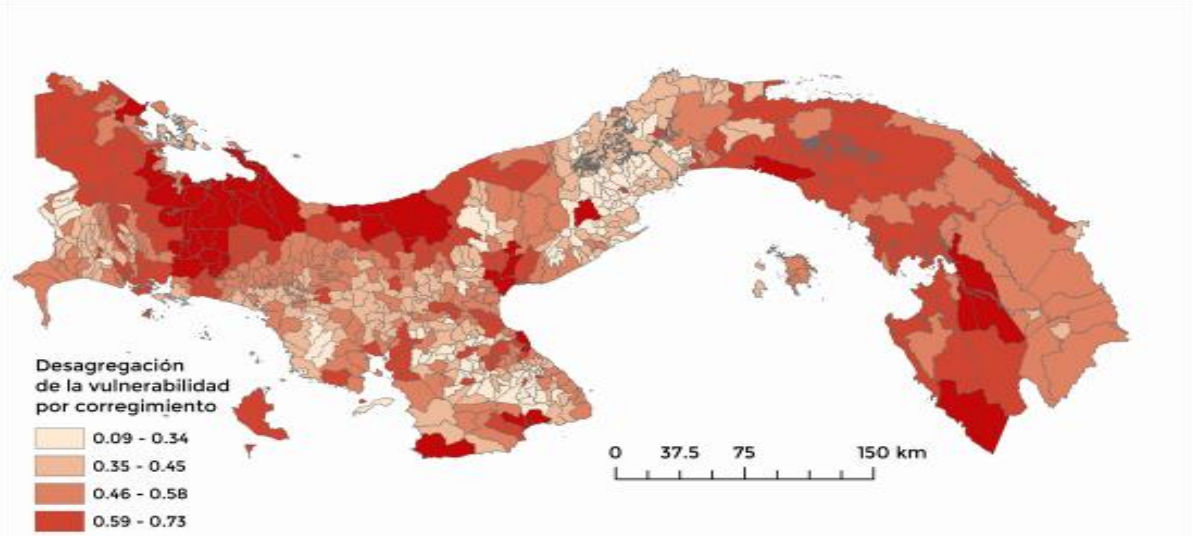
**Vulnerabilidad por cambio climático futuro**

Los escenarios de cambio climático son una representación plausible y a menudo simplificada del clima futuro, basados en un conjunto internamente coherente de relaciones climatológicas, que se construyen para ser utilizados de forma explícita en la investigación sobre las consecuencias potenciales del cambio climático.

Según el estudio del Ministerio de Ambiente 2022, sobre los escenarios de cambio climático para el sitio del proyecto, se tiene la siguiente data:

En este análisis de vulnerabilidad futura, las temperaturas máximas y mínimas estarán ascenso lo cual traerá mayor demanda de agua, electricidad, mayor evaporación de fuentes superficiales y evo transpiración de las plantas, trayendo incendio de masa vegetal. Por otro lado, en el futuro, la precipitación también disminuirá, pero la cuenca del Sixaola ocasiona frecuentemente inundaciones.

La vulnerabilidad futura se puede ver afectada por las mismas amenazas antes evaluadas, sólo que se incrementan los efetos según los escenarios analizados.



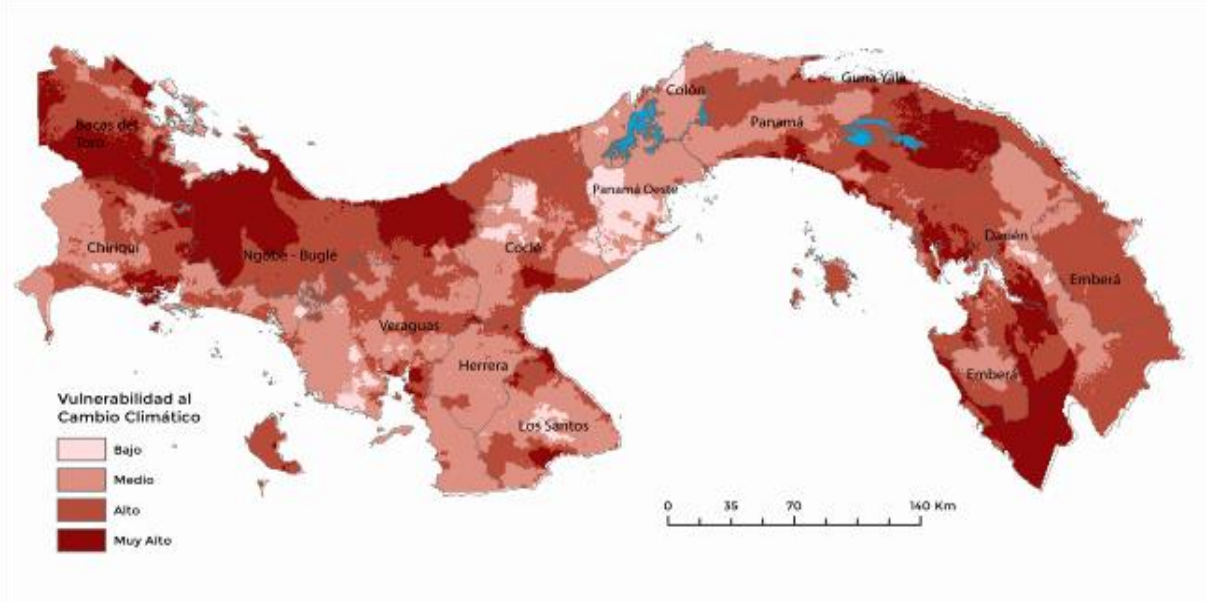



**Figura 11.** Mapa de desagregación de la vulnerabilidad por corregimiento y vulnerabilidad al cambio climático.

### 9.8.1 Plan de Adaptación al Cambio Climático.

La habilidad de un proyecto, sistema, comunidad para ajustarse, a través de aumento de las capacidades para aplicar recursos, coordinación de instituciones a través de medidas de adaptación con el fin de reducir, evitar los impactos del cambio climático a través de amenazas naturales fuera del control.

**Objetivos del plan de adaptación al cambio climático**

Se busca con este plan reducir la sensibilidad de las infraestructuras, aumentar la capacidad adaptativa, para hacerle frente a la exposición del proyecto o localización geográfica, que no puede ser cambiada (conectividad del sistema de agua potable).

**Objetivo general.**

Desarrollar y aumentar la capacidad adaptativa actual y futura del proyecto, integrando las infraestructuras disponibles como distancias a centros poblados, carretas, centros de salud, sistemas educativos, nivel de pobreza, accesos a instituciones de emergencia, capacidad y facilidades de organización comunitaria.

**Objetivos específicos**

- Reducir riesgos de deslizamientos y erosión de suelo con construcción de instalaciones y obras de infraestructuras más seguras.
- Evitar y/o reducir la erosión y sedimentación del Suelo a través de diseñar y construir cunetas, muros, diques, gaviones, para regular el manejo del agua superficial y obras de conservación de suelo.

**Formulación de medidas de adaptación (metodología para identificar y describir las medidas de adaptación al cambio climático.**

Se analizó los resultados del análisis de la sección 5.8.3 de las vulnerabilidades frente a cada amenaza de riesgo climático identificada, por factores naturales y climáticos, considerando la matriz de sensibilidad, la ubicación del proyecto en el mapa de sensibilidad desglosando los elementos del proyecto (conexiones de transporte, productos o servicios, suministros de agua y/o energía, y adquisición de bienes para las infraestructuras eléctricas que puedan verse afectados en las diferentes etapas por esas amenazas climáticas y ponderándolas cualitativamente en bajo, medio y ato, luego relacionando esta sensibilidad del proyecto al análisis de la matriz de exposición, ponderando la ubicación del proyecto (con todos los componentes), haciendo los escenarios históricos y registros de antecedentes en la zona de afectaciones de infraestructura frente a cada amenaza climática identificada.

Además, ver qué medidas o acciones de adaptación se pueden desarrollar o incrementar para aumentar su capacidad adaptativa y hacerles frente a las vulnerabilidades.

**Cuadro No. 15. Formato para identificar y describir las medidas de adaptación al cambio climático.**

| Vulnerabilidad frente a cada amenaza climática (sección 5.8.3), matriz de sensibilidad y de exposición. | Medidas de Adaptación al cambio climático, para atender cada vulnerabilidad del proyecto. | Descripción de las medidas de adaptación |
|---|---|---|
| Vulnerabilidad media Áreas propensas a deslizamientos o Hundimientos, causado por cambios en los patrones de lluvia o anomalías de precipitaciones, y velocidad máxima del viento, en las conexiones de transporte (accesos) y a las infraestructuras, durante la construcción y operación. | Construcción de instalaciones y obras de infraestructuras más seguras. | Adecuar el subsuelo en las estructuras de las zapatas de las estructuras, de las edificaciones, con las especificaciones y normas de calidad de los materiales de construcción (cementos, aceros, agua, rocas, piedra, arenas, para concretos, y estabilizar la geología local en las bases, y aumentar la resistencia del suelo a hundimientos y deslizamientos. |
| Vulnerabilidad media. Erosión y sedimentación del Suelo, causado por Cambios en los patrones de lluvia, por estar en un área con alta | Diseñar y construir cunetas, muros, diques, gaviones, para regular el manejo del agua superficial.<br>Diseñar y construir obras | Hacer una evaluar de la topografía y tipo de suelo de cada sitio, para luego diseñar obras de ingeniería para conservar y retener el suelo y la |

| | | |
|---|---|---|
| precipitación. Los elementos del proyecto afectados servicios de mantenimiento, suministro de energía, en todo el proyecto, durante la construcción y operación. | de conservación de suelo para reducir y/o evitar la sedimentación. | tierra estabilizada en el sitio.<br>Por ejemplo, barreras vivas, barreras muertas, mallas biodegradables (coco), cajas disipadoras de energía y de retención de suelo.<br>Mantenerse informados de los pronósticos del tiempo, lluvias y eventos meteorológicos como tormentas.<br>Atender sugerencias y recomendaciones de SINAPROC. |

Frecuencia de revisión y actualización del pan de adaptación al cambio climático.
Se debe revisar y actualizar este plan cada seis (6) meses durante la construcción y un año después en la etapa de operación.

**Cuadro No. 16. Plan de** adaptación **al cambio climático**

| **Medida de** adaptación | **Indicadores** | **Descripción de la medida** | **Responsable de la ejecución** | **Fase de proyecto de aplicación de la medida** | **Supervisión** | **Costos (B/)** |
|---|---|---|---|---|---|---|
| Construcción de instalaciones y obras de infraestructuras más seguras. | % | Selección de diseños, materiales, ingeniería, equipos. | Jefe de Proyecto. | Construcción y operación | IDAAN Y CONTRATISTA CUSA, S.A. | Incluido en costo de construcción del proyecto. |
| Diseñar y construir cunetas, muros, diques, gaviones, para regular el manejo del agua superficial. | Diseños | Diseños de infraestructura. | Jefe de Proyecto. | Construcción y operación | IDAAN Y CONTRATISTA CUSA, S.A. | Incluido en costo de construcción del proyecto. |

| | | | | | | |
|---|---|---|---|---|---|---|
| Diseñar y construir obras de conservación de suelo. | Diseños | Diseños de infraestructura. | Jefe de Proyecto. | Construcción y operación | IDAAN Y CONTRATISTA CUSA, S.A. | Incluido en costo de construcción del proyecto. |
| Medidas de prevención y precaución (planes de evacuación, mantenimiento), simulacros, suspensión de labores cercanas a las estructuras | Simulacros | Ejecutar el plan de simulacro y de alerta temprana. | Jefe de Proyecto. | Construcción y operación | IDAAN Y CONTRATISTA CUSA, S.A. | Incluido en costo de construcción del proyecto. |
| Cumplir con las especificaciones de los materiales para prevenir accidentes. | Especificaciones del TDR | Especificaciones que cumplan con las normas ISO. | Jefe de Proyecto. | Construcción y operación | IDAAN Y CONTRATISTA CUSA, S.A. | Incluido en costo de construcción del proyecto. |
| Monitoreo de información | No de eventos | Atención a los | Jefe de | Construcción | IDAAN Y CONTRATISTA | Incluido en costo de |

| | | | | | | |
|---|---|---|---|---|---|---|
| meteorológica | | pronósticos. | Proyecto. | y operación | CUSA, S.A. | construcción del proyecto. |

**Descripción del Plan de monitoreo del plan de adaptación al cambio climático.**

Se desarrollará y/o implementarán mecanismos y herramientas para medir el avance de las medidas con relación a su impacto o resultados de la adaptación, a través de un sistema de Medición, Reporte y Verificación (MRV) del apoyo sobre el financiamiento climático, la transferencia de tecnología, y el desarrollo de capacidades.

El Plan de monitoreo, de las medidas, se divide en dos grupos estructurales y no estructurales:

**Estructurales:** son aquellas que se deben realizar construcciones obras civiles grises o verdes: Se trabaja en los diseños y posterior construcción de los desagües de agua lluvia.

No Estructurales  Monitoreo y comunicación de la información meteorológica

Estas medidas que el proyecto ha explorado como viables, y factibles. Se estarán reportando en el informe semestral de seguimiento ambiental, se recomienda presentar los reportes, según el siguiente cuadro:

**Cuadro No 17. Plan de monitoreo de las medidas de adaptación**

| Medidas de monitoreo | Medidas de adaptación al cambio climático | Planificación | | Construcción | | | | Operación | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Periodo (semestral) | | | | | | | | | |
| | | I | II | III | IV | V | VI | VII | VIII | IX | X |
| Supervisión de las Estructurales físicas de: Obras de ingeniería, cumpliendo con las normas e ISOs (permanentes) | Construcción de instalaciones y obras de infraestructuras más seguras. Diseñar y construir cunetas, muros, diques, gaviones, para regular el manejo del agua superficial. Diseñar y construir obras de conservación de suelo. | | | | | | | | | | |
| No Estructurales. Capacitaciones sobre riesgos, Evacuaciones, simulacros. | Medidas de prevención y precaución (planes de evacuación, mantenimiento), simulacros, suspensión de labores cercanas | | | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | a las estructuras Cumplir con las especificaciones de los materiales para prevenir accidentes. Monitoreo de información meteorológica | | | | | | | | | | |

Los costos del plan de adaptación al cambio climático han sido estimados en B/. 5,000.00, ya que algunas medidas están dentro de los costos de construcción del proyecto.

## 4.4 Identificación de fuentes de emisiones de gases de efecto invernadero (GEI)

La mayor generación de gases de efecto invernadero que se darán en el proyecto será durante la fase de construcción cuando se utilicen maquinarias y equipos pesados, ya que en la fase de operación no se utilizaran equipos y maquinarias pesadas, será responsabilidad del Contratista el control de la generación de los gases de efecto invernadero, al mantener estos equipos y maquinaria en perfectas condiciones.

Los gases de efecto invernadero que se generaran en el proyecto son los siguientes:

- ✓ Dióxido de Carbono ($CO_2$), por la quema de combustible fósil (diesel, gasolina), por equipos y maquinaria pesada perforadoras, retroexcavadoras, camiones volquetes, vehículos, camiones, remoción de la capa vegetal y remoción de suelo.
- ✓ Metano ($CH_4$), se emite por el uso de combustible y aceite en los equipos y maquinarias. También por la descomposición de residuos orgánicos al

remover la capa superficial vegetal, podas de árboles y los producidos por los colaboradores del proyecto, mediante sus necesidades fisiológicas.

- ✓ Óxido nitroso ($N_2O$), se emite durante la combustión de combustibles fósiles y residuos sólidos y líquidos mediante las necesidades fisiológicas de los colaboradores.
- ✓ $CO_2$, HFC, y PFC, durante los mantenimientos a los extintores.
- ✓ HFC, Emisiones Fugitivas. (Aires acondicionados, refrigerantes de aires).

**Cuadro N°18. Identificación de fuentes de emisiones de gases de efecto invernadero (GEI).**

| Categoría | Fuente de emisión | Actividad | GEI ASOCIADO |
|---|---|---|---|
| Alcance 1 (emisiones directas) | Fuentes móviles. Equipos, maquinarias, vehículos, extintores en vehículos | Consumo de combustible sólidos como carbón mineral | $CO_2$, $CH_4$, y $N_2O$ |
| | | Consumo de combustible líquidos (gasolina, diesel, otros), para equipos, maquinarias, vehículos | $CO_2$, $CH_4$, y $N_2O$ |
| | | Consumo de combustible gaseosos | $CO_2$, $CH_4$, y $N_2O$ |
| | | Extintores | $CO_2$, HFC, y PFC |
| | | Consumo de combustible vegetal | |
| | Fuentes Fijas. Generadores auxiliares, quemadores | Consumo de combustible sólidos | $CO_2$, $CH_4$, y $N_2O$ |
| | | Consumo de combustible líquidos para generadores auxiliares, | $CO_2$, $CH_4$, y $N_2O$ |

| | | | |
|---|---|---|---|
| | de gas, generación eléctrica (consumo), extintores en el proyecto. | generación eléctrica (consumo), | |
| | | Consumo de combustible gaseosos quemadores de gas. | $CO_2$, $CH_4$, y $N_2O$ |
| | | Extintores | $CO_2$, HFC, y PFC |
| | Vegetación eliminada.<br>Remoción de capa superficial vegetal (obra de toma), y poda de árboles de la línea de agua potable.<br>Fase operativa, el mantenimiento (tala y eliminación de la vegetación con la limpieza de la servidumbre) | Tala / remoción de árboles, cultivos, pastos, gramíneas, u otro tipo de vegetación, por la conversión del uso de suelo. | $CO_2$ |
| | Remoción de suelo | Movimiento / desplazamiento de tierra, ruptura y/o mecanización de suelos, por acciones mecánicas con maquinaria. | $CO_2$ |
| | Residuos sólidos | residuos sólidos comunes e industriales | $CO_2$ |
| | Emisiones Fugitivas. | Uso de sistemas de refrigeración y | |

| | | | |
|---|---|---|---|
| | Aires acondicionados, refrigerantes de aires. | aires acondicionados fijos y móviles, agentes extintores y espumantes, entre otros. | HFC |
| Alcance 2 (emisiones indirectas) | Consumo de electricidad | Uso de energía suministrada por la red. | $CO_2$, $CH_4$, y $N_2O$ |

### 9.8.2 Plan de Mitigación al cambio climático *(incluyendo aquellas medidas* que se implementarán para reducir las emisiones de GEI.

La mayor generación de gases de efecto invernadero que se darán en el proyecto será durante la fase de construcción cuando se utilicen maquinarias y equipos pesados, ya que en la fase de operación no se utilizaran equipos y maquinarias pesadas, será responsabilidad del Contratista el control de la generación de los gases de efecto invernadero, al mantener estos equipos y maquinaria en perfectas condiciones.

Los gases de efecto invernadero que se generaran en el proyecto son los siguientes:

- ✓ Dióxido de Carbono ($CO_2$), por la quema de combustible fósil (diesel, gasolina), por equipos y maquinaria pesada perforadoras, retroexcavadoras, camiones volquetes, vehículos, camiones, remoción de la capa vegetal y remoción de suelo.
- ✓ Metano ($CH_4$), se emite por el uso de combustible y aceite en los equipos y maquinarias. También por la descomposición de residuos orgánicos al remover la capa superficial vegetal, podas de árboles y los producidos por los colaboradores del proyecto, mediante sus necesidades fisiológicas.
- ✓ Óxido nitroso ($N_2O$), se emite durante la combustión de combustibles fósiles y residuos sólidos y líquidos mediante las necesidades fisiológicas de los colaboradores.
- ✓ $CO_2$, HFC, y PFC, durante los mantenimientos a los extintores.
- ✓ HFC, Emisiones Fugitivas. (Aires acondicionados, refrigerantes de aires).

La habilidad de un proyecto, sistema, comunidad para mitigar, a través de aumento de las capacidades para aplicar recursos, coordinación de instituciones a través de medidas de mitigación con el fin de reducir, evitar las emisiones de los gases de efecto de invernadero (GEI) reducen los impactos del cambio climático.

**Objetivos del plan de mitigación al cambio climático**

A través de este proyecto, se busca aportar en los esfuerzos para mantener el

sumidero o carbono negativo, o sea se absorbe la mayor cantidad de GEI de lo que se emite a consecuencia de las actividades humanas. Es decir, las tierras forestales panameñas capturan más carbono que el total de las emisiones de gases. Una de las estrategias del país, para seguir siendo Carbono Negativo, es que cada proyecto en desarrollo pueda mitigar sus gases de efecto invernadero durante la ejecución del proyecto de sus diferentes etapas.

**Objetivo general.**

Implementar el PMA y sus acciones dirigidas junto con un plan de monitoreo que permita medir o cuantificar de forma precisa y transparente los resultados obtenidos

**Objetivos específicos**

Realizar la cuantificación y reporte del inventario de GEI bajo la metodología propuesta por MiAMBIENTE.

Establecer las bases para hacer los cálculos de la Huella de Carbono del proyecto.

**Formulación de medidas de mitigación (metodología para identificar y describir las medidas de mitigación al cambio climático.**

**Cuadro No 19. Formato de referencia para la identificación y descripción de las medidas de mitigación al cambio climático.**

| Categoría | Fuente de emisión | Actividad | Medidas de mitigación |
|---|---|---|---|
| Alcance 1 (emisiones directas) | Fuentes móviles. Equipos, maquinarias, vehículos, extintores de vehículos. | Consumo de combustible sólidos como carbón mineral | No aplica |
| | | Consumo de combustible líquidos (gasolina, diesel, otros | Ejecución del programa de mantenimiento de la flota vehicular.<br>Renovación de la flota vehicular según programa administrativo.<br>Establecer límites de velocidad en el proyecto.<br>Supervisión vehicular con GPS. |
| | | Consumo de combustible gaseosos | Control de tanques de oxígeno, acetileno. |
| | | Extintores | Darles mantenimiento oportuno a los extintores. |
| | | Consumo de combustible vegetal | No aplica |

| | | | |
|---|---|---|---|
| | Fuentes Fijas. Generadores auxiliares, quemadores de gas, generación eléctrica (consumo), extintores en el proyecto. | Consumo de combustible sólidos | No aplica |
| | | Consumo de combustible líquidos, en los generadores auxiliares, para producir electricidad. | Apagar generadores que no se estén usando. |
| | | Consumo de combustible gaseosos | No aplica |
| | | Extintores | Darles mantenimiento oportuno. |
| | Vegetación eliminada. Remoción de capa superficial vegetal (obra de toma), y poda de árboles de la línea de agua potable. Fase operativa, el mantenimiento (tala y eliminación de la vegetación con la | Tala / remoción de árboles, cultivos, pastos, gramíneas, u otro tipo de vegetación, por la conversión del uso de suelo. | Planificar la tala necesaria (conservado el bosque de galería). Reforestar con especies nativas. |

| | | | |
|---|---|---|---|
| | limpieza de la servidumbre) | | |
| | Remoción de suelo | Movimiento / desplazamiento de tierra, ruptura y/o mecanización de suelos, por acciones mecánicas con maquinaria. | Planificar los cortes y rellenos de tal manera que no sobre tierra (perfiles de cortes y rellenos balanceados).<br>Efectuar mantenimiento periódico de cunetas y alcantarillas. |
| | Residuos sólidos | residuos sólidos comunes e industriales | Separación y recolección de residuos sólidos.<br>Reciclar los residuos industriales de construcción y operación. |
| | Emisiones Fugitivas. Aires acondicionados, refrigerantes de aires. | Uso de sistemas de refrigeración y aires acondicionados fijos y móviles, agentes extintores y espumantes, entre otros. | Supervisar y dar mantenimiento oportuno a los aires acondicionados de la flota vehicular y de las oficinas de campo. |
| Alcance 2 (emisiones | Consumo de electricidad | Uso de energía suministrada por la | Usar lámparas LED<br>Ventilar las oficinas de campo. |

| | | | |
|---|---|---|---|
| indirectas) | | red. | Permitir la entrada de luz natural a las oficinas con techo transparente.<br>Apagar las lámparas cuando no hay nadie en las oficinas. |

**Cuadro No. 20. Plan de mitigación al cambio climático (según Res DM 113-2024 solo aplica para etapa de construcción).**

| Medida de mitigación | Descripción de la medida | Indicador | Responsable de la ejecución | Fase de proyecto de aplicación de la medida | Supervisión | Costos (B/) |
|---|---|---|---|---|---|---|
| Mantenimiento de la flota vehicular. | Plan de mantenimiento. | No de vehículos | Jefe de Proyecto. | Construcción | IDAAN Y CONTRATISTA CUSA, S.A. | Incluido en costo de la empresa. |
| Renovación de la flota vehicular | Plan de reemplazo de | No de vehículos | Gerente d proyecto. | Construcción | IDAAN Y CONTRATISTA | Incluido en costo de la |

| | | | | | | |
|---|---|---|---|---|---|---|
| | flota. | | | | CUSA, S.A. | empresa. |
| Control de tanques de oxígeno, acetileno | Control de uso y seguridad de los tanques de oxicorte. | No de equipos | capataces | Construcción | IDAAN Y CONTRATISTA CUSA, S.A. | Costos de construcción |
| Apagar generadores, vehículos, equipos y motores que no se estén usando. | Protocolo de operación de equipos, señalización. | Protocolo | capataces | Construcción | IDAAN Y CONTRATISTA CUSA, S.A. | Costos de construcción |
| Darles mantenimiento oportuno a los extintores. | Protocolo de operación de equipos, señalización. | Programa de mantenimiento | Jefe de seguridad | Construcción | IDAAN Y CONTRATISTA CUSA, S.A. | Costos de construcción |
| Planificar la tala, lo estrictamente necesario. (conservado el bosque de galería). | Tramitar permisos de tala. | No arboles | Jefe de proyecto. | Construcción | IDAAN Y CONTRATISTA CUSA, S.A. | Costos de construcción |

| | | | | | | |
|---|---|---|---|---|---|---|
| Reforestar con especies nativas. | Plan de reforestación. | Plan de reforestación | Jefe de ambiente | Construcción | IDAAN Y CONTRATISTA CUSA, S.A. | Costos de construcción |
| Planificar los cortes y rellenos | Planificar e movimiento de suelo. | Diseños | Jefe de ambiente | Planificación y construcción. | IDAAN Y CONTRATISTA CUSA, S.A. | Costos de construcción |
| Efectuar mantenimiento periódico de cunetas y alcantarillas. | Planificar e movimiento de suelo y mantenimiento de cunetas. | Plan de trabajo | Jefe de ambiente | Construcción | IDAAN Y CONTRATISTA CUSA, S.A. | Costos de construcción |
| Separación y recolección de residuos sólidos | Cumplir con el MINSA | Tn de residuos /día | Jefe de ambiente y seguridad | Construcción | IDAAN Y CONTRATISTA CUSA, S.A. | Costos de construcción |
| Reciclar los residuos industriales | Cumplir con el MINSA | Tn de residuos /día | Jefe de ambiente y seguridad | Construcción | IDAAN Y CONTRATISTA CUSA, S.A. | Costos de construcción |
| Mantenimiento oportuno a los aires | Plan de | No de aires | Jefe de ambiente y | Construcción | IDAAN Y CONTRATISTA | Costos de |

| | | | | | | |
|---|---|---|---|---|---|---|
| acondicionados | mantenimiento. | | seguridad | | CUSA, S.A. | construcción |
| Usar lámparas LED | Construcción de oficinas de campo. | No de lámparas LED | Jefe de ambiente y seguridad | Construcción | IDAAN Y CONTRATISTA CUSA, S.A. | Costos de construcción |
| Permitir la entrada de luz natural a las oficinas | Construcción de oficinas de campo. | Techos | Jefe de ambiente y seguridad | Construcción | IDAAN Y CONTRATISTA CUSA, S.A. | Costos de construcción |
| Capacitar al personal en las medidas de mitigación GEI | Agregar estos temas en el plan de capacitación e inducciones. | No de capacitaciones, o personal capacitado en GEI. | Jefe de ambiente y seguridad | Construcción | IDAAN Y CONTRATISTA CUSA, S.A. | Costos de construcción |

**Plan de monitoreo de las fuentes de emisiones de GEI, que afectan el cambio climático.**

**Cuadro: No 21. Plan de monitoreo** de las fuentes de emisiones de gases de efecto de invernadero del proyecto, durante la construcción en cumplimiento de la resolución DM-113-2024.

| Actividad a monitorear | Medidas de mitigación a las fuentes de emisiones de GEI, causantes del cambio climático | Construcción | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Periodo (mensual) | | | | | | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Consumo de combustible, en fuentes móviles y fijas. | Fuentes móviles.<br>Vehículos<br>Apagar los vehículos Equipos, maquinarias, que no estén en uso. | | | | | | | | | | | | |
| | Mantenimiento de la flota vehicular, equipos, maquinarias | | | | | | | | | | | | |
| | Capacitación al personal. | | | | | | | | | | | | |
| | Fuentes Fijas.<br>Apagar los generadores auxiliares, quemadores de gas, generación eléctrica (consumo de combustibles líquidos), | | | | | | | | | | | | |
| Consumo de gas y materiales de extintores. | Dar mantenimiento a los extintores en vehículos y en el proyecto. | | | | | | | | | | | | |
| Vegetación | Vegetación eliminada. | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| eliminada.<br>Solo lo aprobado, según plan. | Remoción de capa superficial vegetal y poda de árboles con la limpieza de la servidumbre. | | | | | | | | | | | | |
| Remoción de suelos (volúmenes, según plan) | Remoción de suelo sólo lo estrictamente necesario. | | | | | | | | | | | | |
| Llevar registros y controles de la generación de residuos sólidos. | Residuos sólidos generados, clasificados, reciclados, reusados. | | | | | | | | | | | | |
| Consumo de refrigerantes usados.<br>Mantenimiento de aires acondicionados, según especificaciones del fabricante. | Dar los cambios y mantenimiento según fabricante. Emisiones Fugitivas.<br>Aires acondicionados, refrigerantes de aires. | | | | | | | | | | | | |
| Consumo de | Consumo de electricidad según | | | | | | | | | | | | |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| electricidad | facturación o registros. | | | | | | | | | | | | |

Los costos de las medidas de mitigación al cambio climático han sido estimados en B/ 8,000.0

La empresa debe hacer y presentar después de aprobado en el estudio y en la fase de construcción el cálculo de la HUELLA DE CARBONO:

Este enfoque comprende un mayor alcance con relación a las fuentes de emisión asociadas a la organización (puesto que analiza las emisiones desde una óptica de análisis de ciclo de vida del concepto evaluado). En este caso se consideran tanto las emisiones directas como indirectas.

A la vista de las herramientas citadas anteriormente, las emisiones (según fuente de emisión) pueden clasificarse en dos grupos:

i. **Emisiones directas**: aquellas asociadas a una actividad o proceso generado dentro de la organización o sobre la que existe un control total por parte de la misma.

Las cuales pueden ser del Alcance I

a. Fuentes Fijas
b. Fuentes Móviles
c. Fuentes Fugitivas
d. Vegetación Eliminadas

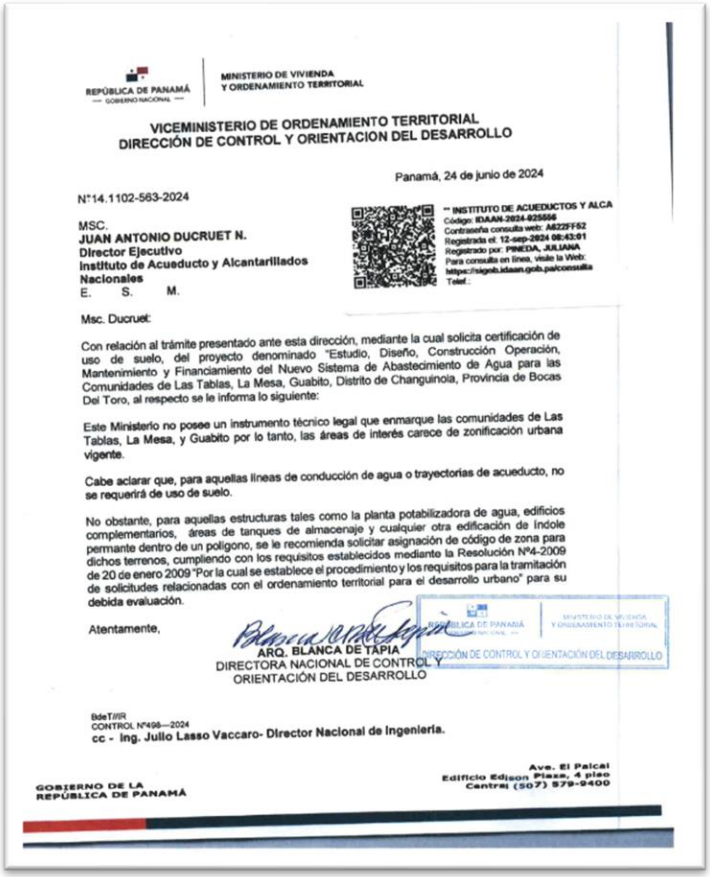
ii. **Emisiones indirectas**: en este caso estas emisiones son generadas como resultado de acciones o actividades del proyecto, pero sobre las cuales no se dispone de ningún control, no se darán en el proyecto.

Costo total del plan para reducción de los efectos del cambio climático que incluye los costos de los planes de adaptación y de mitigación es de B/. 13,000.00

5. **En base al artículo 31 del Decreto Ejecutivo No. l del 2023, modificado por el artículo 8 del Decreto Ejecutivo No. 2 de 2024, solicitamos:**

a) Indicar el estatus de la solicitud de asignación de uso de suelo.

**Respuesta:** A través de la N°14.1102-563-2024, el Viceministerio de Ordenamiento Territorial Dirección de Control y Ordenamiento del Desarrollo nos responde lo siguiente:



REPÚBLICA DE PANAMÁ — GOBIERNO NACIONAL —
MINISTERIO DE VIVIENDA Y ORDENAMIENTO TERRITORIAL

**VICEMINISTERIO DE ORDENAMIENTO TERRITORIAL**
**DIRECCIÓN DE CONTROL Y ORIENTACION DEL DESARROLLO**

Panamá, 24 de junio de 2024

N°14.1102-563-2024

** INSTITUTO DE ACUEDUCTOS Y ALCA
Código: IDAAN-2024-025656
Contraseña consulta web: A622FF52
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Registrado por: PINEDA, JULIANA
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https://sigob.idaan.gob.pa/consulta
Telef.:

MSC.
**JUAN ANTONIO DUCRUET N.**
**Director Ejecutivo**
**Instituto de Acueducto y Alcantarillados Nacionales**
E. S. M.

Msc. Ducruet:

Con relación al trámite presentado ante esta dirección, mediante la cual solicita certificación de uso de suelo, del proyecto denominado "Estudio, Diseño, Construcción Operación, Mantenimiento y Financiamiento del Nuevo Sistema de Abastecimiento de Agua para las Comunidades de Las Tablas, La Mesa, Guabito, Distrito de Changuinola, Provincia de Bocas Del Toro, al respecto se le informa lo siguiente:

Este Ministerio no posee un instrumento técnico legal que enmarque las comunidades de Las Tablas, La Mesa, y Guabito por lo tanto, las áreas de interés carece de zonificación urbana vigente.

Cabe aclarar que, para aquellas líneas de conducción de agua o trayectorias de acueducto, no se requerirá de uso de suelo.

No obstante, para aquellas estructuras tales como la planta potabilizadora de agua, edificios complementarios, áreas de tanques de almacenaje y cualquier otra edificación de índole permante dentro de un polígono, se le recomienda solicitar asignación de código de zona para dichos terrenos, cumpliendo con los requisitos establecidos mediante la Resolución N°4-2009 de 20 de enero 2009 "Por la cual se establece el procedimiento y los requisitos para la tramitación de solicitudes relacionadas con el ordenamiento territorial para el desarrollo urbano" para su debida evaluación.

Atentamente,

**ARQ. BLANCA DE TAPIA**
DIRECTORA NACIONAL DE CONTROL Y ORIENTACIÓN DEL DESARROLLO

REPÚBLICA DE PANAMÁ — MINISTERIO DE VIVIENDA Y ORDENAMIENTO TERRITORIAL
DIRECCIÓN DE CONTROL Y ORIENTACIÓN DEL DESARROLLO

BdeT/IR
CONTROL N°498—2024
cc - **Ing. Julio Lasso Vaccaro- Director Nacional de Ingeniería.**

GOBIERNO DE LA REPÚBLICA DE PANAMÁ

Ave. El Palcal
Edificio Edison Plaza, 4 piso
Central (507) 579-9400

6. La medición de aire realizada no concuerda con los parámetros establecidos en la Resolución No. 021 del 24 de enero de 2023, en cuanto al periodo de muestreos de 24 horas continuas para el contaminante PMl0 y su ejecución por un Organismo de Evaluación de la Conformidad (OEC) acreditada por el Consejo Nacional de Acreditación de Panamá (CNA) bajo la norma ISO 17020. Por lo antes

descrito, se le solicita:

a) **Presentar Monitoreo de Calidad de Aire Ambiental de acuerdo con lo dispuesto en Resolución No. 02 l del 24 de enero de 2023, original o copia notariada, para cada sitio del proyecto (toma de agua, planta de Sibube, tanque de las tablas y tanque La Mesa).**

**Respuesta:** Se realizo el Monitoreo de Calidad de Aire Ambiental en el área de la Planta Potabilizadora de Sibube, cumpliendo con lo establecido en la Resolución No. 02 l del 24 de enero de 2023. **Ver anexo N°7. Resultados de Monitoreo de Calidad de Aire.**

Los resultados que se adjuntan al documento son copias, por lo cual queda pendiente la entrega del documento original a la dirección de Evaluación de Impacto Ambiental. Dicha tardanza se debe a que no fue posible recibir el informe antes de la fecha de entrega, establecida hasta el 18 de noviembre del presente año.

**Imagen N°12. Medición de calidad de aire**



Por otra parte, debido a las condiciones climáticas provocadas por la “**Tormenta tropical Rafael”,** a nivel nacional sin exceptuar la provincia de Bocas del Toro, no fue posible llevar a cabo la medición del resto de los puntos solicitados en la nota aclaratoria, por lo que se ha coordinado con el laboratorio una vez el tiempo no los permita realizar las mediciones.

## Anexo N° 1. Nota 14.1003.922-2024 – Servidumbre

GOBIERNO NACIONAL
★ CON PASO FIRME ★

MINISTERIO DE VIVIENDA
Y ORDENAMIENTO TERRITORIAL

Viceministerio de Ordenamiento Territorial
Dirección de Ordenamiento Territorial

Panamá, 15 de octubre de 2024

** INSTITUTO DE ACUEDUCTOS Y ALCA
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Contraseña consulta web: **C920406C**
Registrada el: **25-oct-2024 10:04:04**
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Telef.:

*14.1003-922-2024*

Ingeniero
**Rutilio A. Villarreal L.**
Director Ejecutivo
Instituto de Acueductos y Alcantarillados Nacionales
E. S. D.

Ingeniero Villarreal:

Dando respuesta a la Nota **800-2024-DNING-DEPROCA,** con control **No.560-2024**, enviada a la Dirección de Ordenamiento Territorial, en la que solicita información de servidumbres, para el **"ESTUDIO, DISEÑO, CONSTRUCCIÓN, OPERACIÓN, MANTENIMIENTO Y FINANCIAMIENTO DEL NUEVO SISTEMA DE AGUA POTABLE",** a desarrollarse en las comunidades de Las Tablas, La Mesa, Guabito, distrito de Changuinola, provincia de Bocas del Toro, le indicamos que:

| NOMBRE DE LA VIA | SERVIDUMBRE | REFERENCIA |
|---|---|---|
| Camino de la mesa a otras fincas | 10.00 metros | Plano Catastral No.102-03-1894 de 15 de abril de 2005<br>Plano Catatsral No.11-03-0429 de 1 de junio de 1984 |
| Las Delicias- Sibube | 12.80 metros | Plano Catastral No. 01-02-10-14525 de 15 de septiembre de 2023 |
| Calle sin nombre (comunidad de Washout) | 10.00 metros | Plano Catastral No.102-03-2087 de 9 de marzo de 2007. |
| Carretera Guabito- Changuinola (finca 51) | 30.00 metros | Plano Catastral No.01-02-03-14462 de 26 de junio de 2023. |
| Carretera de las Delicias Arriba a Las Tablas | 30.00 metros | Plano Catastral No.01-02-10-12583 de 3 de octubre de 2017. |
| Carretera Guabito (Puesto Fronterizo - Puente Blanco) | 15.00 metros | Plano Catastral No. 01-02-03-14172 de 25 de noviembre de 2022. |

**Observación:**

- De afectarse Folios Reales particulares previa y debidamente titulados e inscritas, se deberán realizar los respectivos saneamientos de las mismas.
- Por omisión o suministro de información falsa, esta certificación será objeto de anulación.

Atentamente,

**Arq. Gary Amberths**
Director de Ordenamiento Territorial

**Arq. Nancy Urriola**
Jefa Depto. de Planificación Vial

**Control No.560-2024**
GA/NU/RB

## Anexo N° 2. Nota 14.1102.563.2024 (Respuesta de la Certificación de Uso de Suelo)

REPÚBLICA DE PANAMÁ
— GOBIERNO NACIONAL —

MINISTERIO DE VIVIENDA
Y ORDENAMIENTO TERRITORIAL

**VICEMINISTERIO DE ORDENAMIENTO TERRITORIAL**
**DIRECCIÓN DE CONTROL Y ORIENTACION DEL DESARROLLO**

Panamá, 24 de junio de 2024

N°14.1102-563-2024

** INSTITUTO DE ACUEDUCTOS Y ALCA
Código: IDAAN-2024-025556
Contraseña consulta web: A622FF52
Registrada el: 12-sep-2024 08:43:01
Registrado por: PINEDA, JULIANA
Para consulta en línea, visite la Web:
https://sigob.idaan.gob.pa/consulta
Telef.:

MSC.
**JUAN ANTONIO DUCRUET N.**
**Director Ejecutivo**
**Instituto de Acueducto y Alcantarillados Nacionales**
E. S. M.

Msc. Ducruet:

Con relación al trámite presentado ante esta dirección, mediante la cual solicita certificación de uso de suelo, del proyecto denominado "Estudio, Diseño, Construcción Operación, Mantenimiento y Financiamiento del Nuevo Sistema de Abastecimiento de Agua para las Comunidades de Las Tablas, La Mesa, Guabito, Distrito de Changuinola, Provincia de Bocas Del Toro, al respecto se le informa lo siguiente:

Este Ministerio no posee un instrumento técnico legal que enmarque las comunidades de Las Tablas, La Mesa, y Guabito por lo tanto, las áreas de interés carece de zonificación urbana vigente.

Cabe aclarar que, para aquellas líneas de conducción de agua o trayectorias de acueducto, no se requerirá de uso de suelo.

No obstante, para aquellas estructuras tales como la planta potabilizadora de agua, edificios complementarios, áreas de tanques de almacenaje y cualquier otra edificación de índole permante dentro de un polígono, se le recomienda solicitar asignación de código de zona para dichos terrenos, cumpliendo con los requisitos establecidos mediante la Resolución N°4-2009 de 20 de enero 2009 "Por la cual se establece el procedimiento y los requisitos para la tramitación de solicitudes relacionadas con el ordenamiento territorial para el desarrollo urbano" para su debida evaluación.

Atentamente,

**ARQ. BLANCA DE TAPIA**
DIRECTORA NACIONAL DE CONTROL Y
ORIENTACIÓN DEL DESARROLLO

REPÚBLICA DE PANAMÁ — GOBIERNO NACIONAL —
MINISTERIO DE VIVIENDA Y ORDENAMIENTO TERRITORIAL
DIRECCIÓN DE CONTROL Y ORIENTACIÓN DEL DESARROLLO

BdeT//IR
CONTROL N°498—2024
**cc - Ing. Julio Lasso Vaccaro- Director Nacional de Ingeniería.**

**Ver Anexo N° 3. Resultados de los análisis de calidad de agua.**

EnviroLAB
*Laboratorio Ambiental y de Higiene Ocupacional*

CNA
CONSEJO NACIONAL DE ACREDITACIÓN
LABORATORIO DE ENSAYOS ACREDITADO
LE-019

# REPORTE DE MUESTREO Y ANÁLISIS DE AGUA SUPERFICIAL

## INSTITUTO DE ACUEDUCTOS Y ALCANTARILLADOS NACIONALES

## "Estudio, Diseño y Construcción, Operación – Mantenimiento y Financiamiento del Nuevo Sistema de Agua Potable para las Comunidades de las Tablas, La Mesa, Guabito, Distrito de Changuinola"

### Las Delicias, Provincia de Bocas del Toro

| | |
|---|---|
| **FECHA DE MUESTREO:** | 05 de noviembre de 2024 |
| **FECHA DE ANÁLISIS:** | Del 05 al 12 de noviembre de 2024 |
| **NÚMERO DE INFORME:** | 2024-CH-017-B054 v1 |
| **NÚMERO DE PROPUESTA:** | 2024-B054-CH-014 V2 |
| **REDACTADO POR:** | Lic. Johana Castillo |
| **REVISADO POR:** | Lic. Johana Olmos |

Licda Johana Patricia Olmos L.
QUÍMICA
Cedula: 4-745-1007
Idoneidad Nº 0609 Reg. Nº 0706

CIENCIAS BIOLÓGICAS
Sara P. Miranda R.
C.T. Idoneidad Nº 1567


Editado e Impreso por: EnviroLab, S.A
Derechos Reservados 2024

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Derechos Reservados 2024

| Sección 1: Datos generales de la empresa | |
|---|---|
| **Empresa** | Instituto de Acueductos y Alcantarillados Nacionales |
| **Proyecto** | Análisis de Agua Superficial |
| **Dirección** | Las Delicias, Provincia de Bocas del Toro |
| **Contacto** | Carlos Montenegro |
| **Fecha de Recepción de la Muestra** | 05 de noviembre de 2024 |

| Sección 2: Método de medición | |
|---|---|
| **Norma aplicable** | Decreto Ejecutivo No.75 del 4 de junio de 2008, por el cual se dicta la norma primaria para uso recreativo con y sin contacto directo. |
| **Método:** | Ver sección 3 de resultados en la columna referente a los métodos utilizados. |
| **Procedimiento técnico** | PT-35 Procedimiento de muestreo de aguas |
| **Condiciones Ambientales durante el muestreo** | Ver anexo 2 (observaciones) |


Derechos Reservados 2024

## Sección 3: Resultado de análisis de la muestra

| | |
|---|---|
| **Identificación de la muestra** | 10353-24 |
| **Nombre de la muestra** | Punto 1 |
| **Coordenadas** | 17P 0299334 UTM 01061142 |

| PARÁMETRO | SIMBOLO | UNIDAD | MÉTODO | RESULTADO | INCERTIDUMRE | L.M.C. | LÍMITE MÁXIMO |
|---|---|---|---|---|---|---|---|
| Aceites y grasas | A y G | mg/L | SM 5520 B | < 10,00 | (*) | 10,00 | < 10,00 |
| Coliformes Termotolerantes o Fecales | C.F. | NMP / 100 mL | SM 9223 B / Colilert 18 | **4730,00** | ± 0,03 | 1,00 | <250 UFC |
| Coliformes totales | CT | NMP/100 mL | SM 9223 B | 77010,00 | ± 0,02 | 1,00 | N.A. |
| Conductividad Eléctrica | C.E. | µS/cm | SM 2510 B | 396,00 | ± 0,008 | 0,05 | N.A. |
| Demanda bioquímica de oxígeno | $DBO_5$ | mg/L | SM 5210 B | <2,00 | (*) | 2,00 | < 3,00 |
| Oxígeno Disuelto | OD | mg/L | SM 4500 O G | 7,96 | ± 0,04 | 1,00 | >7,0 |
| Potencial de hidrógeno | pH | Up H | SM 4500 $H^+$ B | 7,92 | ± 0,005 | 0,02 | 5,50 - 8,50 |
| Sólidos suspendidos totales | SST | mg/L | SM 2540 D | 16,00 | ± 0,04 | 7,00 | < 50,00 |
| Temperatura | T° | °C | SM 2550 B | 27,60 | ± 0,10 | 0,10 | ±3°C |
| Turbiedad | UNT | UNT | SM 2130 B | 15,55 | ± 0,01 | 0,18 | <50 |

**Notas:**

- Los parámetros que están dentro del alcance de la acreditación para los análisis los puede ubicar en nuestra resolución de aprobación por parte del Consejo Nacional de Acreditación, en la siguiente dirección: https://envirolabonline.com/nuestra-empresa/
- La incertidumbre reportada corresponde a un nivel de confianza del 95% (K=2).
- L.M.C.: Límite mínimo de cuantificación.
- (*) Incertidumbre no determinada
- La estimación de la incertidumbre es expresada como incertidumbre relativa U (%).
- La(s) muestra(s) se mantendrá(n) en custodia por diez (10) días calendario luego de la recepción de este reporte por parte del cliente, concluido este período se desechará(n). Se considera dentro de los diez días calendario, los tiempos de preservación de cada parámetro (de acuerdo al método de análisis aplicado).
- Los resultados presentados en este documento solo corresponden a la(s) muestra(s) analizada(s).
- Este informe no podrá ser reproducido parcialmente sin autorización escrita de ENVIROLAB, S.A.


Derechos Reservados 2024

## Sección 3: Resultado de análisis de la muestra

| | |
|---|---|
| **Identificación de la muestra** | 10354-24 |
| **Nombre de la muestra** | Punto 2 |
| **Coordenadas** | 17P 0299278 UTM 01060554 |

| PARÁMETRO | SIMBOLO | UNIDAD | MÉTODO | RESULTADO | INCERTIDUMRE | L.M.C. | LÍMITE MÁXIMO |
|---|---|---|---|---|---|---|---|
| Aceites y grasas | A y G | mg/L | SM 5520 B | < 10,00 | (*) | 10,00 | < 10,00 |
| Coliformes Termotolerantes o Fecales | C.F. | NMP / 100 mL | SM 9223 B / Colilert 18 | **1580,00** | ± 0,03 | 1,00 | <250 UFC |
| Coliformes totales | CT | NMP/100 mL | SM 9223 B | 64880,00 | ± 0,02 | 1,00 | N.A. |
| Conductividad Eléctrica | C.E. | µS/cm | SM 2510 B | 195,40 | ± 0,008 | 0,05 | N.A. |
| Demanda bioquímica de oxígeno | $DBO_5$ | mg/L | SM 5210 B | <2,00 | (*) | 2,00 | < 3,00 |
| Oxígeno Disuelto | OD | mg/L | SM 4500 O G | 7,11 | ± 0,04 | 1,00 | >7,0 |
| Potencial de hidrógeno | pH | Up H | SM 4500 $H^+$ B | 7,66 | ± 0,005 | 0,02 | 5,50 - 8,50 |
| Sólidos suspendidos totales | SST | mg/L | SM 2540 D | 12,00 | ± 0,04 | 7,00 | < 50,00 |
| Temperatura | T° | °C | SM 2550 B | 27,10 | ± 0,10 | 0,10 | ±3°C |
| Turbiedad | UNT | UNT | SM 2130 B | 17,45 | ± 0,01 | 0,18 | <50 |

**Notas:**

- Los parámetros que están dentro del alcance de la acreditación para los análisis los puede ubicar en nuestra resolución de aprobación por parte del Consejo Nacional de Acreditación, en la siguiente dirección: https://envirolabonline.com/nuestra-empresa/
- La incertidumbre reportada corresponde a un nivel de confianza del 95% (K=2).
- L.M.C.: Límite mínimo de cuantificación.
- (*) Incertidumbre no determinada
- La estimación de la incertidumbre es expresada como incertidumbre relativa U (%).
- La(s) muestra(s) se mantendrá(n) en custodia por diez (10) días calendario luego de la recepción de este reporte por parte del cliente, concluido este período se desechará(n). Se considera dentro de los diez días calendario, los tiempos de preservación de cada parámetro (de acuerdo al método de análisis aplicado).
- Los resultados presentados en este documento solo corresponden a la(s) muestra(s) analizada(s).
- Este informe no podrá ser reproducido parcialmente sin autorización escrita de ENVIROLAB, S.A.


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## Sección 3: Resultado de análisis de la muestra

| | |
|---|---|
| **Identificación de la muestra** | 10355-24 |
| **Nombre de la muestra** | Punto 3 |
| **Coordenadas** | 17P 0299160 UTM 01060021 |

| PARÁMETRO | SIMBOLO | UNIDAD | MÉTODO | RESUL-TADO | INCERTI-DUMRE | L.M.C. | LÍMITE MÁXIMO |
|---|---|---|---|---|---|---|---|
| Aceites y grasas | A y G | mg/L | SM 5520 B | < 10,00 | (*) | 10,00 | < 10,00 |
| Coliformes Termotolerantes o Fecales | C.F. | NMP / 100 mL | SM 9223 B / Colilert 18 | **11990,00** | ± 0,03 | 1,00 | <250 UFC |
| Coliformes totales | CT | NMP/100 mL | SM 9223 B | >241960,00 | (*) | 1,00 | N.A. |
| Conductividad Eléctrica | C.E. | µS/cm | SM 2510 B | 195,30 | ± 0,008 | 0,05 | N.A. |
| Demanda bioquímica de oxígeno | $DBO_5$ | mg/L | SM 5210 B | <2,00 | (*) | 2,00 | < 3,00 |
| Oxígeno Disuelto | OD | mg/L | SM 4500 O G | 7,91 | ± 0,04 | 1,00 | >7,0 |
| Potencial de hidrógeno | pH | Up H | SM 4500 $H^+$ B | 7,94 | ± 0,005 | 0,02 | 5,50 - 8,50 |
| Sólidos suspendidos totales | SST | mg/L | SM 2540 D | <7,00 | (*) | 7,00 | < 50,00 |
| Temperatura | T° | °C | SM 2550 B | 26,30 | ± 0,10 | 0,10 | ±3°C |
| Turbiedad | UNT | UNT | SM 2130 B | 19,30 | ± 0,01 | 0,18 | <50 |

**Notas:**

- Los parámetros que están dentro del alcance de la acreditación para los análisis los puede ubicar en nuestra resolución de aprobación por parte del Consejo Nacional de Acreditación, en la siguiente dirección: https://envirolabonline.com/nuestra-empresa/
- La incertidumbre reportada corresponde a un nivel de confianza del 95% (K=2).
- L.M.C.: Límite mínimo de cuantificación.
- (*) Incertidumbre no determinada
- La estimación de la incertidumbre es expresada como incertidumbre relativa U (%).
- La(s) muestra(s) se mantendrá(n) en custodia por diez (10) días calendario luego de la recepción de este reporte por parte del cliente, concluido este período se desechará(n). Se considera dentro de los diez días calendario, los tiempos de preservación de cada parámetro (de acuerdo al método de análisis aplicado).
- Los resultados presentados en este documento solo corresponden a la(s) muestra(s) analizada(s).
- Este informe no podrá ser reproducido parcialmente sin autorización escrita de ENVIROLAB, S.A.


Derechos Reservados 2024

## Sección 3: Resultado de análisis de la muestra

| | |
|---|---|
| **Identificación de la muestra** | 10356-24 |
| **Nombre de la muestra** | Punto 4 |
| **Coordenadas** | 17P 0299160 UTM 01060021 |

| PARÁMETRO | SIMBOLO | UNIDAD | MÉTODO | RESULTADO | INCERTIDUMRE | L.M.C. | LÍMITE MÁXIMO |
|---|---|---|---|---|---|---|---|
| Aceites y grasas | A y G | mg/L | SM 5520 B | < 10,00 | (*) | 10,00 | < 10,00 |
| Coliformes Termotolerantes o Fecales | C.F. | NMP / 100 mL | SM 9223 B / Colilert 18 | **920,00** | ± 0,03 | 1,00 | <250 UFC |
| Coliformes totales | CT | NMP/100 mL | SM 9223 B | 14360,00 | ± 0,02 | 1,00 | N.A. |
| Conductividad Eléctrica | C.E. | µS/cm | SM 2510 B | 637,00 | ± 0,008 | 0,05 | N.A. |
| Demanda bioquímica de oxígeno | $DBO_5$ | mg/L | SM 5210 B | <2,00 | (*) | 2,00 | < 3,00 |
| Oxígeno Disuelto | OD | mg/L | SM 4500 O G | 8,04 | ± 0,04 | 1,00 | >7,0 |
| Potencial de hidrógeno | pH | Up H | SM 4500 $H^+$ B | 7,79 | ± 0,005 | 0,02 | 5,50 - 8,50 |
| Sólidos suspendidos totales | SST | mg/L | SM 2540 D | **204,00** | ± 0,04 | 7,00 | < 50,00 |
| Temperatura | T° | °C | SM 2550 B | 25,10 | ± 0,10 | 0,10 | ±3°C |
| Turbiedad | UNT | UNT | SM 2130 B | **365,50** | ± 0,01 | 0,18 | <50 |

**Notas:**

- Los parámetros que están dentro del alcance de la acreditación para los análisis los puede ubicar en nuestra resolución de aprobación por parte del Consejo Nacional de Acreditación, en la siguiente dirección: https://envirolabonline.com/nuestra-empresa/
- La incertidumbre reportada corresponde a un nivel de confianza del 95% (K=2).
- L.M.C.: Límite mínimo de cuantificación.
- (*) Incertidumbre no determinada
- La estimación de la incertidumbre es expresada como incertidumbre relativa U (%).
- La(s) muestra(s) se mantendrá(n) en custodia por diez (10) días calendario luego de la recepción de este reporte por parte del cliente, concluido este período se desechará(n). Se considera dentro de los diez días calendario, los tiempos de preservación de cada parámetro (de acuerdo al método de análisis aplicado).
- Los resultados presentados en este documento solo corresponden a la(s) muestra(s) analizada(s).
- Este informe no podrá ser reproducido parcialmente sin autorización escrita de ENVIROLAB, S.A.


Derechos Reservados 2024

## Sección 4: Conclusiones

1. Se realizó el muestreo y análisis de cuatro (4) puntos de agua superficial.

2. Para las muestras (10353-24, 10354-24 y 10355-24), un (1) parámetro, Coliformes Fecales, se encuentran fuera de los límites establecidos en el Decreto Ejecutivo No.75 del 4 de junio de 2008, por el cual se dicta la norma primaria para uso recreativo con y sin contacto directo.

3. Para la muestra (10356-24), tres (3) parámetros, Coliformes Fecales, Sólidos Suspendidos y Turbiedad, se encuentran fuera de los límites establecidos en el Decreto Ejecutivo No.75 del 4 de junio de 2008, por el cual se dicta la norma primaria para uso recreativo con y sin contacto directo.

## Sección 5: Equipo técnico

| Nombre | Cargo | Identificación |
|---|---|---|
| Silverio Guerra | Técnico de Campo | 4-801-565 |


Derechos Reservados 2024

# ANEXO 1: Fotografía del muestreo.




**Foto 1.** Punto 1

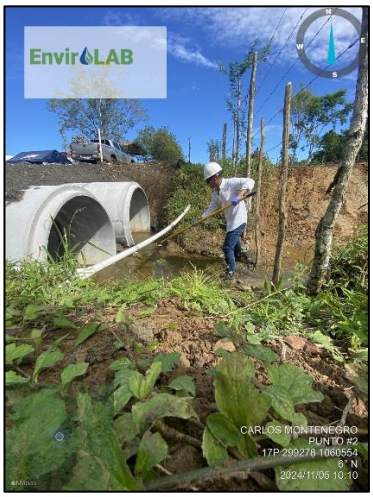



**Foto 2.** Punto 2

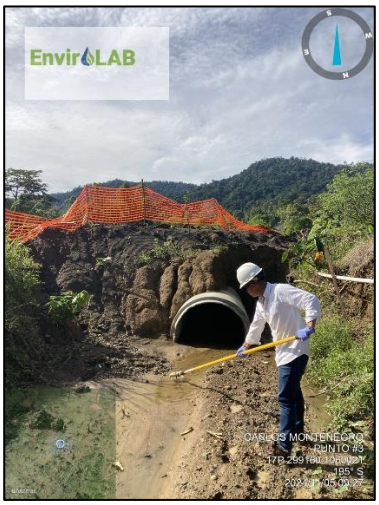



**Foto 3.** Punto 3

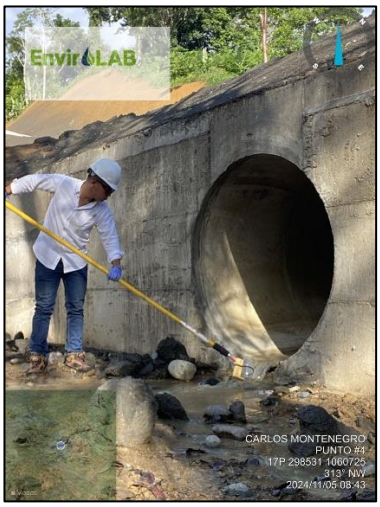
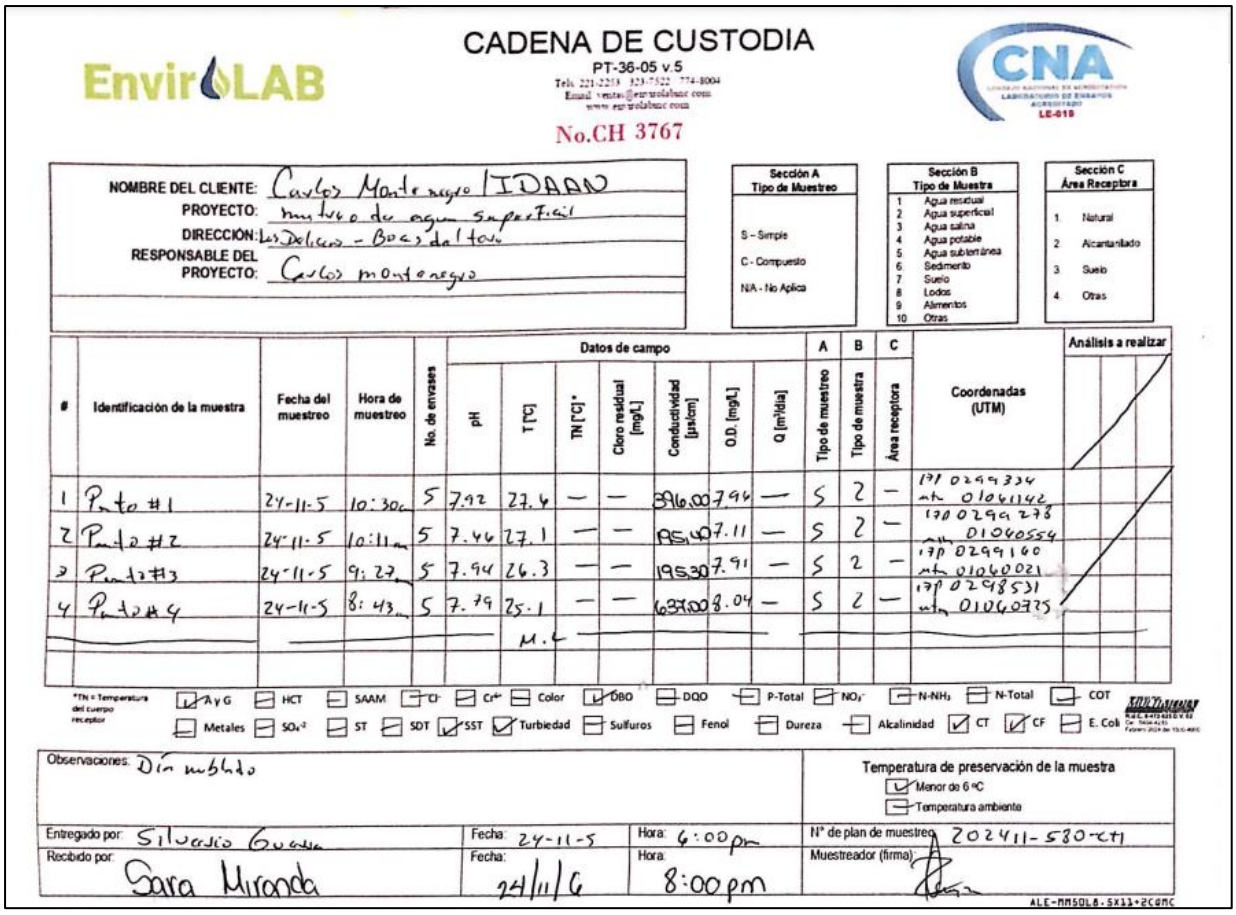



**Foto 4.** Punto 4


Derechos Reservados 2024

# ANEXO 2: Cadena de Custodia del Muestreo.



CADENA DE CUSTODIA

PT-36-05 v.5

No.CH 3767

NOMBRE DEL CLIENTE: Carlos Montenegro / IDAAN
PROYECTO: muestreo de agua superficial
DIRECCIÓN: Las Delicias - Boca de Tole
RESPONSABLE DEL PROYECTO: Carlos montenegro

Sección A Tipo de Muestreo: S - Simple; C - Compuesto; NA - No Aplica

Sección B Tipo de Muestra: 1 Agua residual; 2 Agua superficial; 3 Agua salina; 4 Agua potable; 5 Agua subterránea; 6 Sedimento; 7 Suelo; 8 Lodos; 9 Alimentos; 10 Otras

Sección C Área Receptora: 1. Natural; 2. Alcantarillado; 3. Suelo; 4. Otras

| # | Identificación de la muestra | Fecha del muestreo | Hora de muestreo | No. de envases | Datos de campo: pH | T [°C] | TN [°C]* | Cloro residual [mg/L] | Conductividad [µs/cm] | O.D. [mg/L] | Q [m³/día] | A Tipo de muestreo | B Tipo de muestra | C Área receptora | Coordenadas (UTM) | Análisis a realizar |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Punto #1 | 24-11-5 | 10:30a | 5 | 7.92 | 27.4 | — | — | 396.00 | 7.94 | — | S | 2 | — | 17P 0299334 mn 01061142 | |
| 2 | Punto #2 | 24-11-5 | 10:11a | 5 | 7.46 | 27.1 | — | — | 195.40 | 7.11 | — | S | 2 | — | 17P 0299278 mn 01060554 | |
| 3 | Punto #3 | 24-11-5 | 9:27a | 5 | 7.94 | 26.3 | — | — | 195.30 | 7.91 | — | S | 2 | — | 17P 0299160 mn 01060021 | |
| 4 | Punto #4 | 24-11-5 | 8:43a | 5 | 7.79 | 25.1 | — | — | 637.00 | 8.04 | — | S | 2 | — | 17P 0298531 mn 01060775 | |
| | | | | | | M.L | | | | | | | | | | |

*TN = Temperatura del cuerpo receptor

AyG; HCT; SAAM; Cl⁻; Cr⁺⁶; Color; DBO; DQO; P-Total; $NO_3^-$; N-$NH_3$; N-Total; COT
Metales; $SO_4^{-2}$; ST; SDT; SSST; Turbiedad; Sulfuros; Fenol; Dureza; Alcalinidad; CT; CF; E. Coli

Observaciones: Día nublado

Temperatura de preservación de la muestra: Menor de 6 °C; Temperatura ambiente

Entregado por: Silvestre Guerra — Fecha: 24-11-5 — Hora: 6:00 pm — N° de plan de muestreo: 2024 11-530-CH1

Recibido por: Sara Miranda — Fecha: 24/11/6 — Hora: 8:00 pm — Muestreador (firma):

ALE-MMSOL8-5x11+2COPC

**--- FIN DEL DOCUMENTO ---**

****EnviroLab S.A., sólo se hace responsable por los resultados de los puntos monitoreados y descritos en este Informe.**


Derechos Reservados 2024

**Ver Anexo N°4. Informe de Modelación de la toma de Captación construida – Qda Sibube.**

***República de Panamá***

***Instituto de Acueductos y Alcantarillados Nacionales – I.D.A.A.N.***

# “ESTUDIO, DISEÑO, CONSTRUCCIÓN, OPERACIÓN - MANTENIMIENTO Y FINANCIAMIENTO DEL NUEVO SISTEMA DE AGUA POTABLE PARA LAS COMUNIDADES DE LAS TABLAS, LA MESA, GUABITO, DISTRITO DE CHANGUINOLA, PROVINCIA DE BOCAS DEL TORO”.

Revisión 1

## INFORME DE MODELACION DE LA TOMA DE CAPTACION CONSTRUIDA - QDA SUBUBE

**EMPRESA**

**CONSTRUCTORA URBANA S.A.**

REPÚBLICA DE PANAMÁ
GOBIERNO NACIONAL

INSTITUTO DE ACUEDUCTOS Y ALCANTARILLADOS NACIONALES

Panamá, octubre 2024

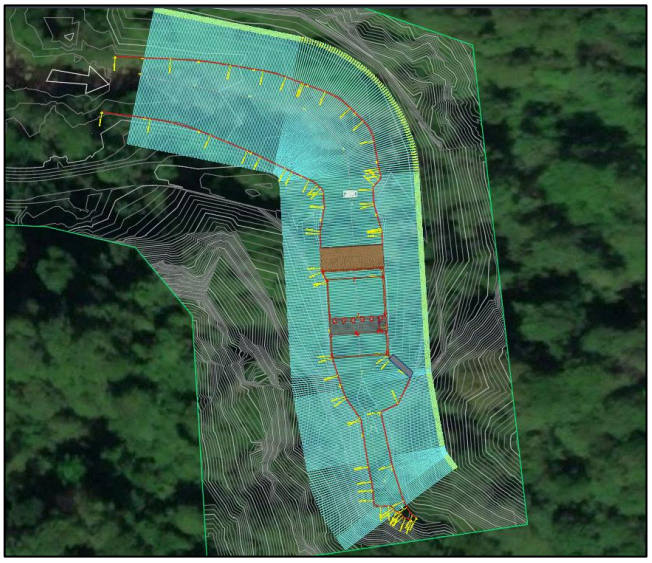
# Qda Sibube

1. Análisis hidráulico - "Modelo HEC-RAS 6.3"

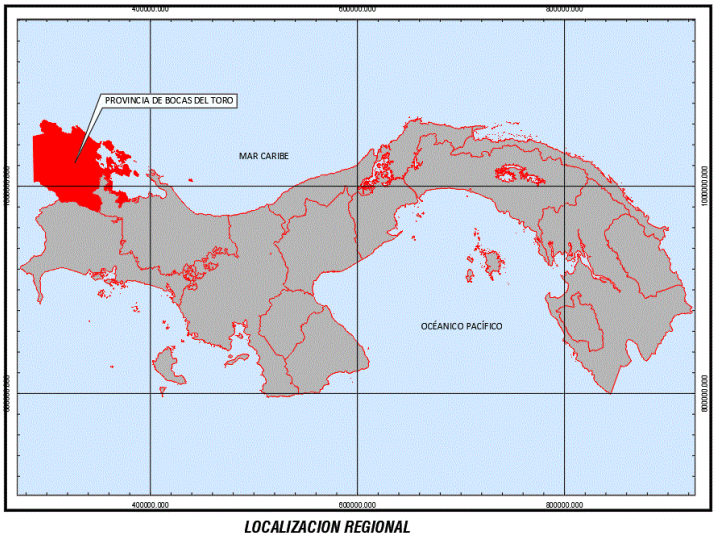
   Como complemento de la modelación inicial en el sitio de la toma realizado para el estudio en cuestión, se procedió a realizar una simulación hidráulica de comparación con la estructura en el sitio de la estructura de captación, mediante el programa HEC-RAS 6.3.

   1.1. Planta de secciones de la Toma de Agua Cruda Sibube

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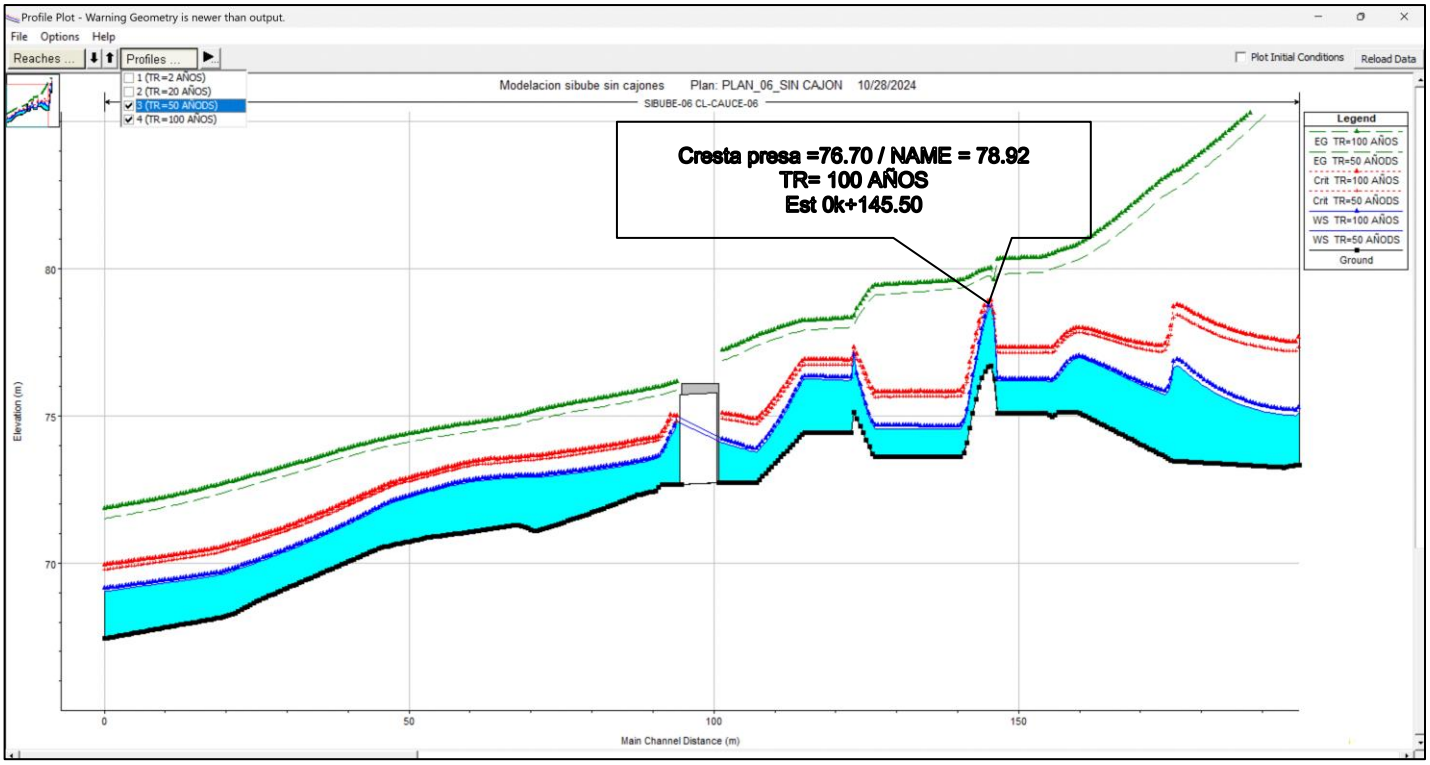


*Esquema de Análisis en Hec-Ras Qda Sibube*

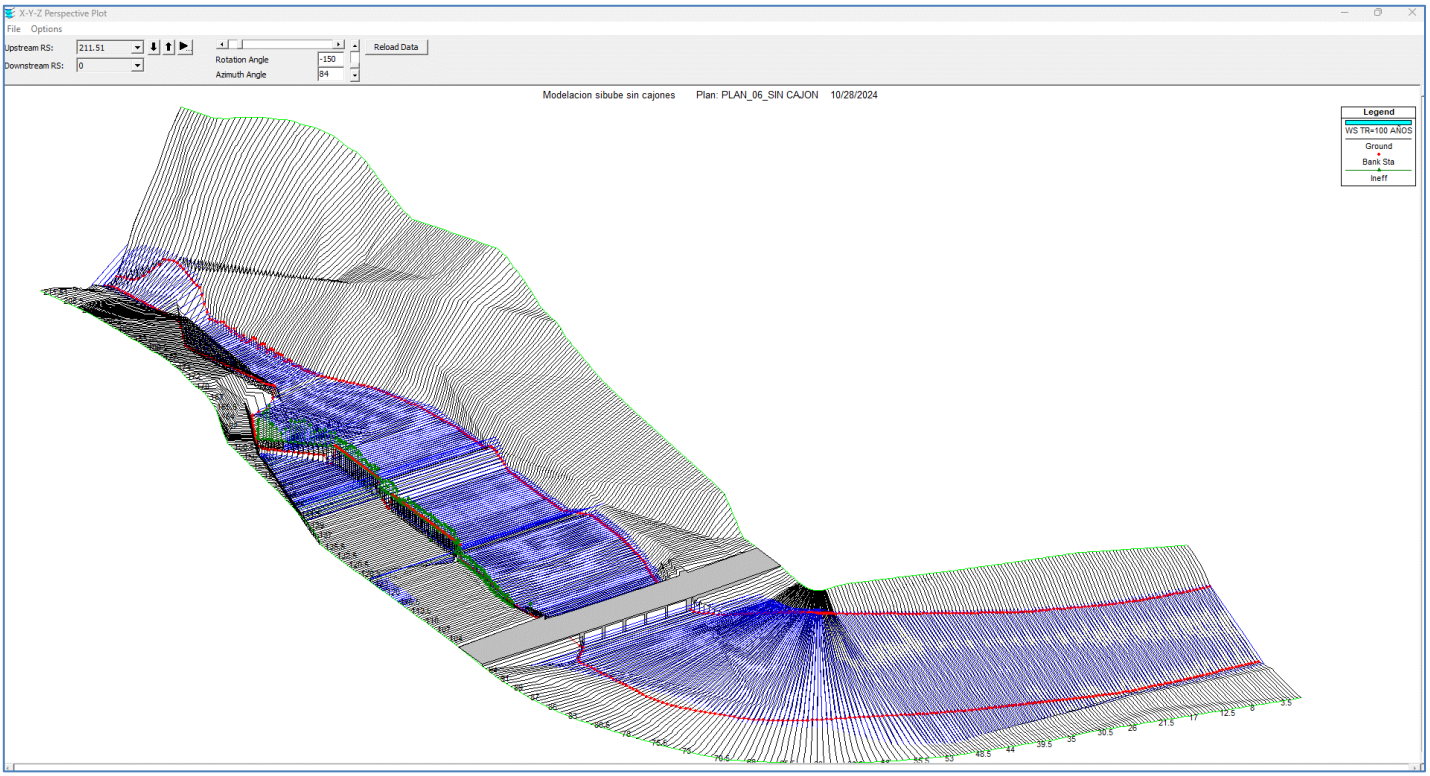



***LOCALIZACION REGIONAL***

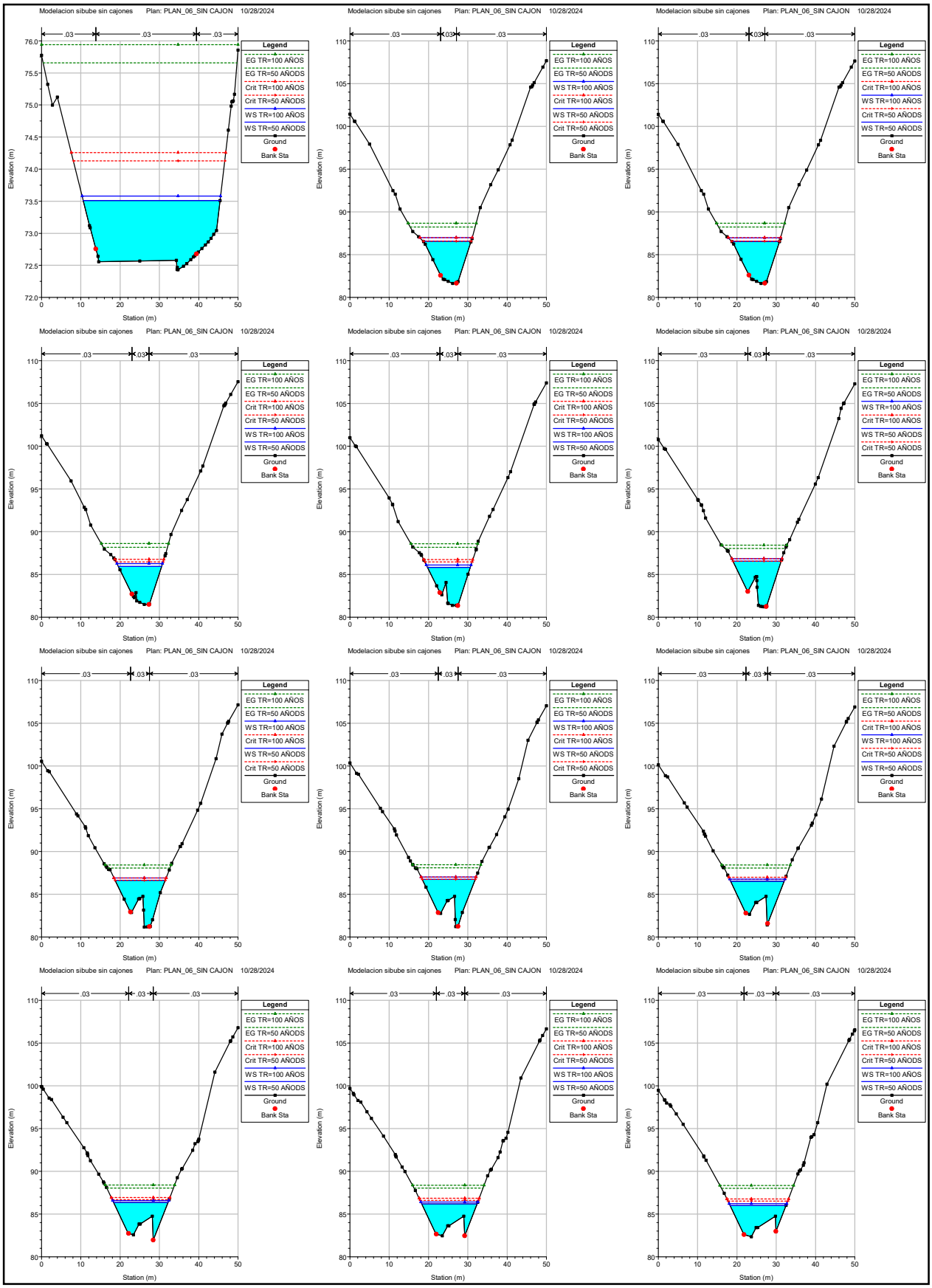
## 1.2. Perfil de análisis de crecida de Estación 0k+000 a 0k +211.50

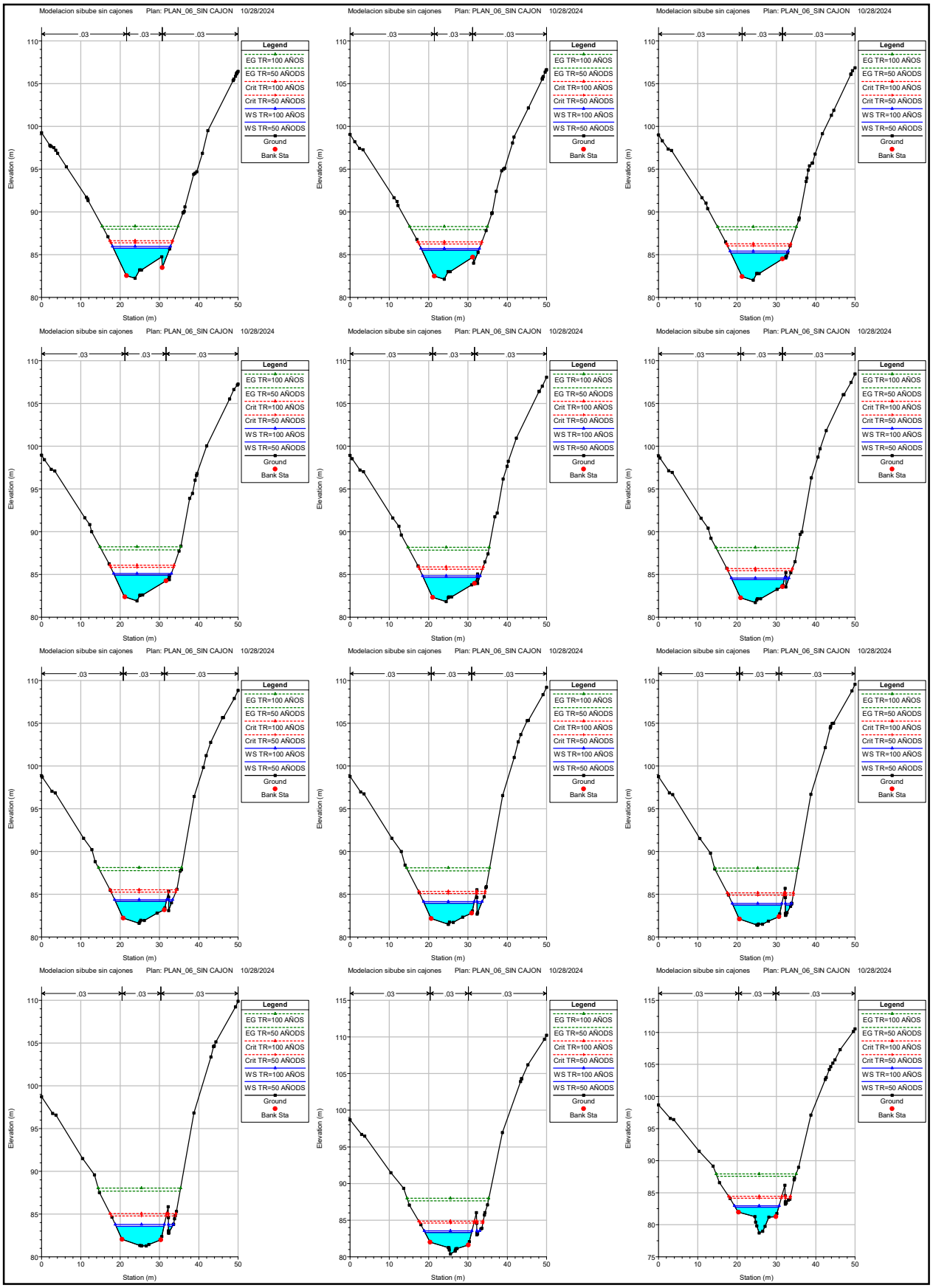


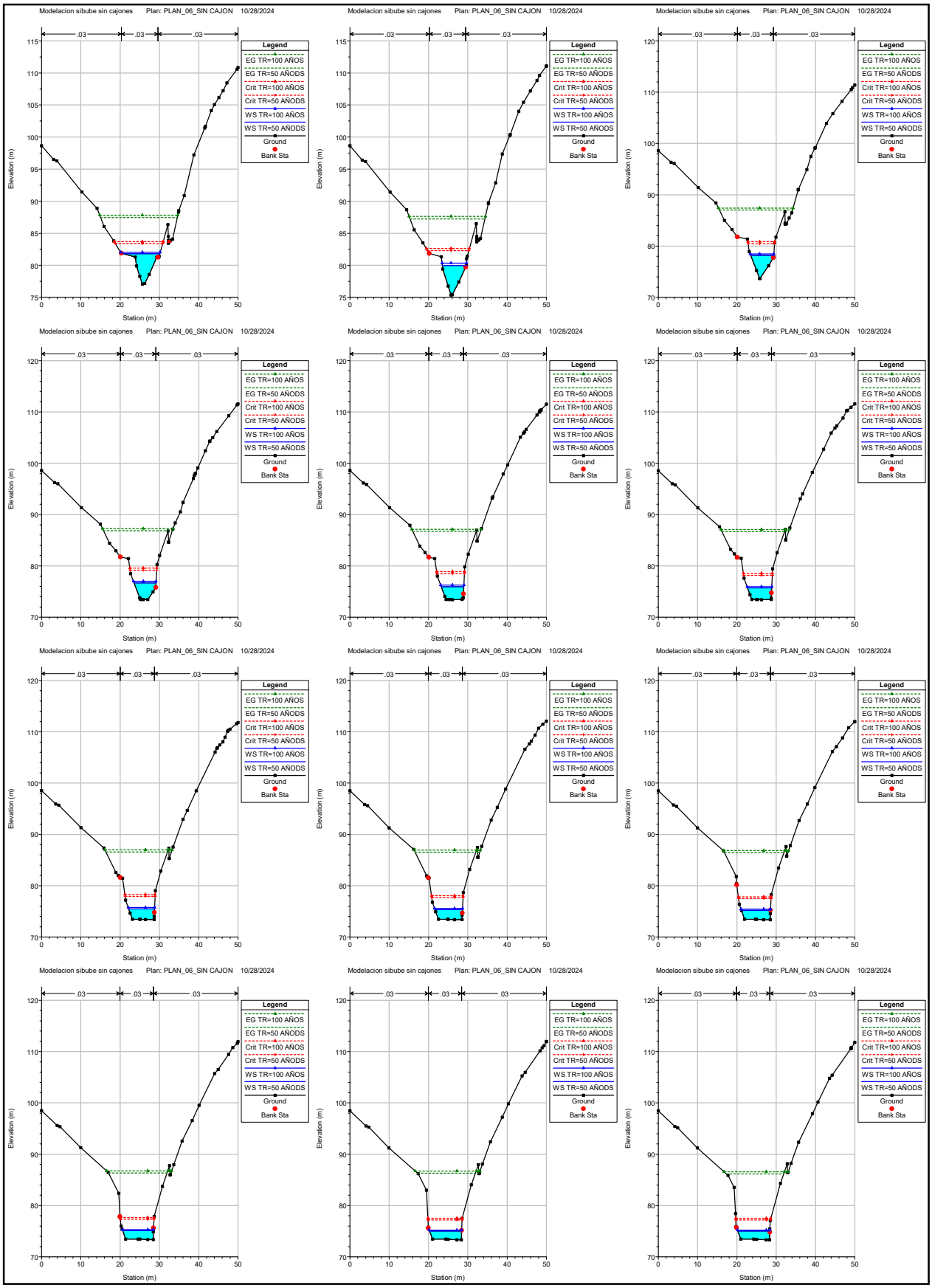

*Perfil Hidráulico en Hec-Ras para la Toma en la Qda Sibube - Lluvia de 1 en 100 años*

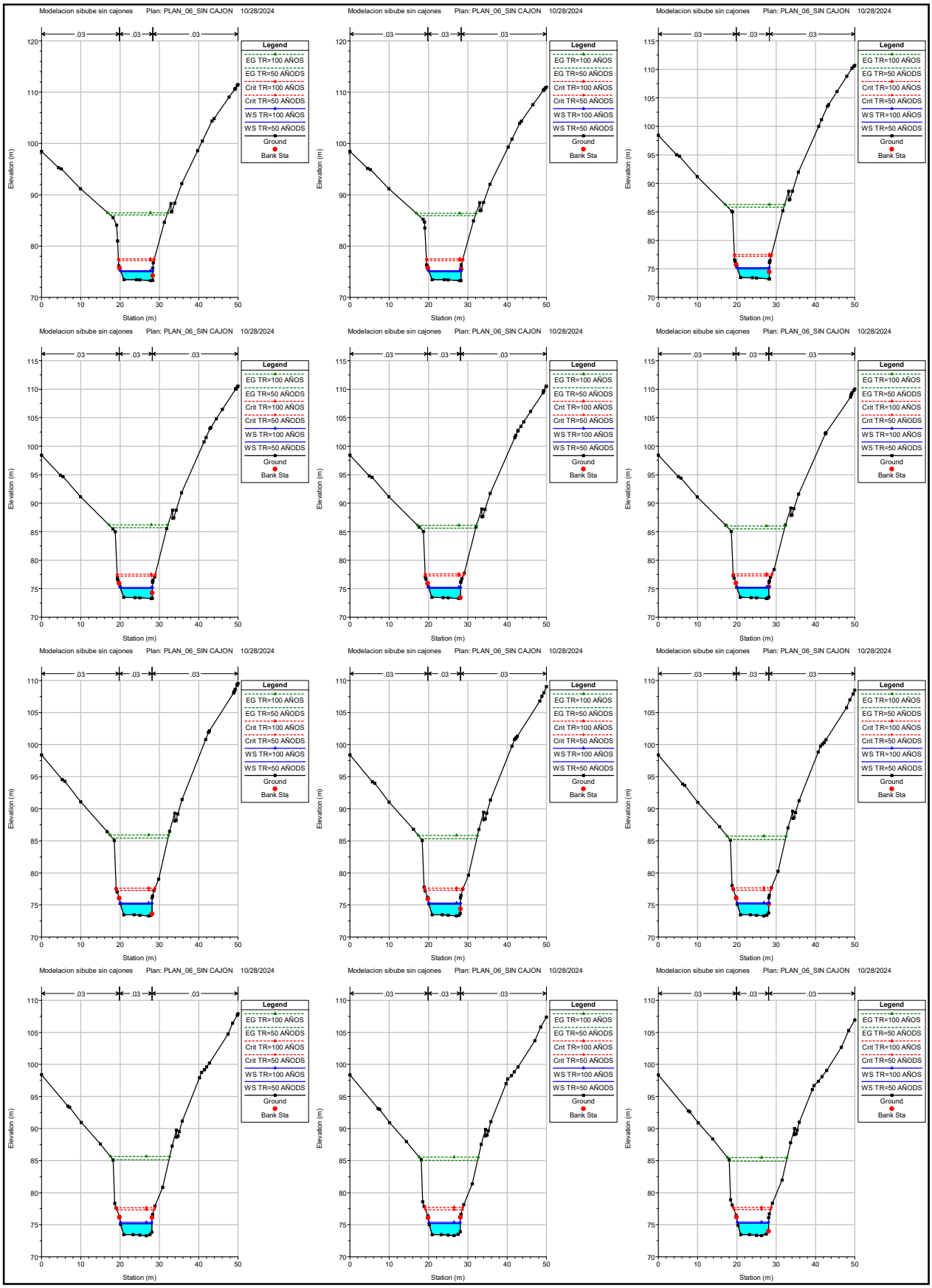


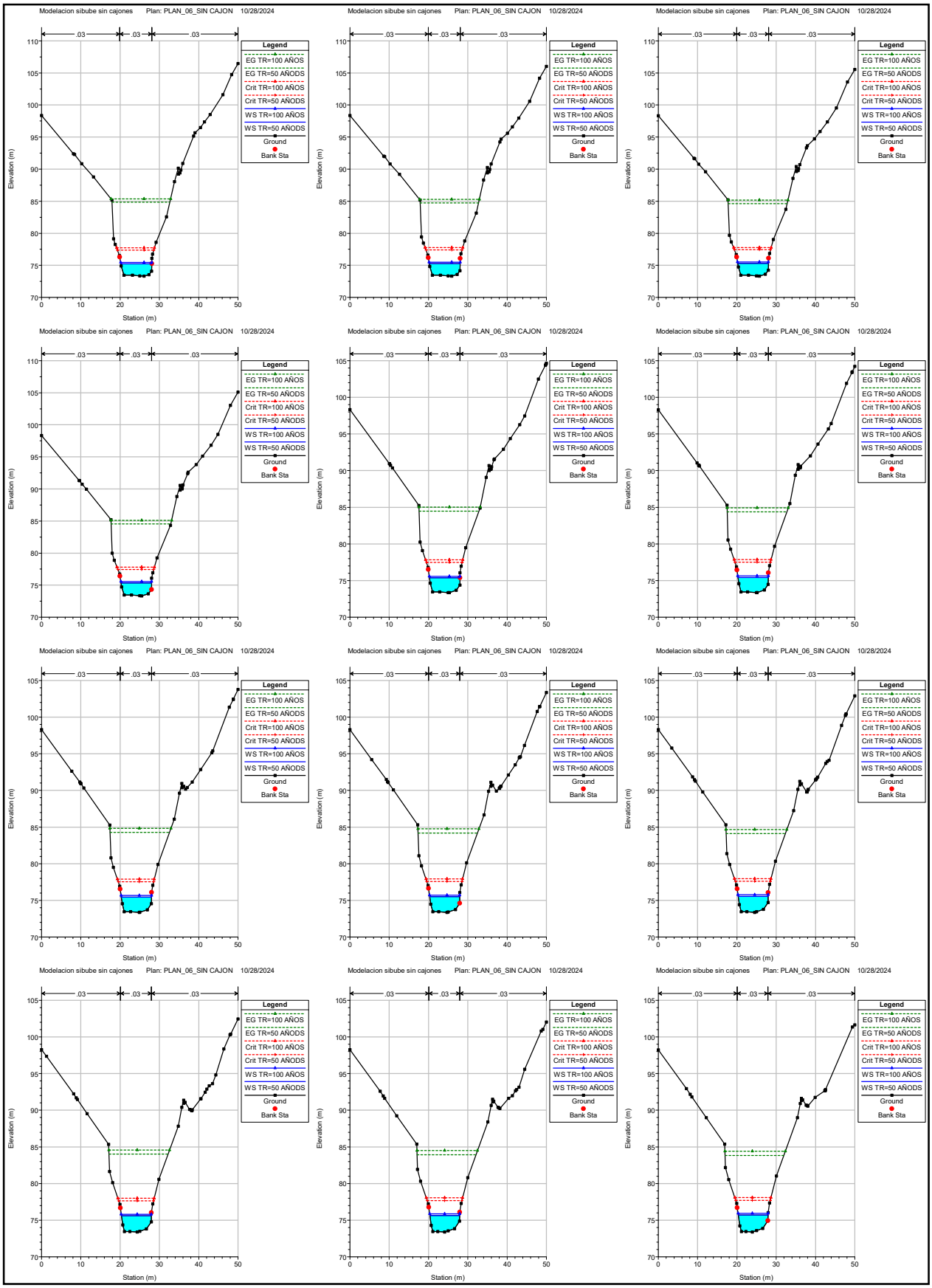

*Isometrico 3D de Análisis en Hec-Ras para la Toma en la Qda Sibube - Lluvia de 1 en 100 años*

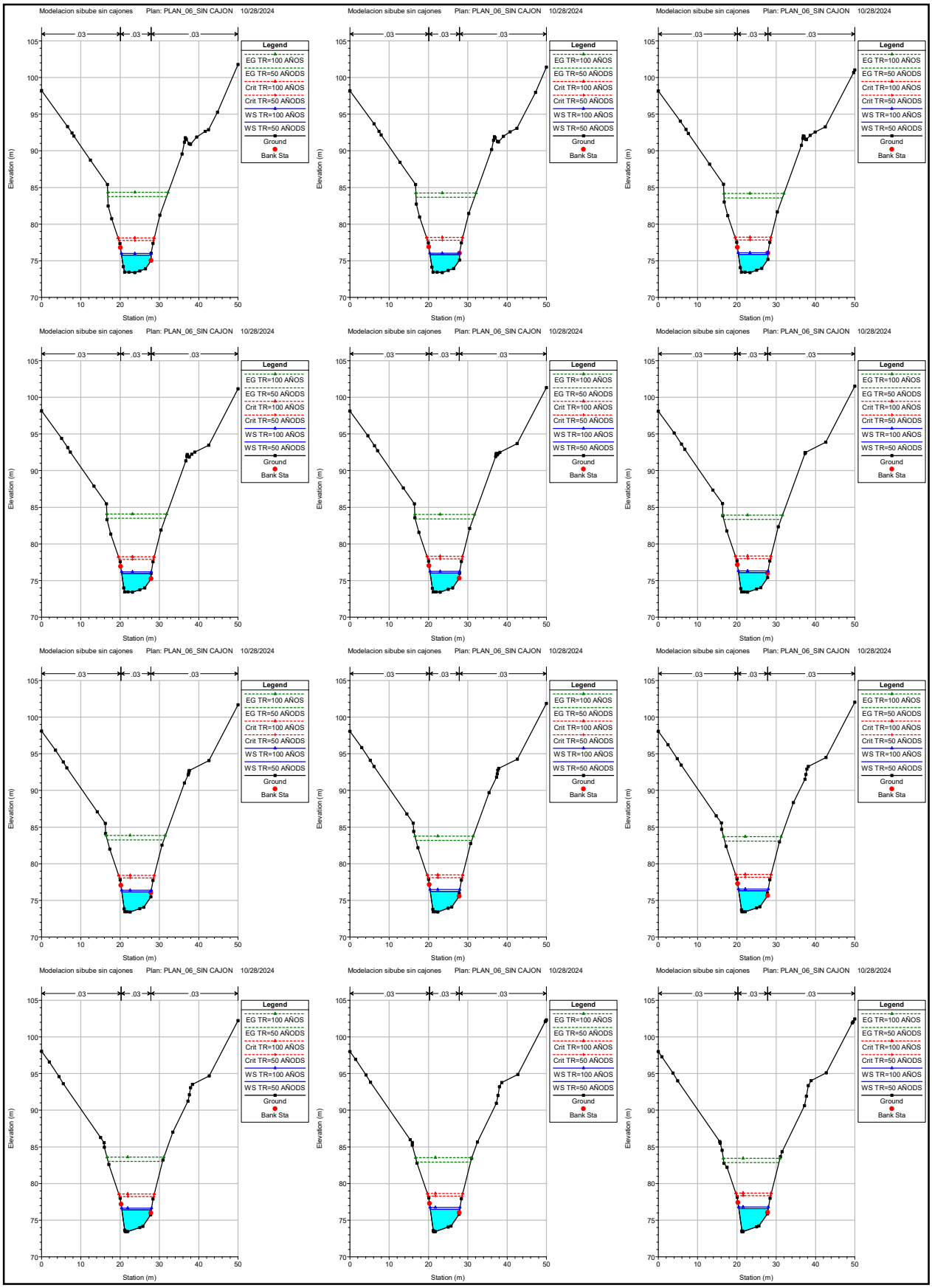

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Legend
EG TR=100 AÑOS
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Crit TR=100 AÑOS
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WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)

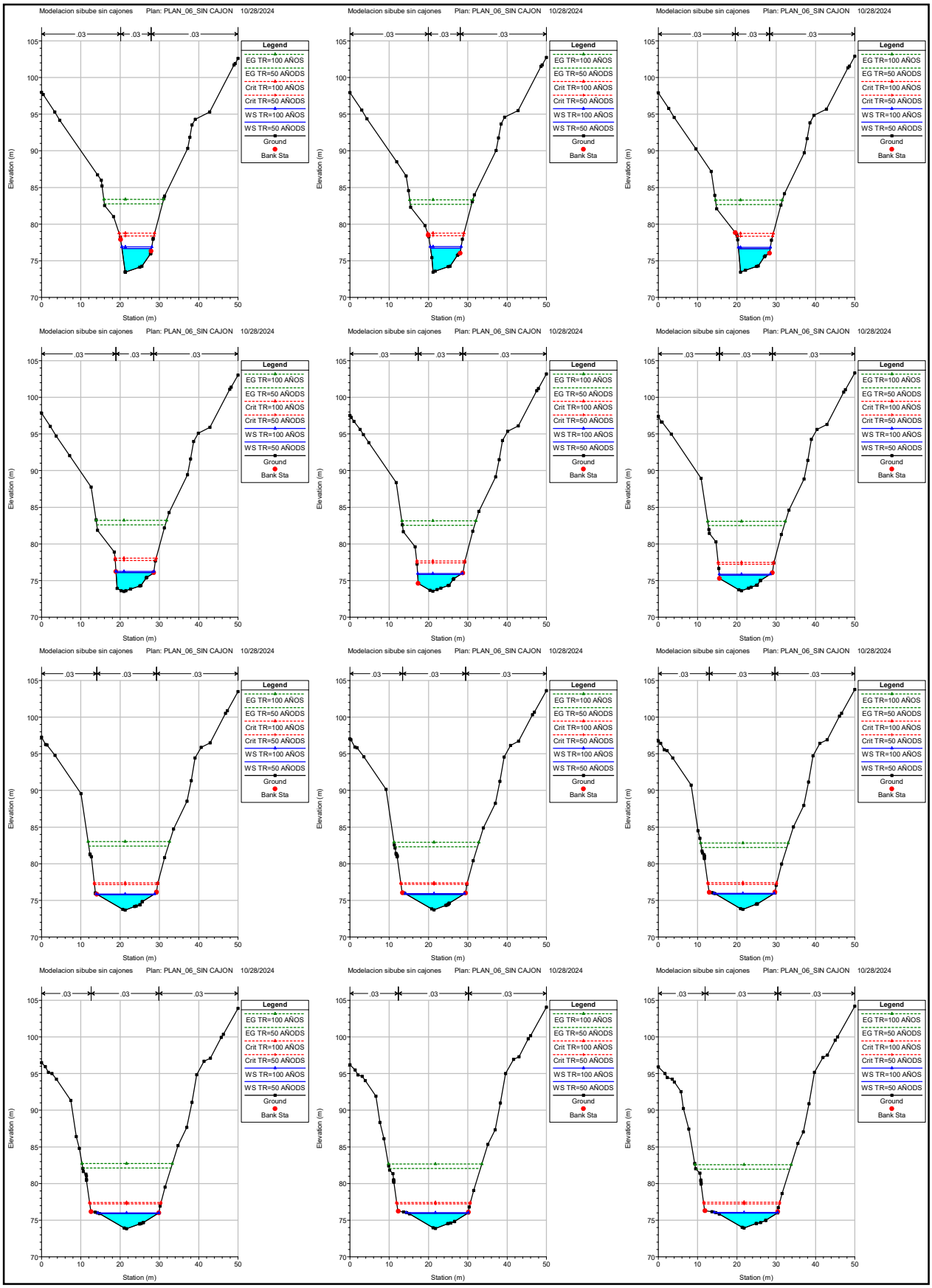

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Ground
Bank Sta
Elevation (m)
Station (m)

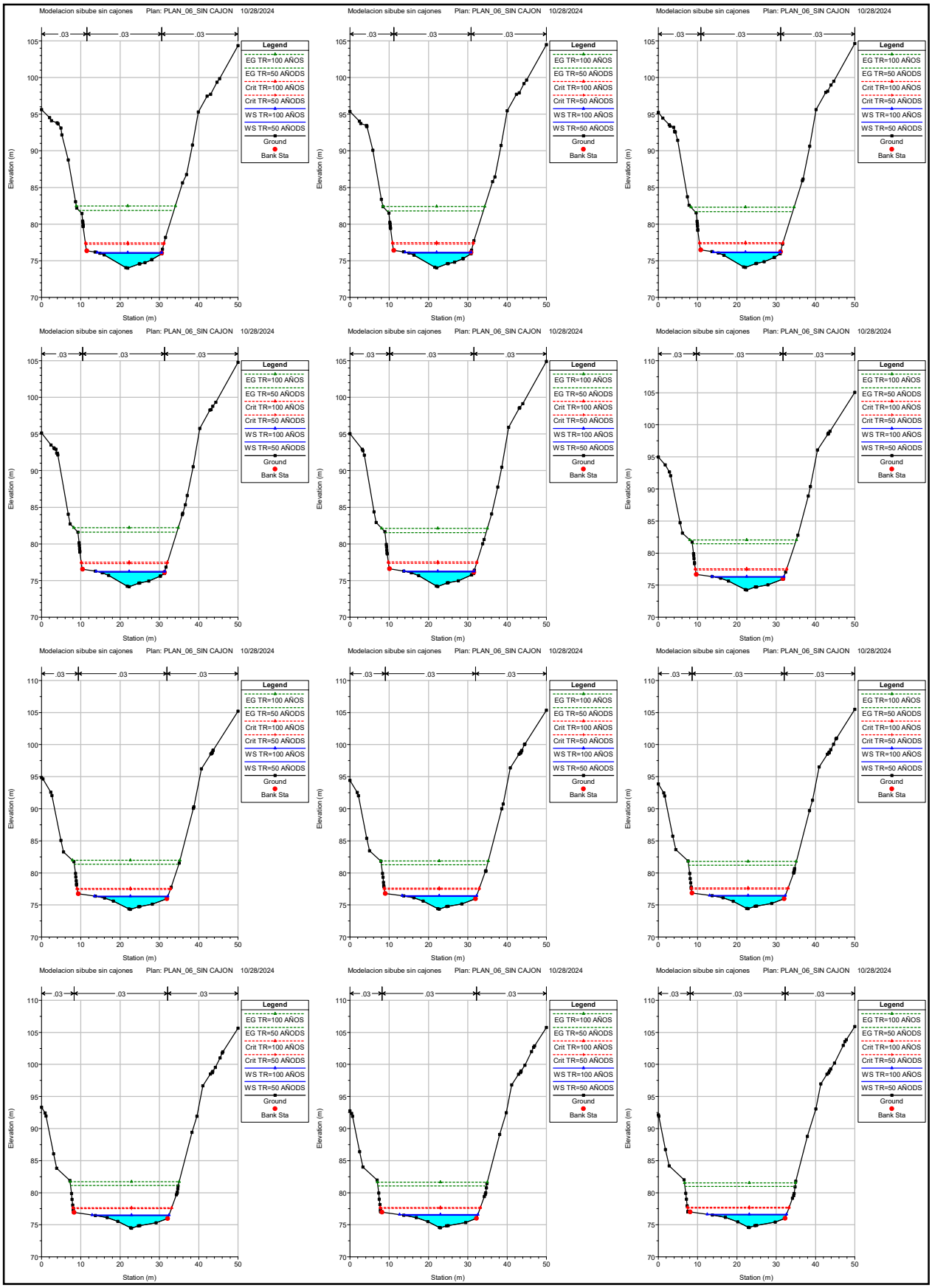

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)

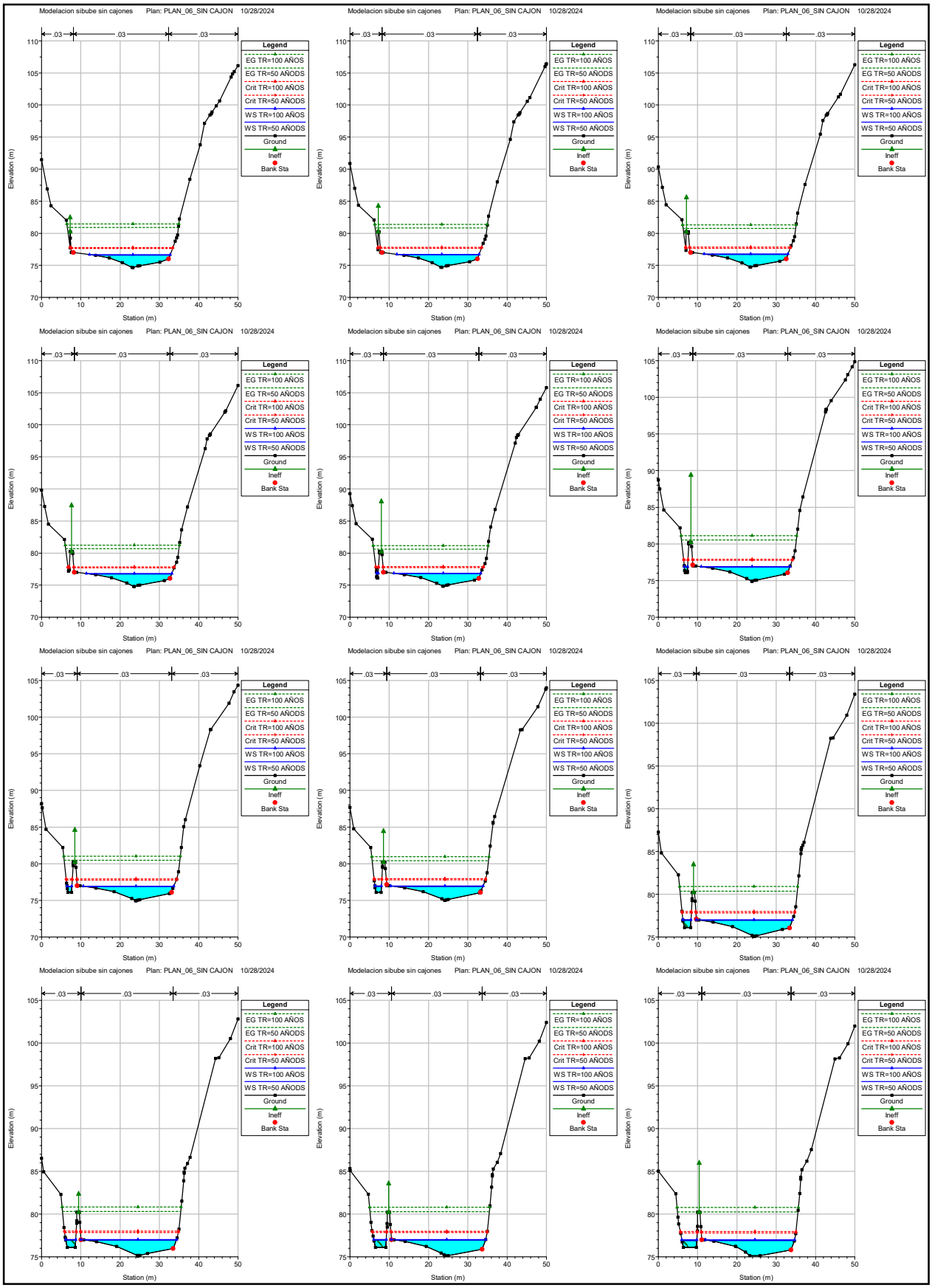

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Ground
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Elevation (m)
Station (m)

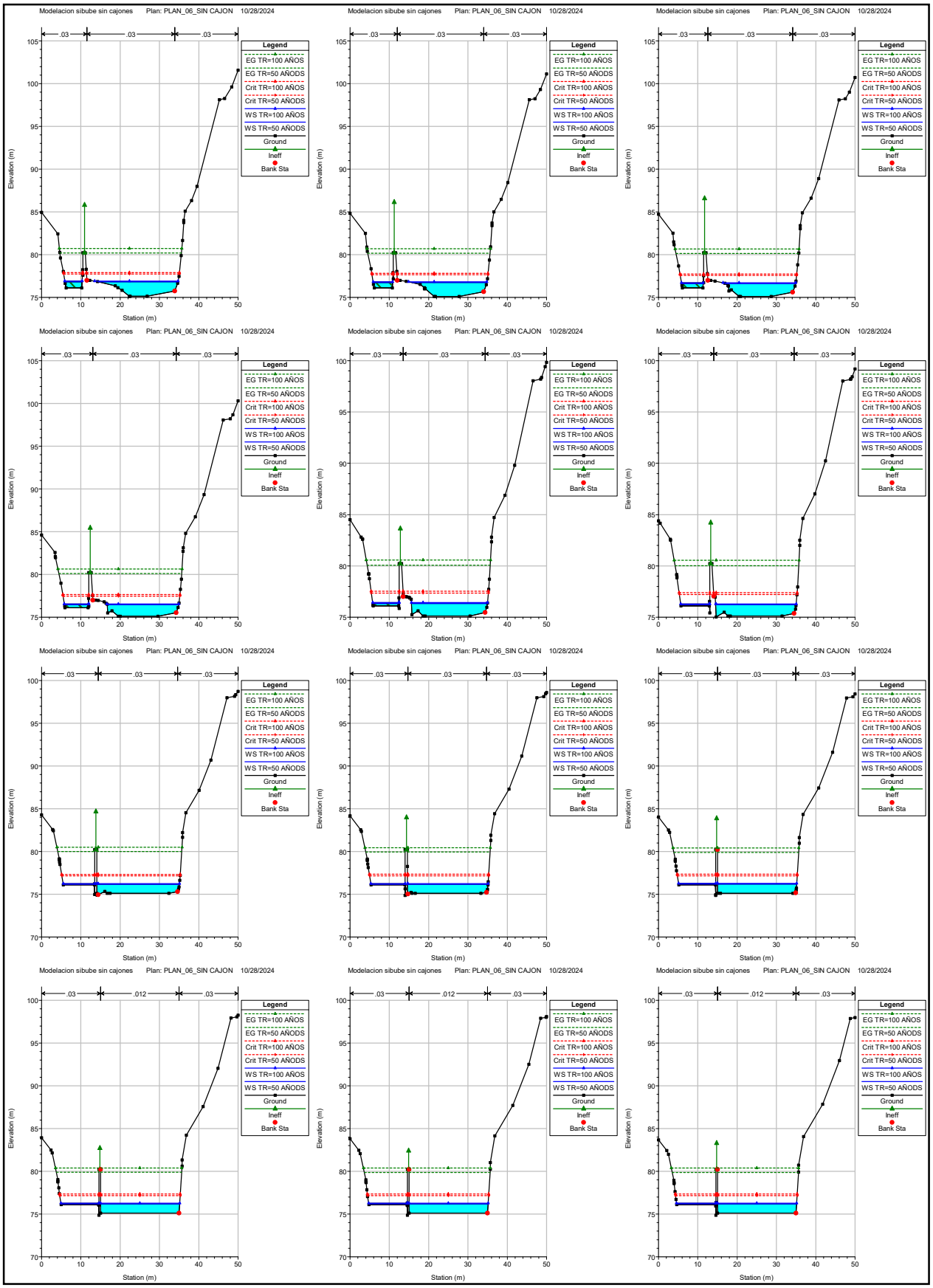

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Elevation (m)
Station (m)

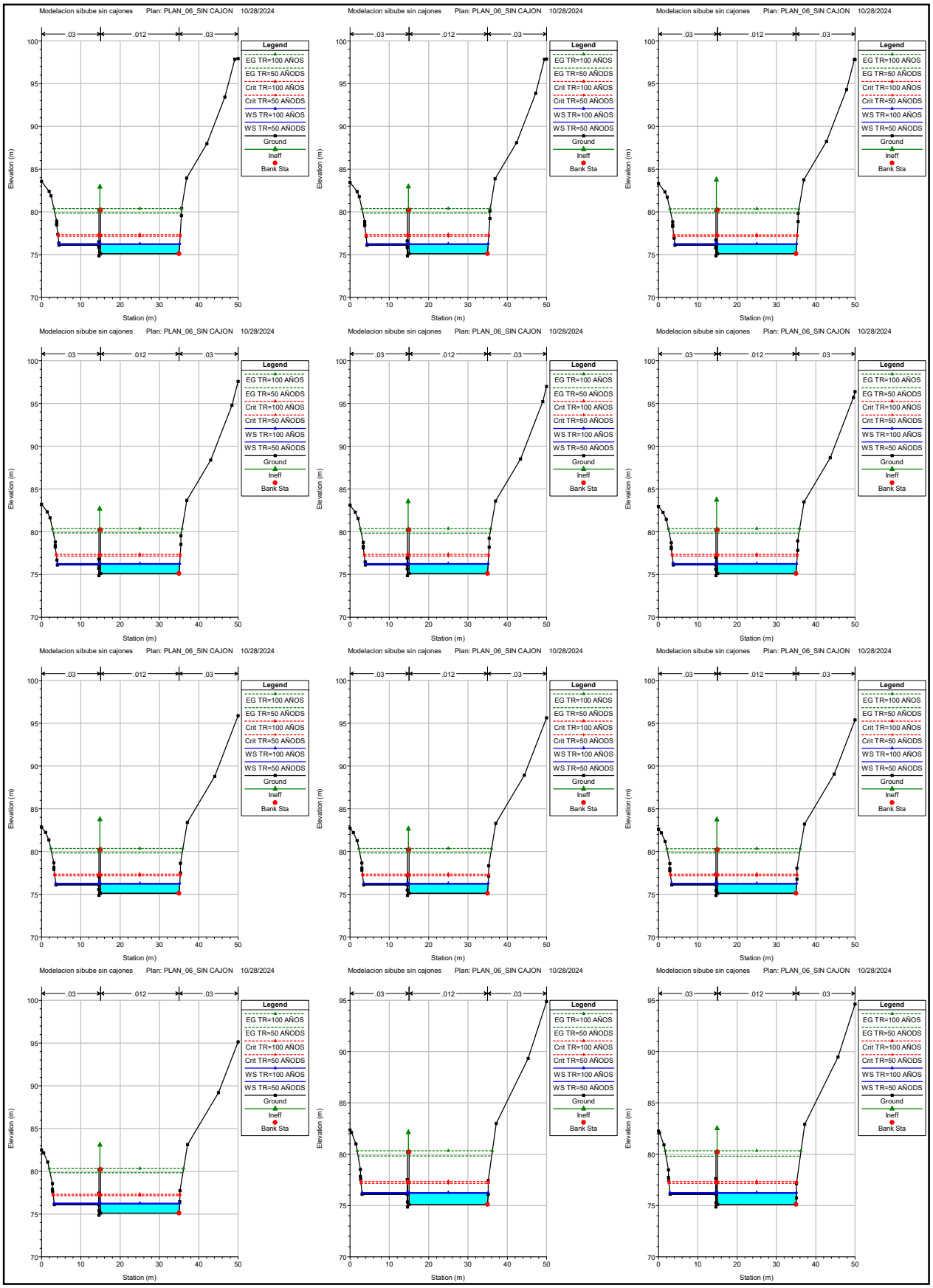

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Crit TR=50 AÑODS
WS TR=100 AÑOS
WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)
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20
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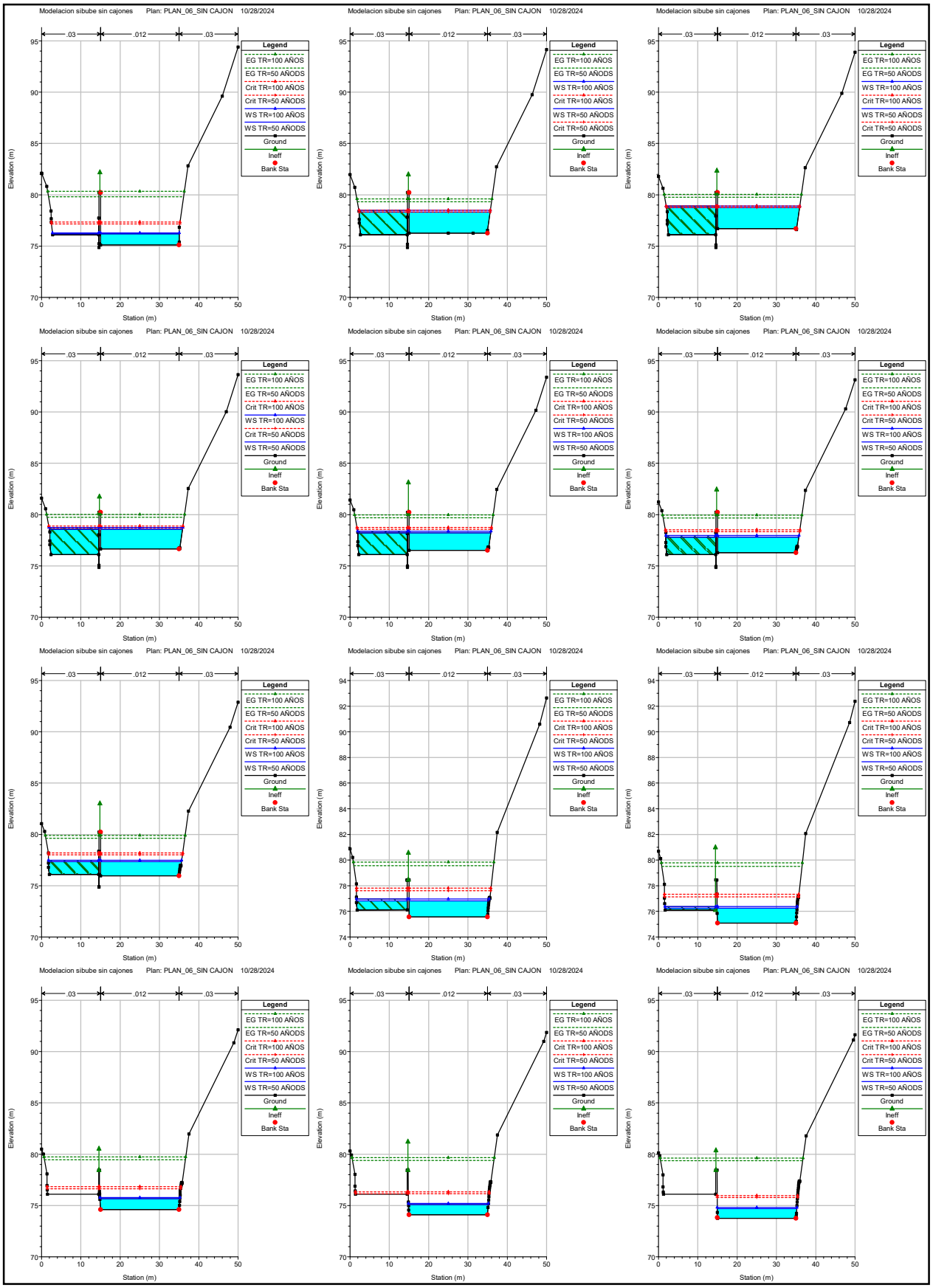

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Ground
Bank Sta
Elevation (m)
Station (m)

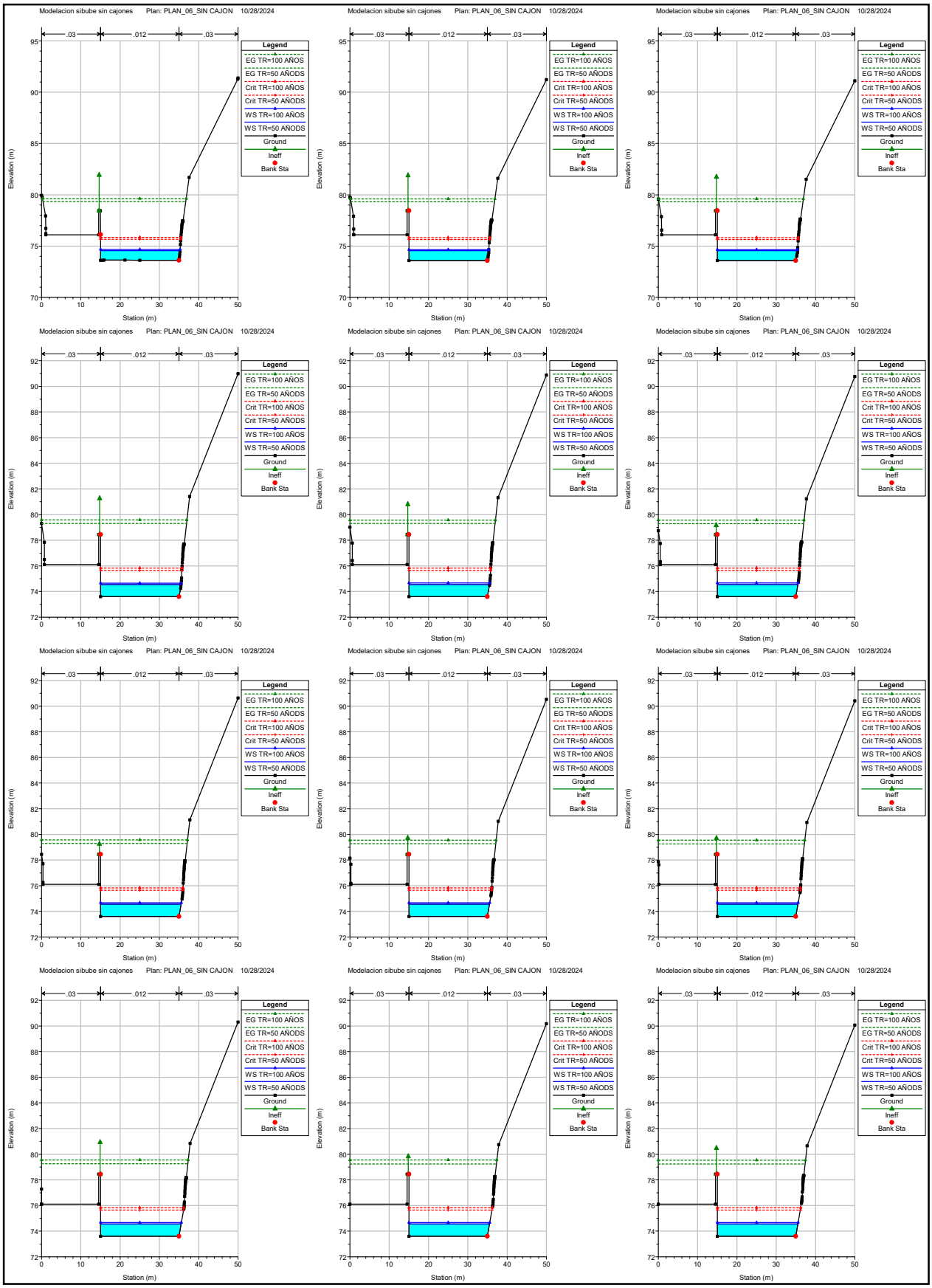

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Elevation (m)
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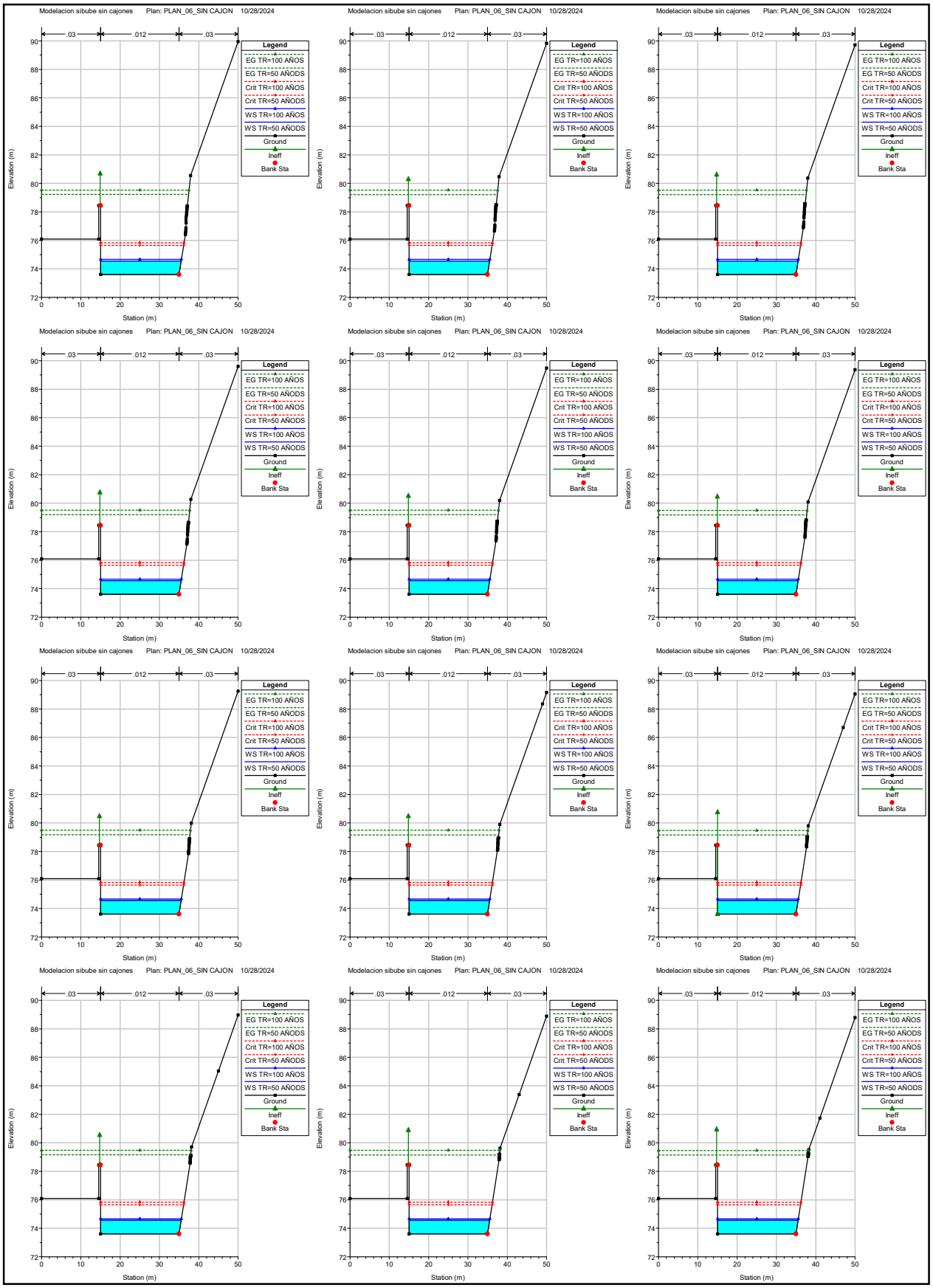

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Ground
Ineff
Bank Sta
Elevation (m)
Station (m)

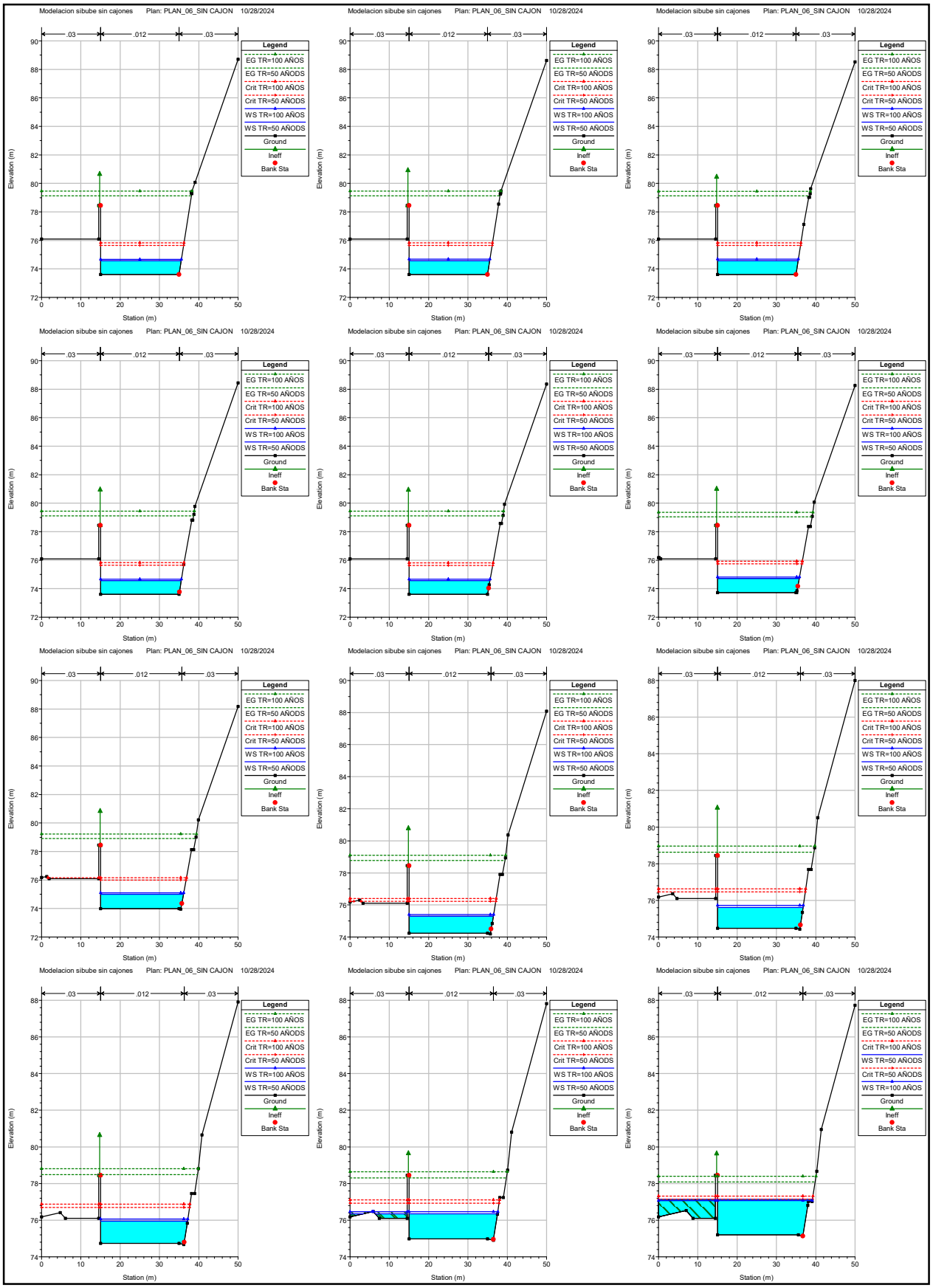

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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EG TR=50 AÑODS
Crit TR=100 AÑOS
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WS TR=50 AÑODS
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)

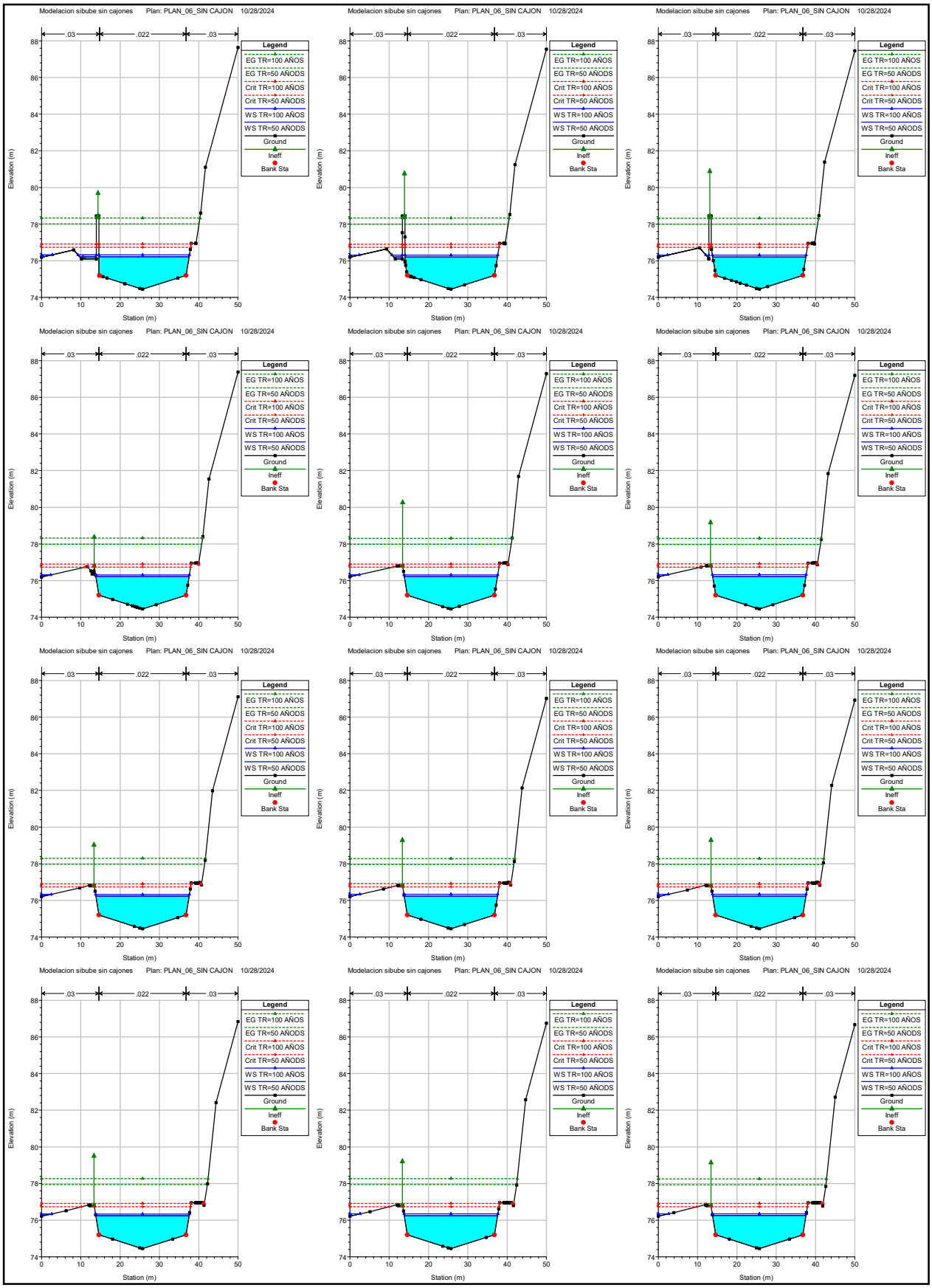

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Ground
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Elevation (m)
Station (m)

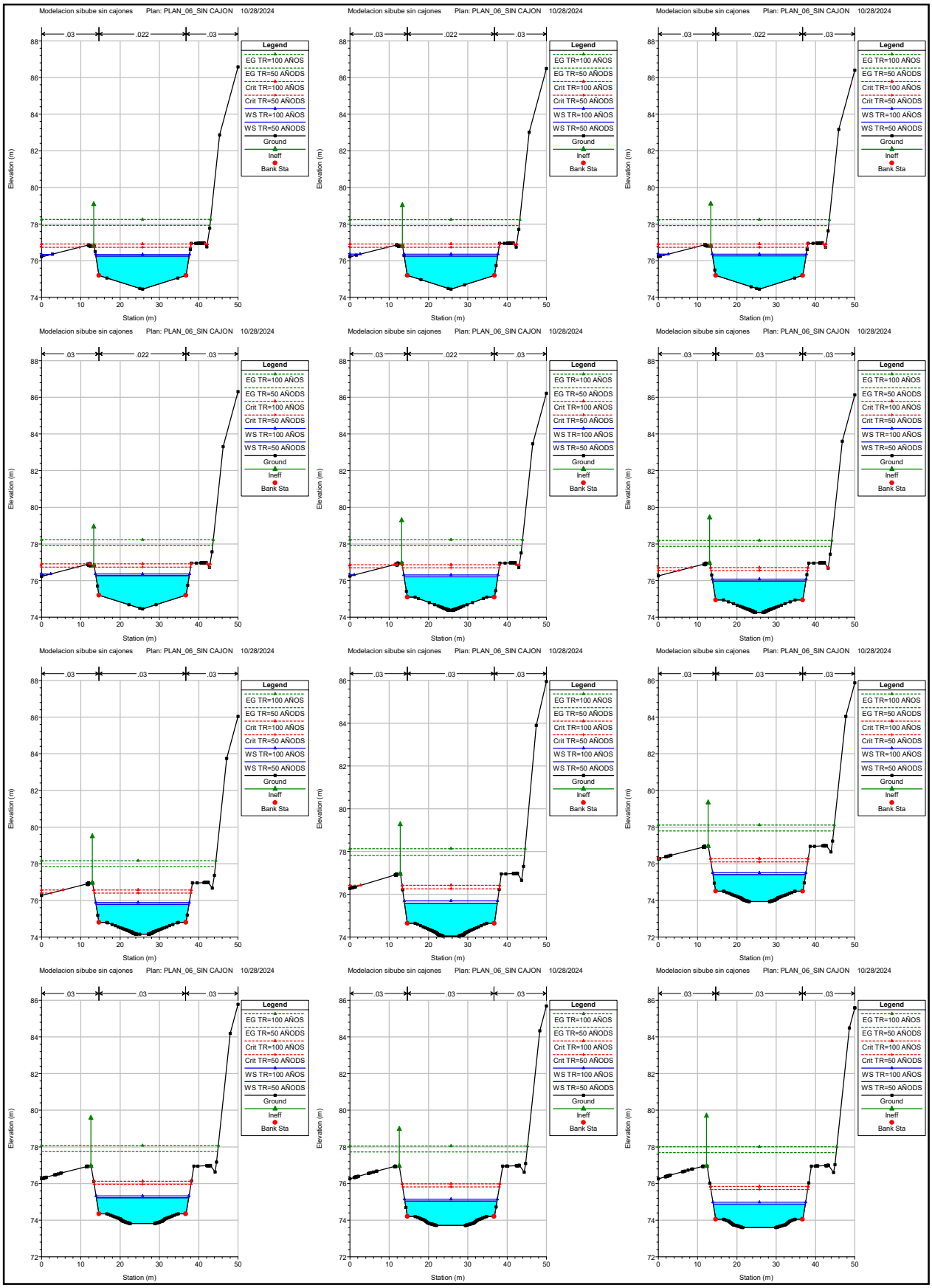

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Elevation (m)
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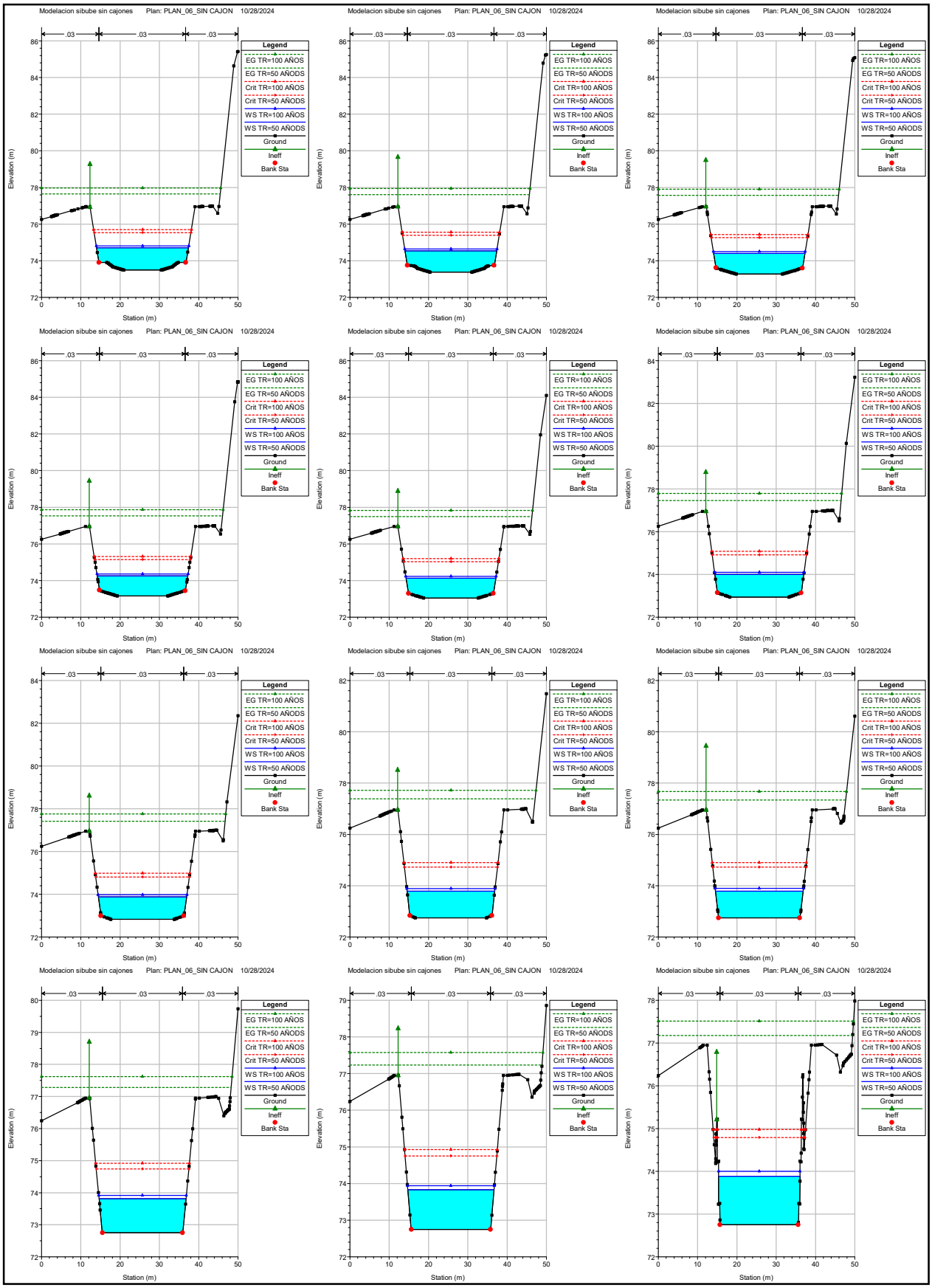

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Elevation (m)
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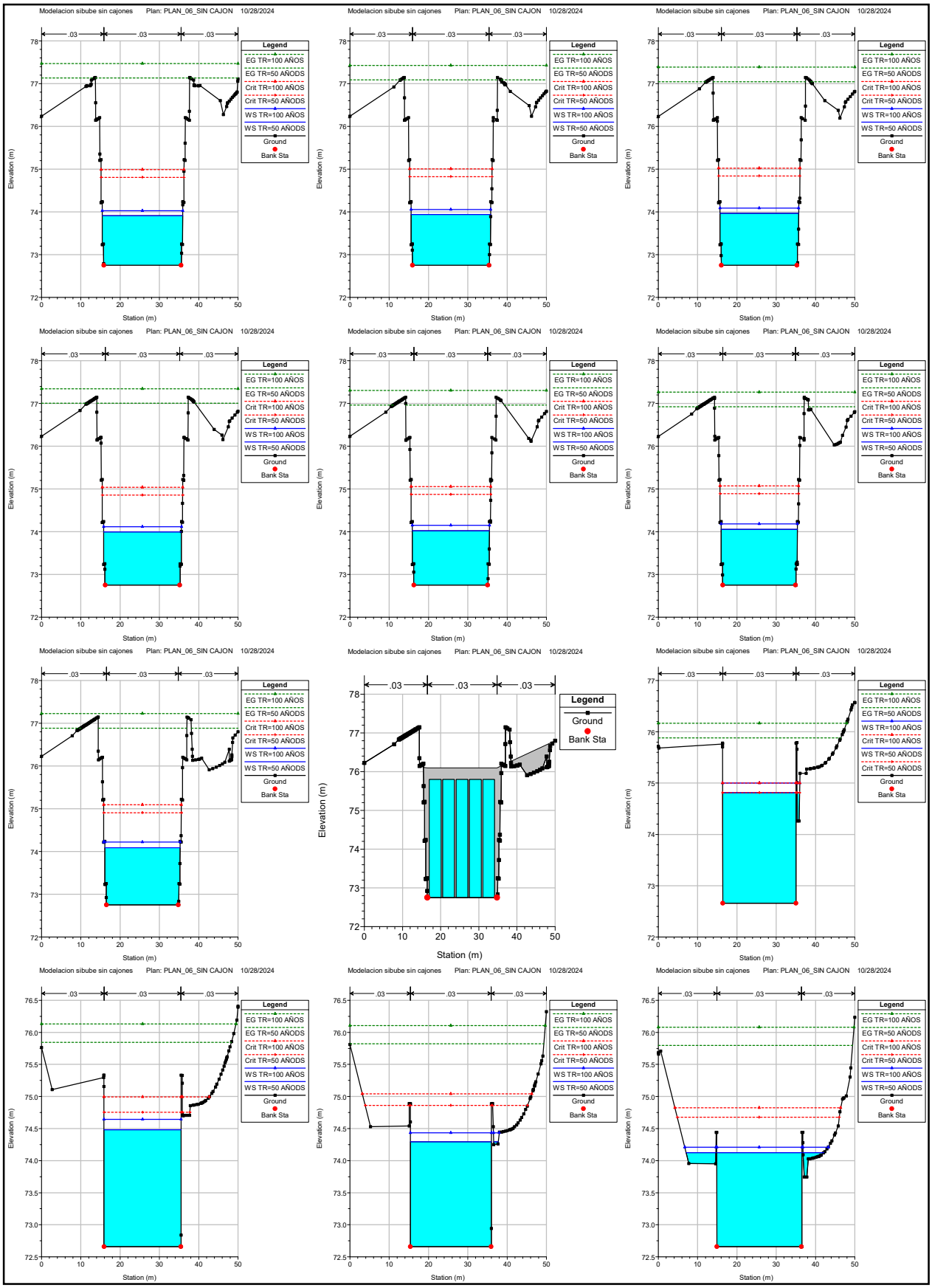

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Elevation (m)
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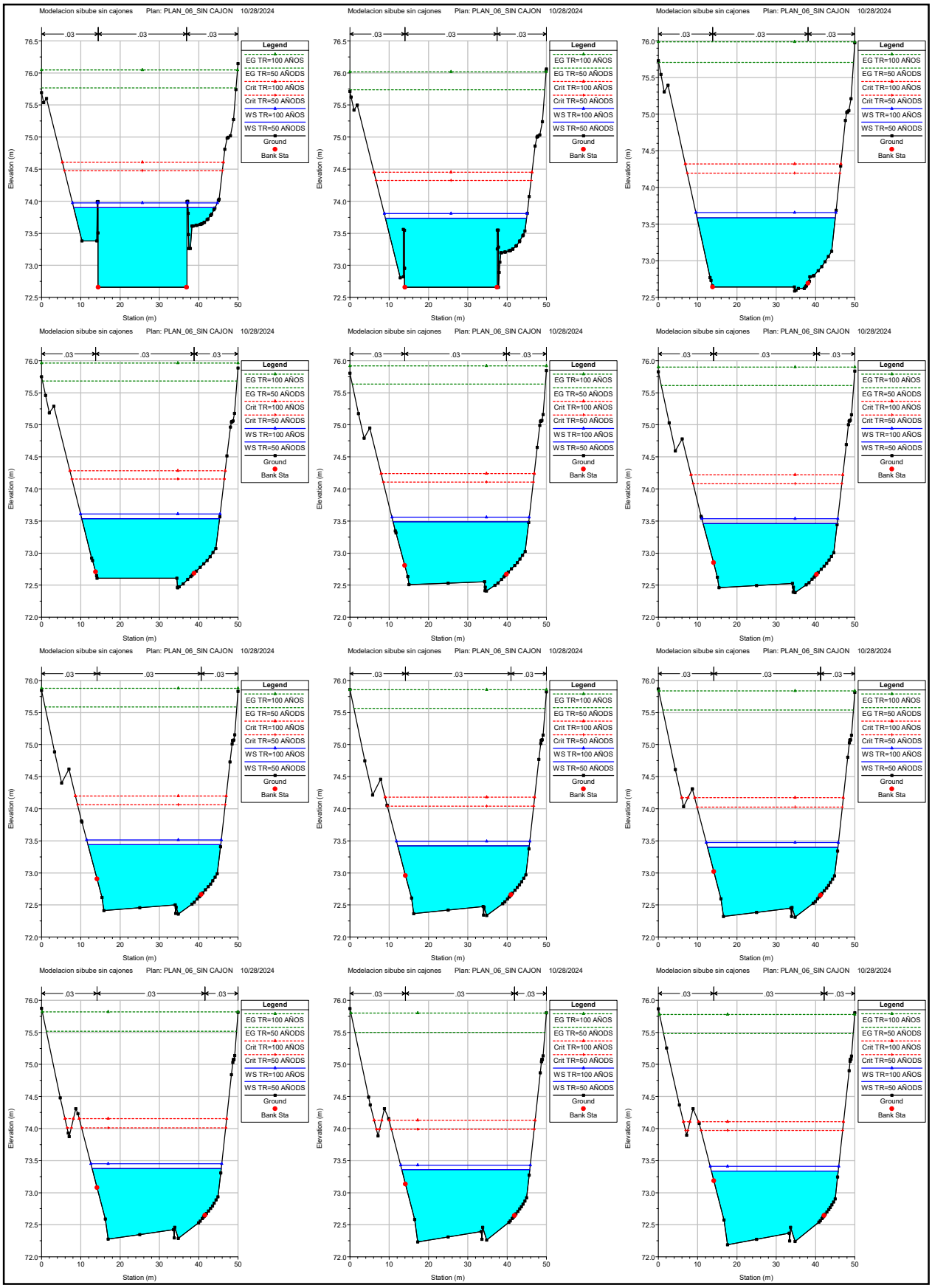

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WS TR=50 AÑODS
Ground
Ineff
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Elevation (m)
Station (m)

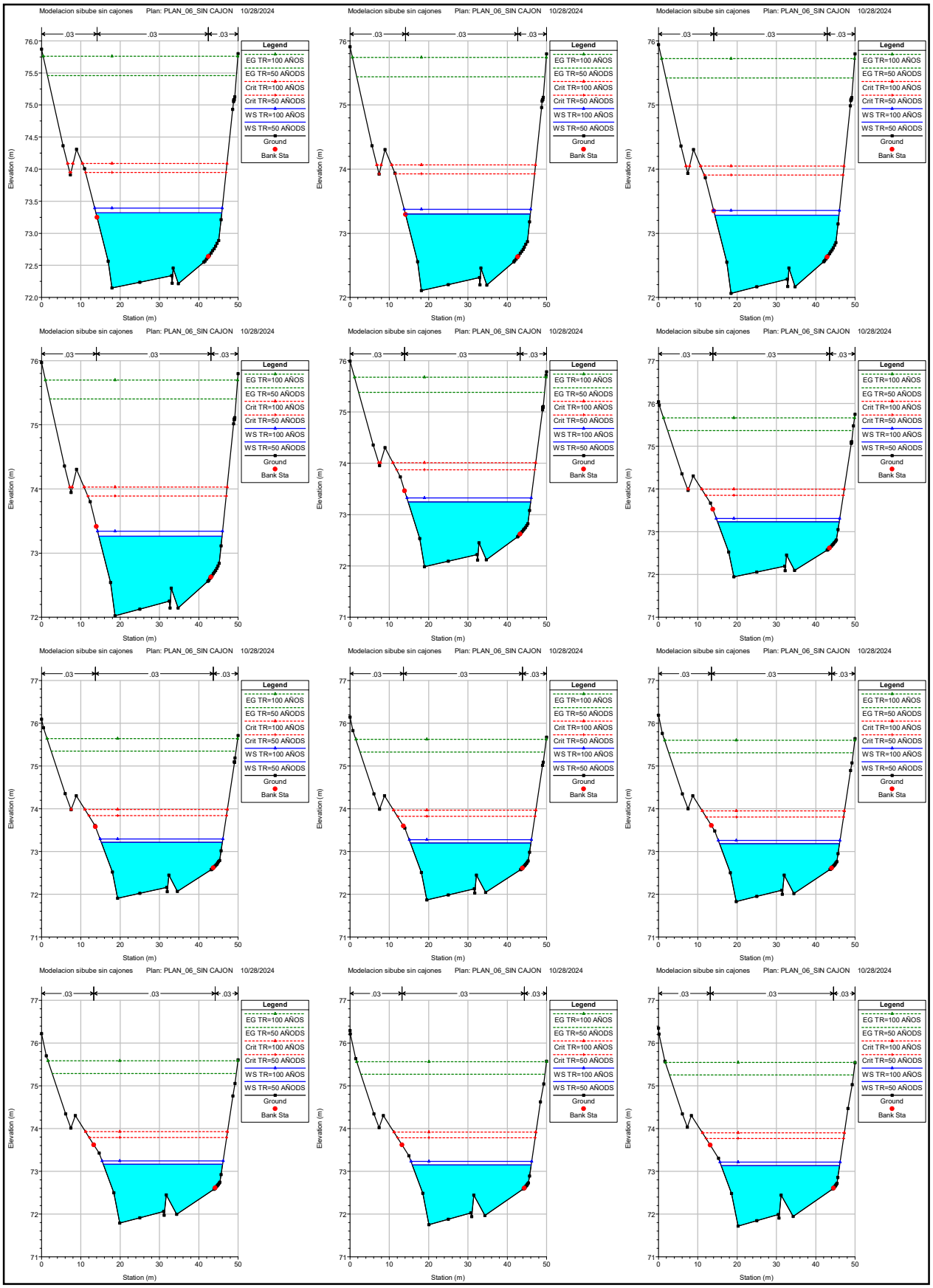

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Ground
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Elevation (m)
Station (m)

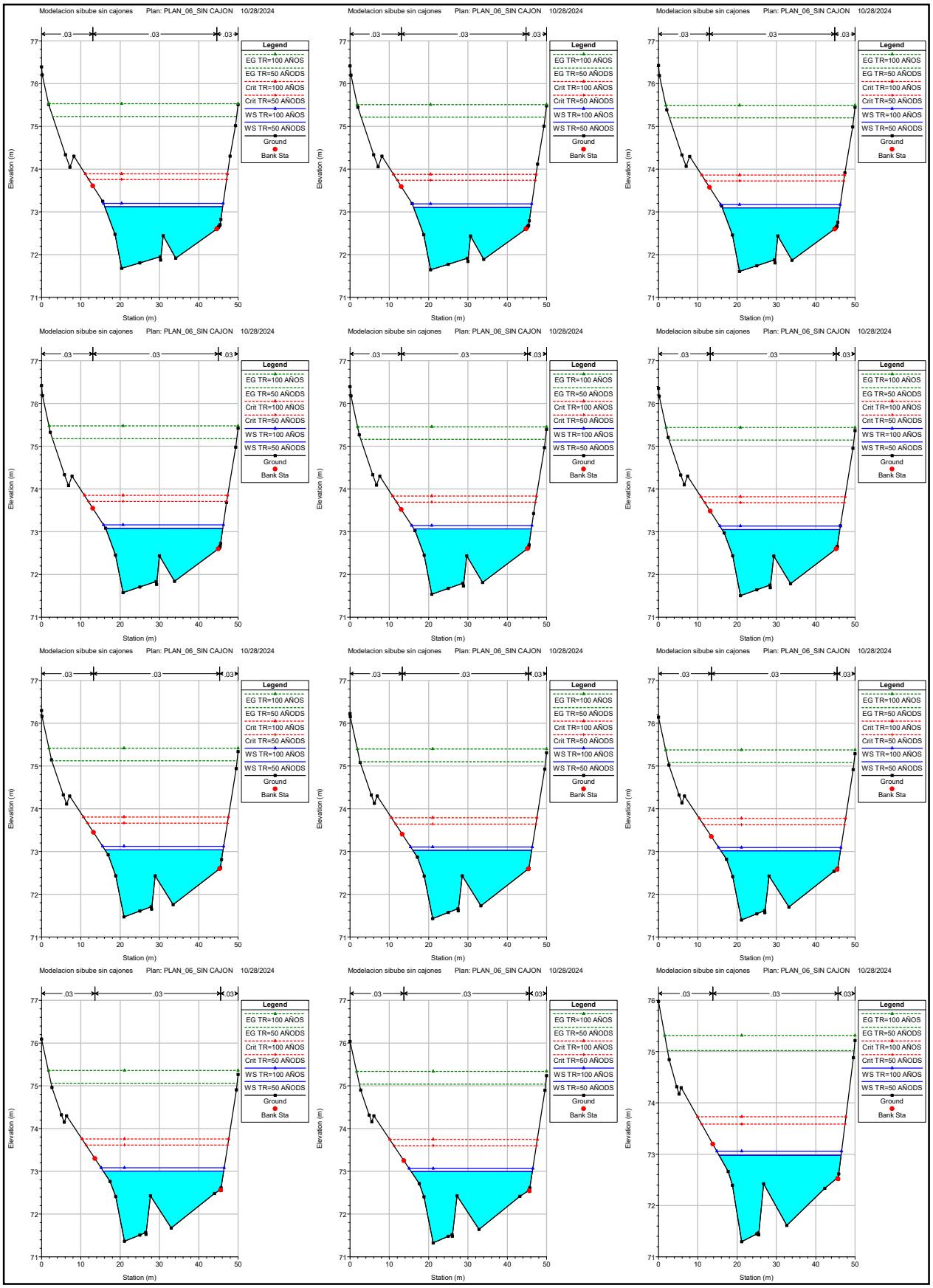

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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WS TR=50 AÑODS
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)

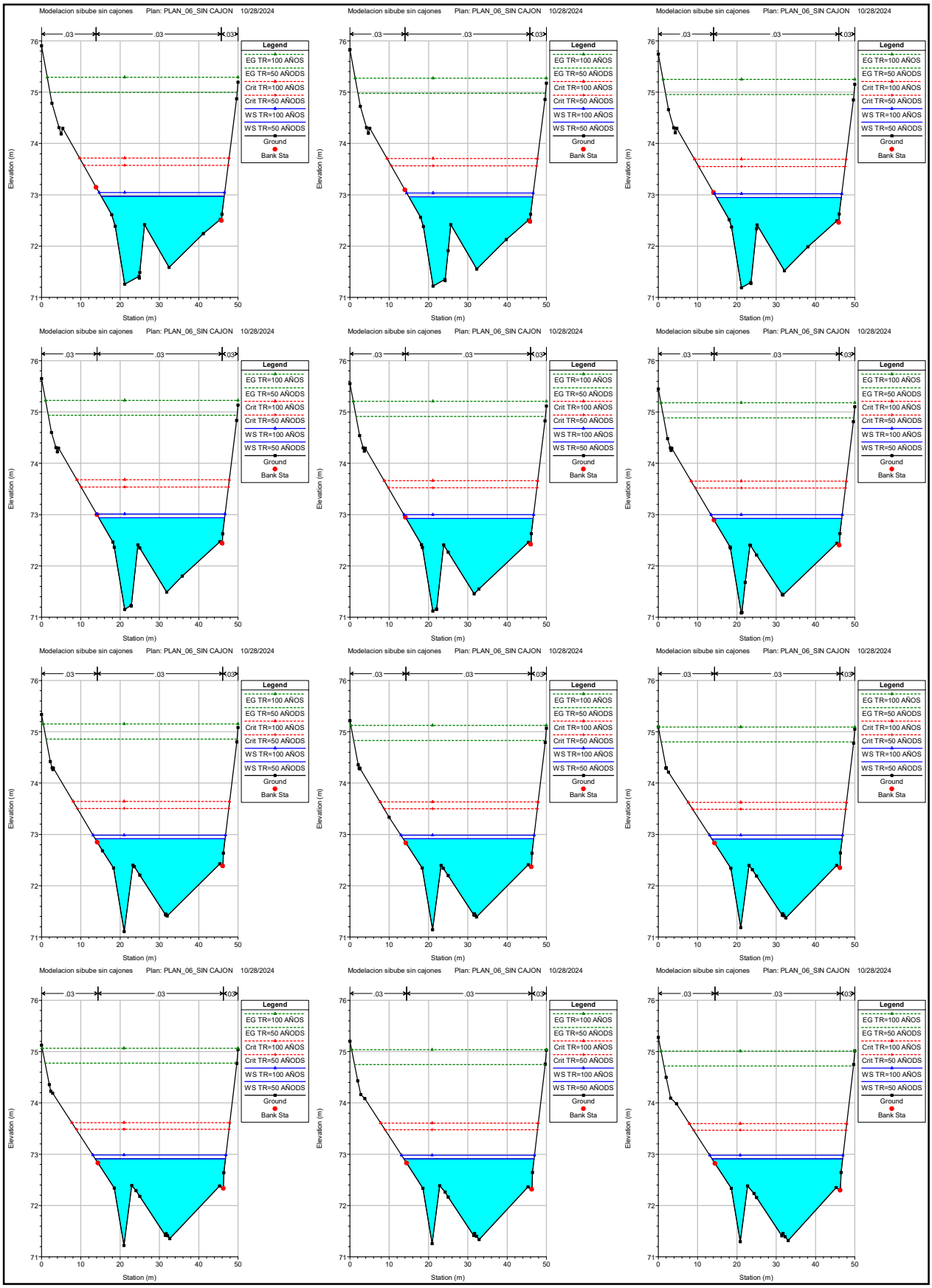

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Legend
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EG TR=50 AÑODS
Crit TR=100 AÑOS
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WS TR=100 AÑOS
WS TR=50 AÑODS
Ground
Ineff
Bank Sta
Elevation (m)
Station (m)

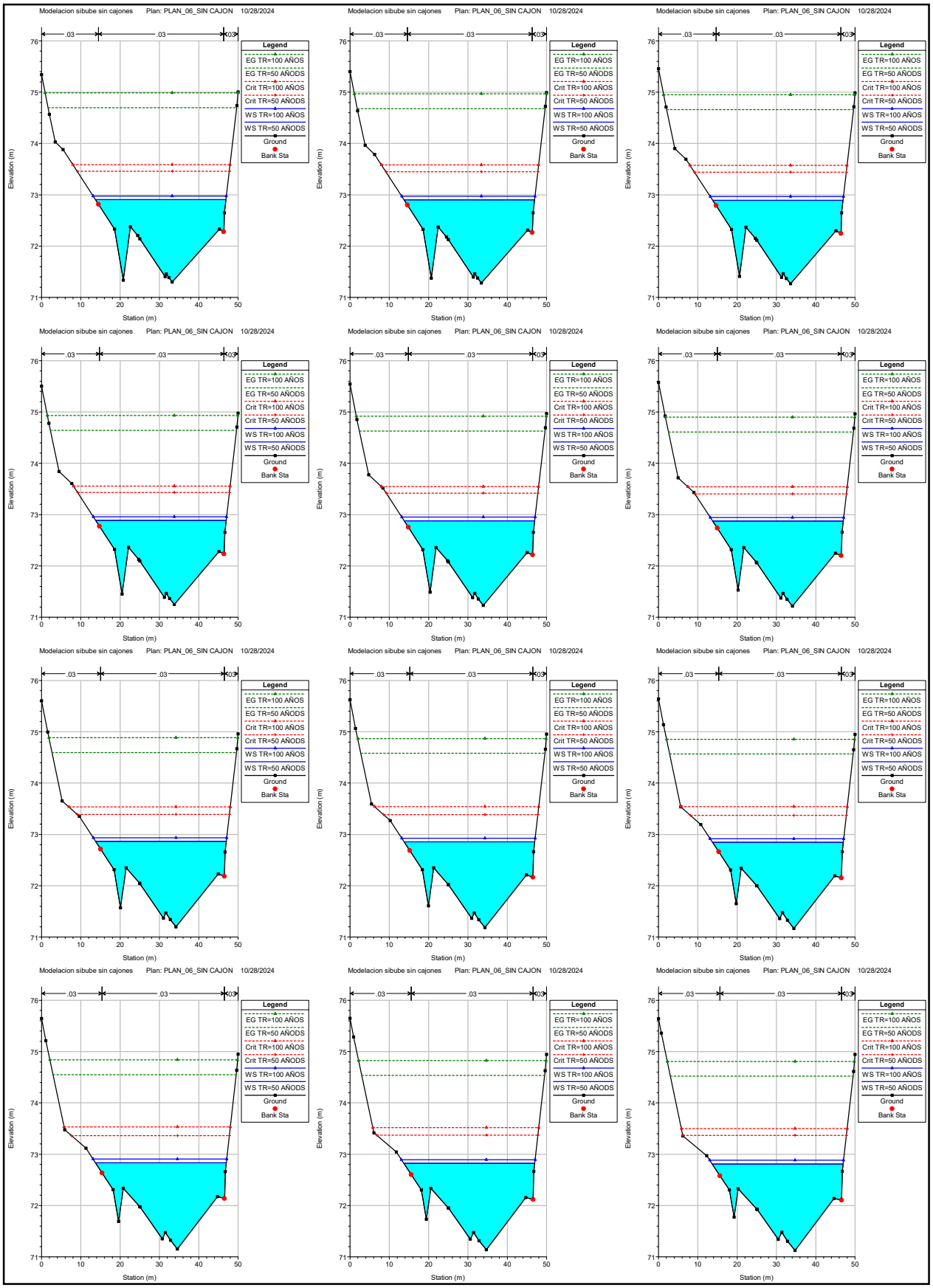

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Crit TR=50 AÑOS
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WS TR=50 AÑOS
Ground
Bank Sta
Elevation (m)
Station (m)

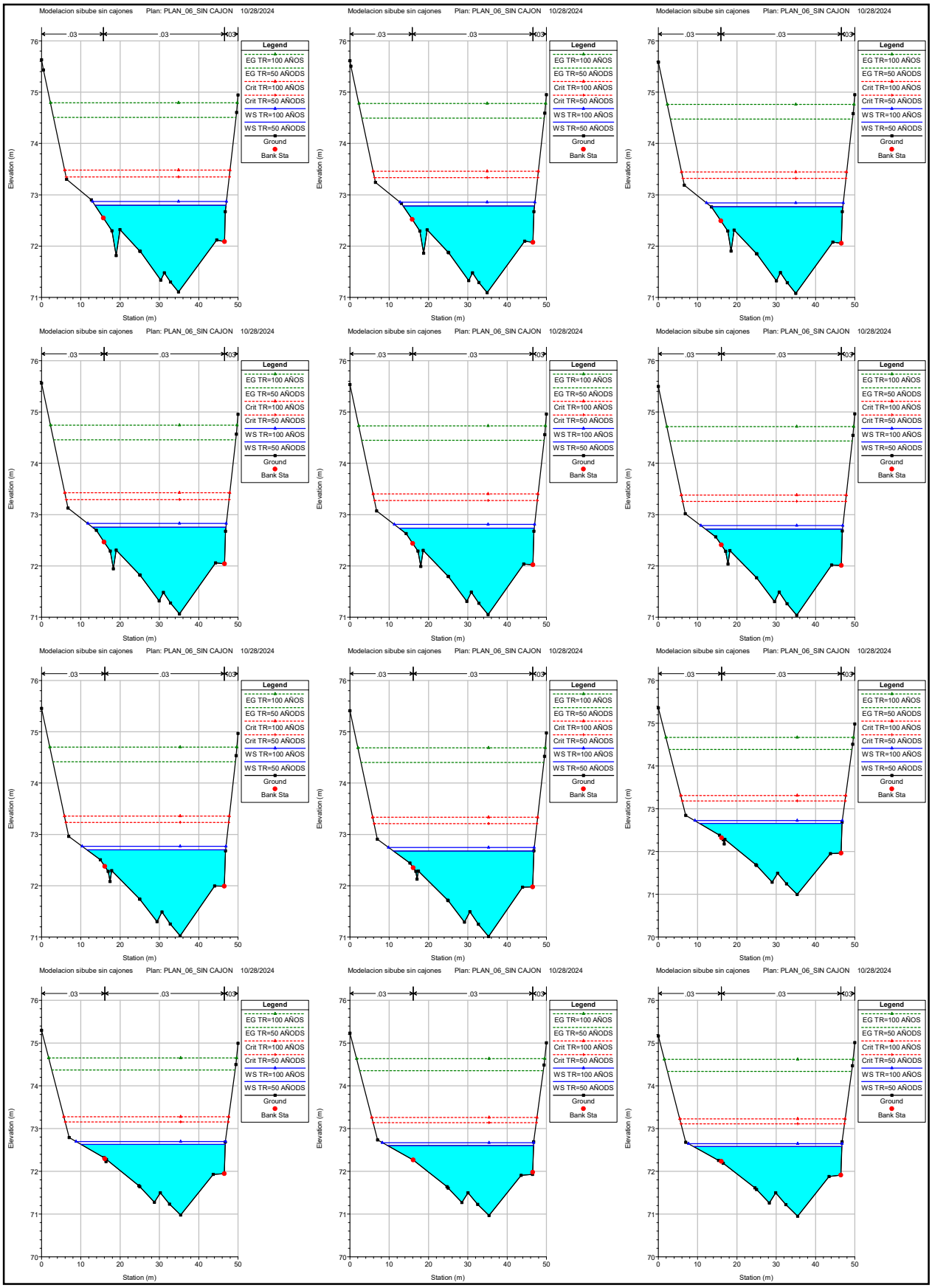

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Ground
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Elevation (m)
Station (m)

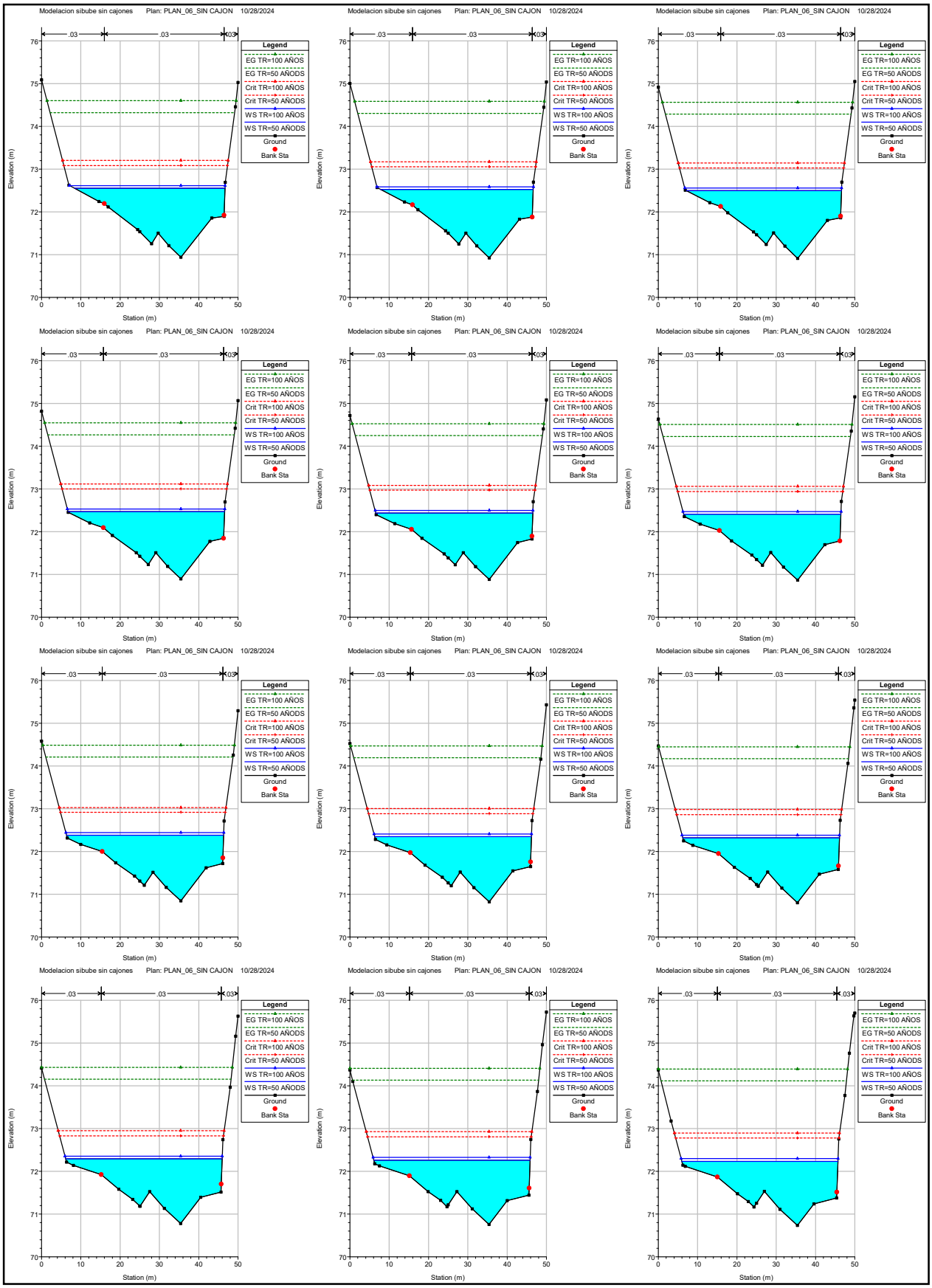

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Ground
Bank Sta
Elevation (m)
Station (m)

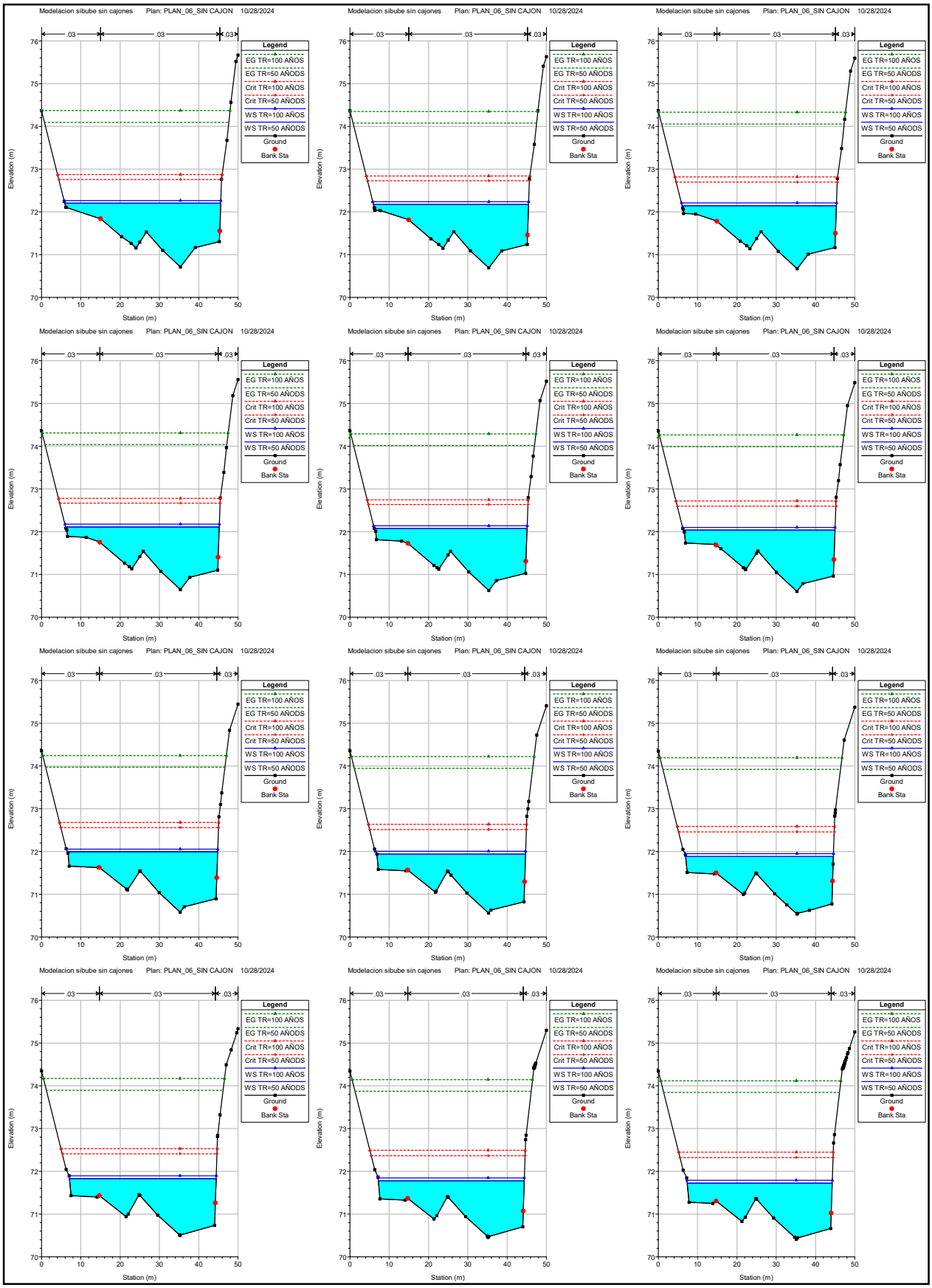

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)

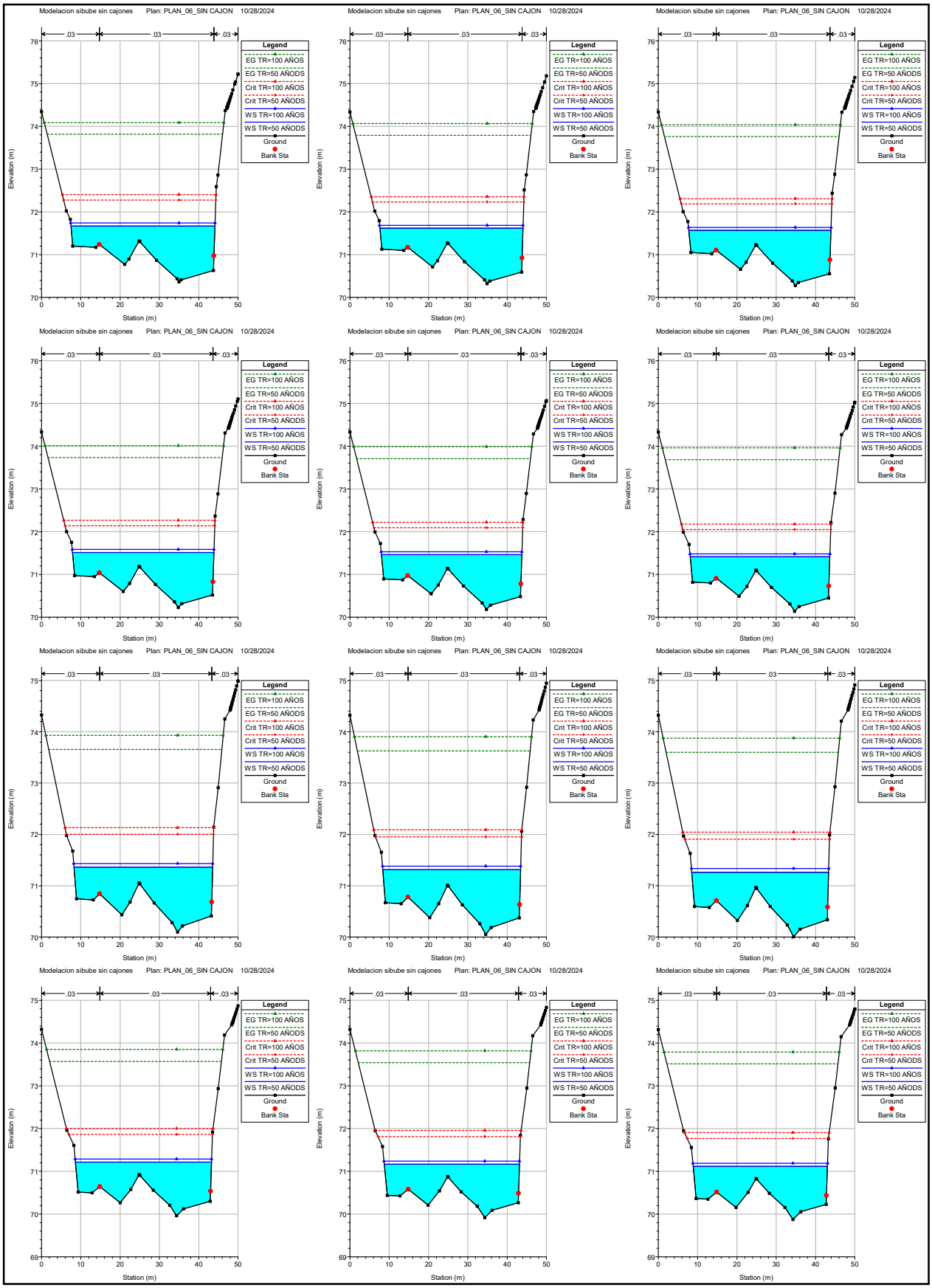

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Ground
Bank Sta
Elevation (m)
Station (m)

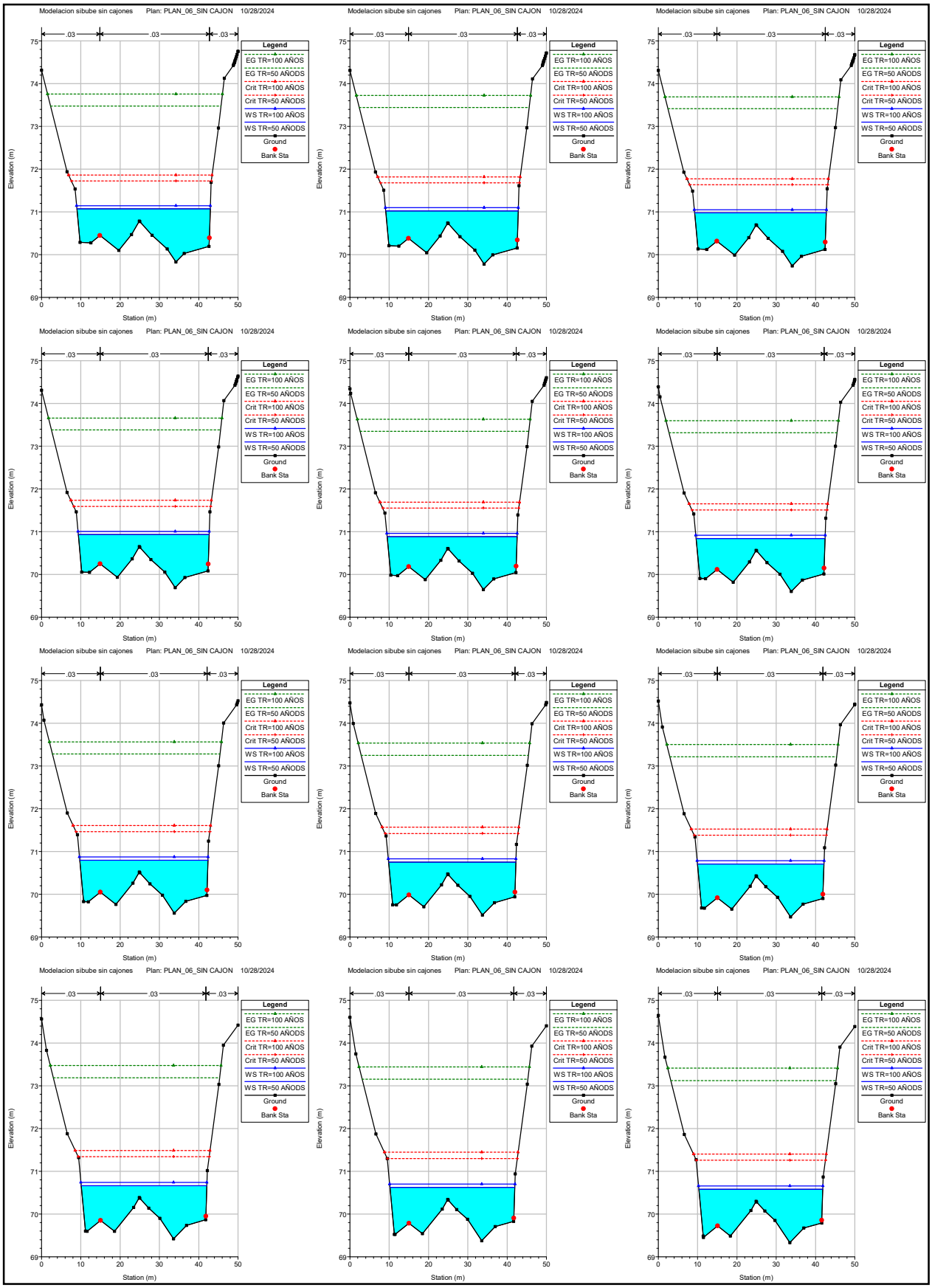

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Legend
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EG TR=50 AÑODS
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Crit TR=50 AÑODS
WS TR=100 AÑOS
WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)
71
72
73
74
75
76
0
10
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30
40
50

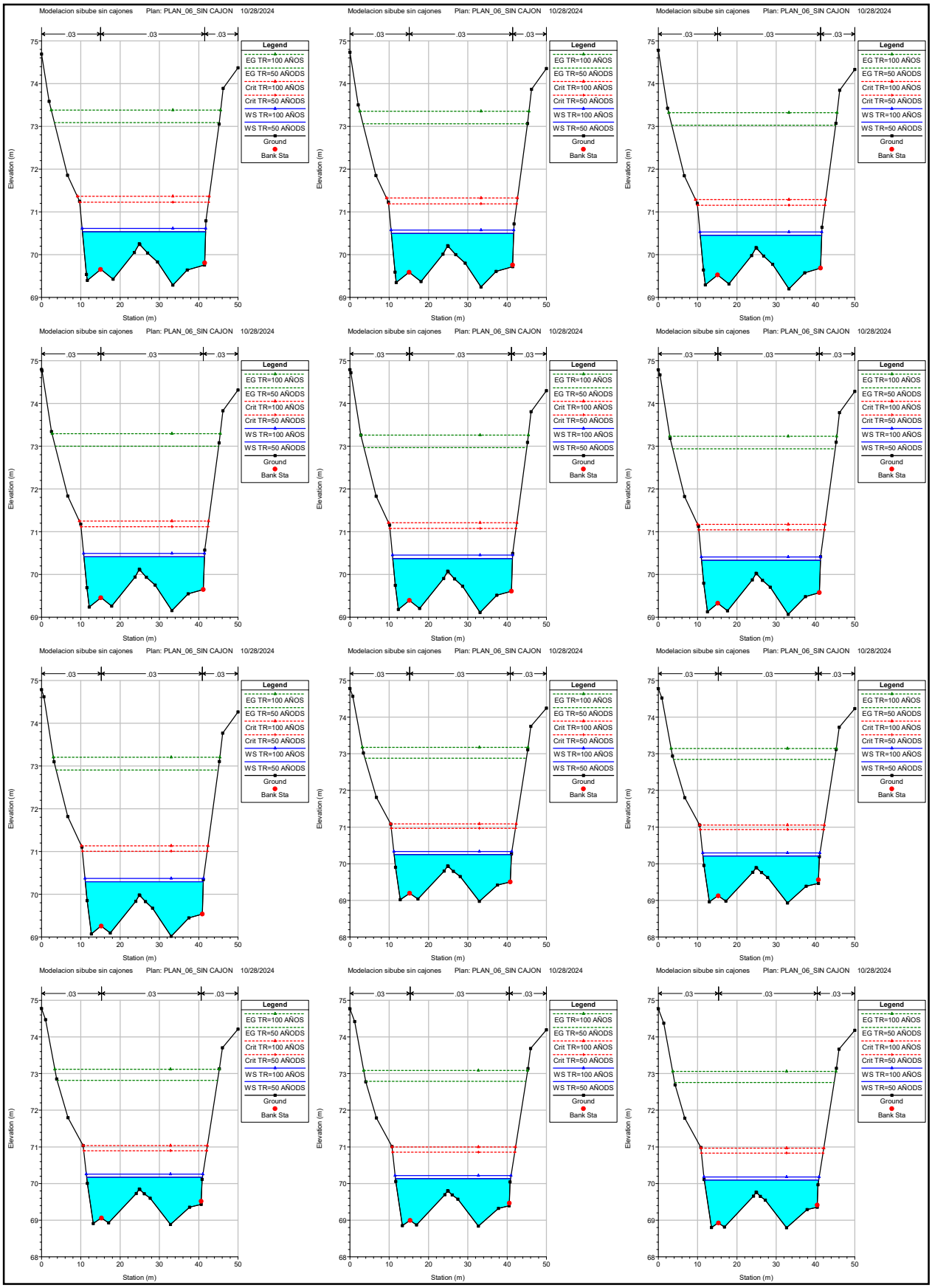

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
.03 .03 .03
Legend
EG TR=100 AÑOS
EG TR=50 AÑODS
Crit TR=100 AÑOS
Crit TR=50 AÑODS
WS TR=100 AÑOS
WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)

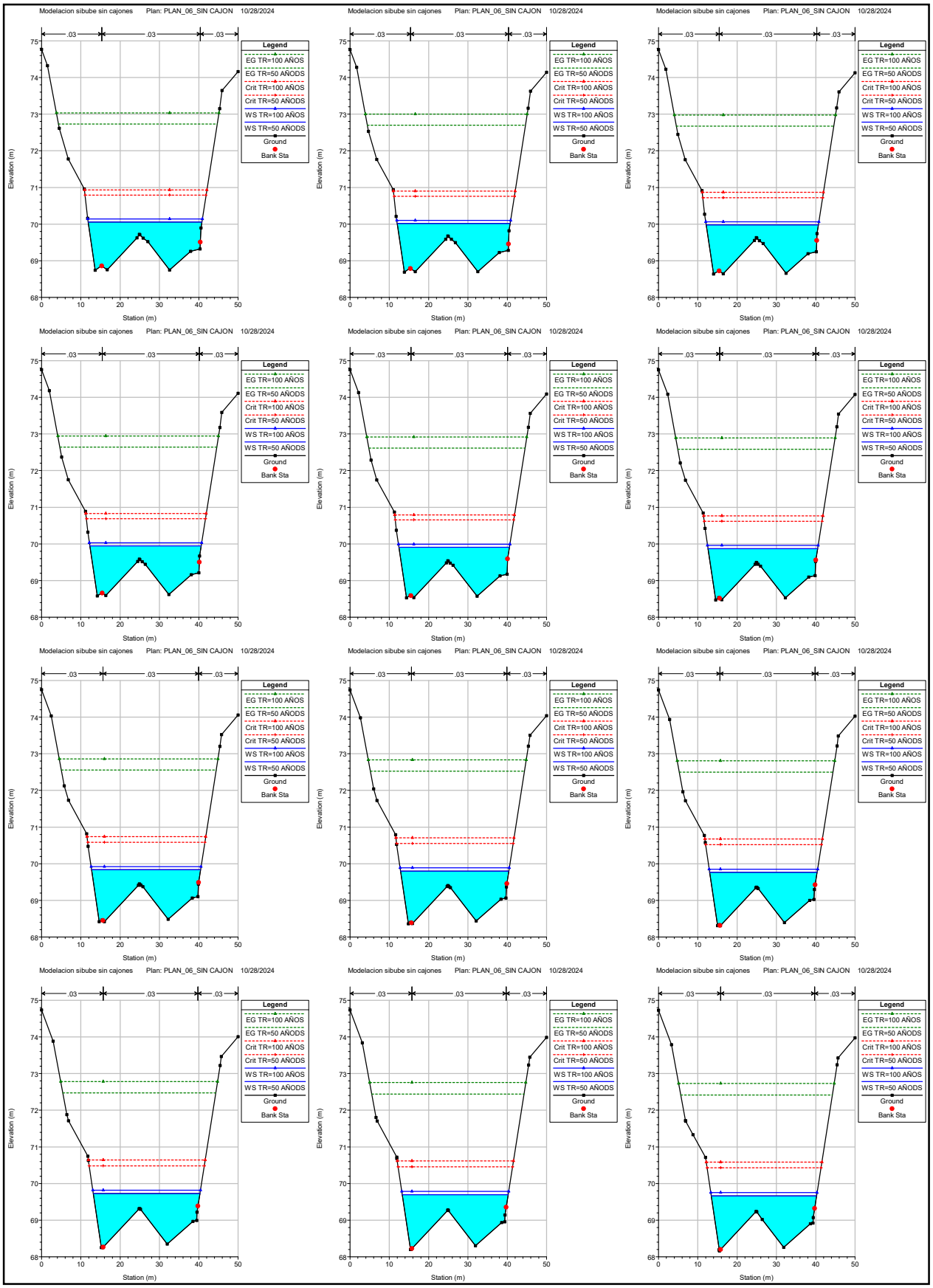

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
.03
.03
.03
Legend
EG TR=100 AÑOS
EG TR=50 AÑODS
Crit TR=100 AÑOS
Crit TR=50 AÑODS
WS TR=100 AÑOS
WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)

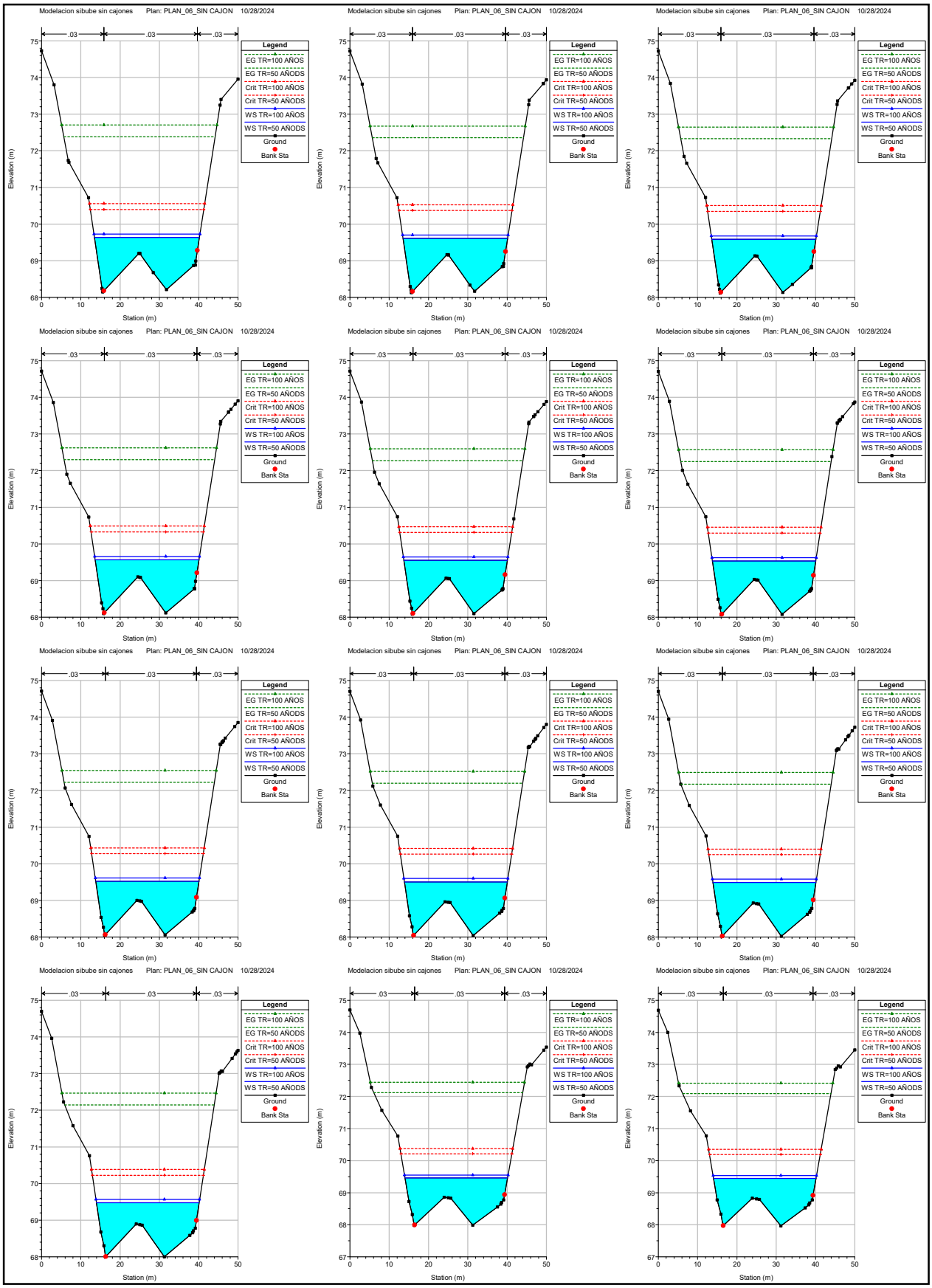

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
.03
.03
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Legend
EG TR=100 AÑOS
EG TR=50 AÑODS
Crit TR=100 AÑOS
Crit TR=50 AÑODS
WS TR=100 AÑOS
WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)
70
71
72
73
74
75
76
0
10
20
30
40
50

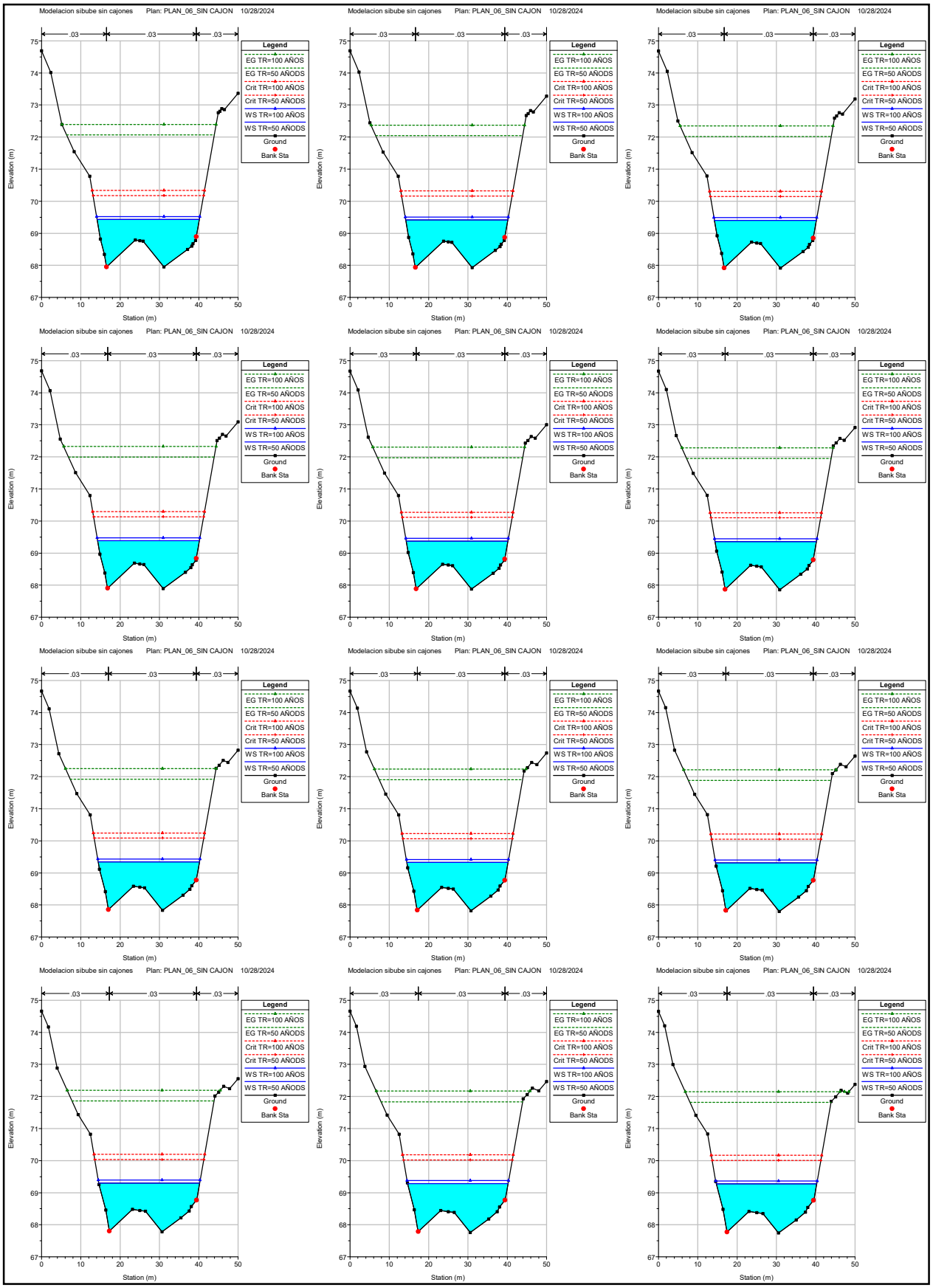

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
.03
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Legend
EG TR=100 AÑOS
EG TR=50 AÑODS
Crit TR=100 AÑOS
Crit TR=50 AÑODS
WS TR=100 AÑOS
WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)

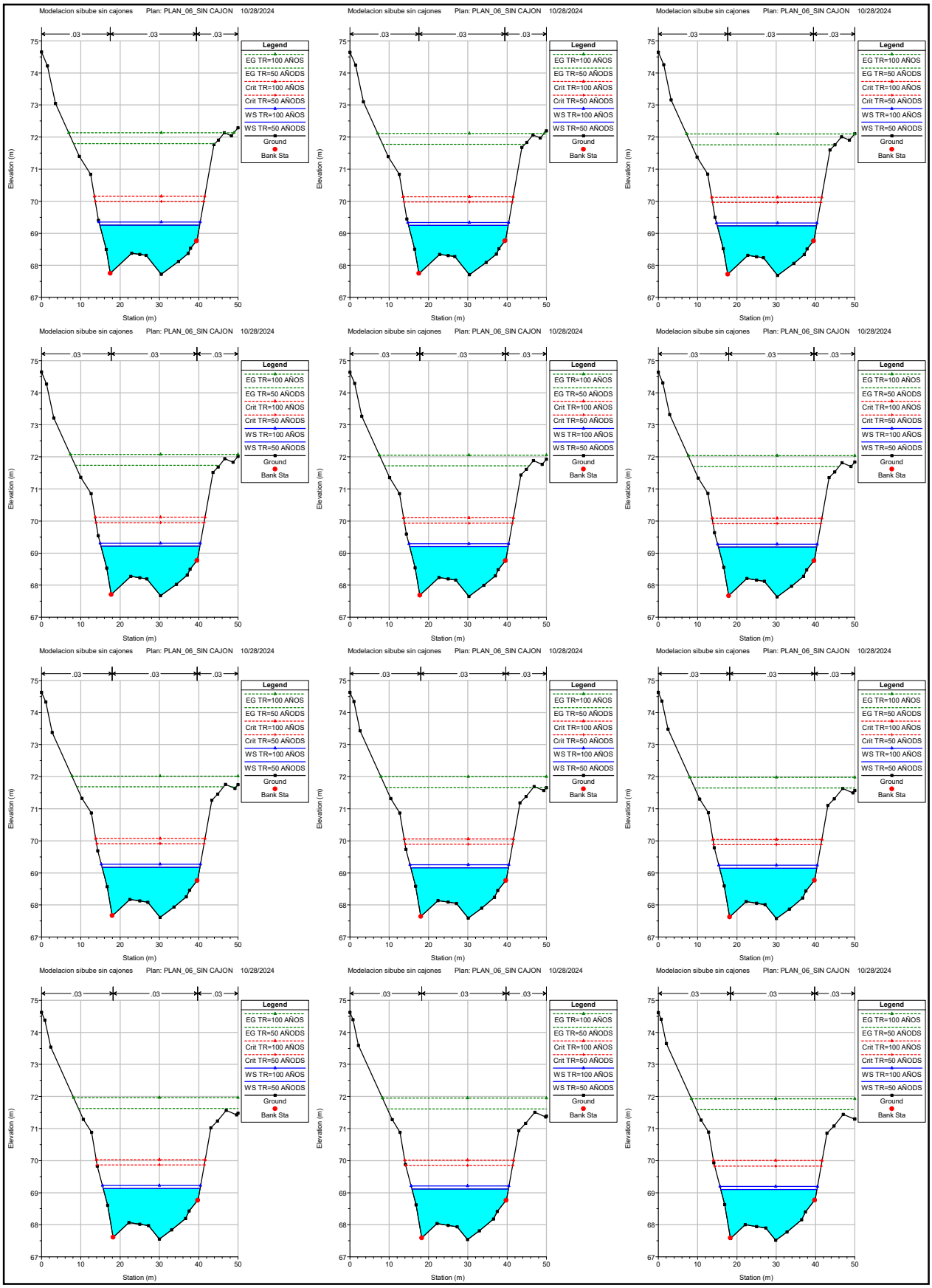

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Legend
EG TR=100 AÑOS
EG TR=50 AÑODS
Crit TR=100 AÑOS
Crit TR=50 AÑODS
WS TR=100 AÑOS
WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)

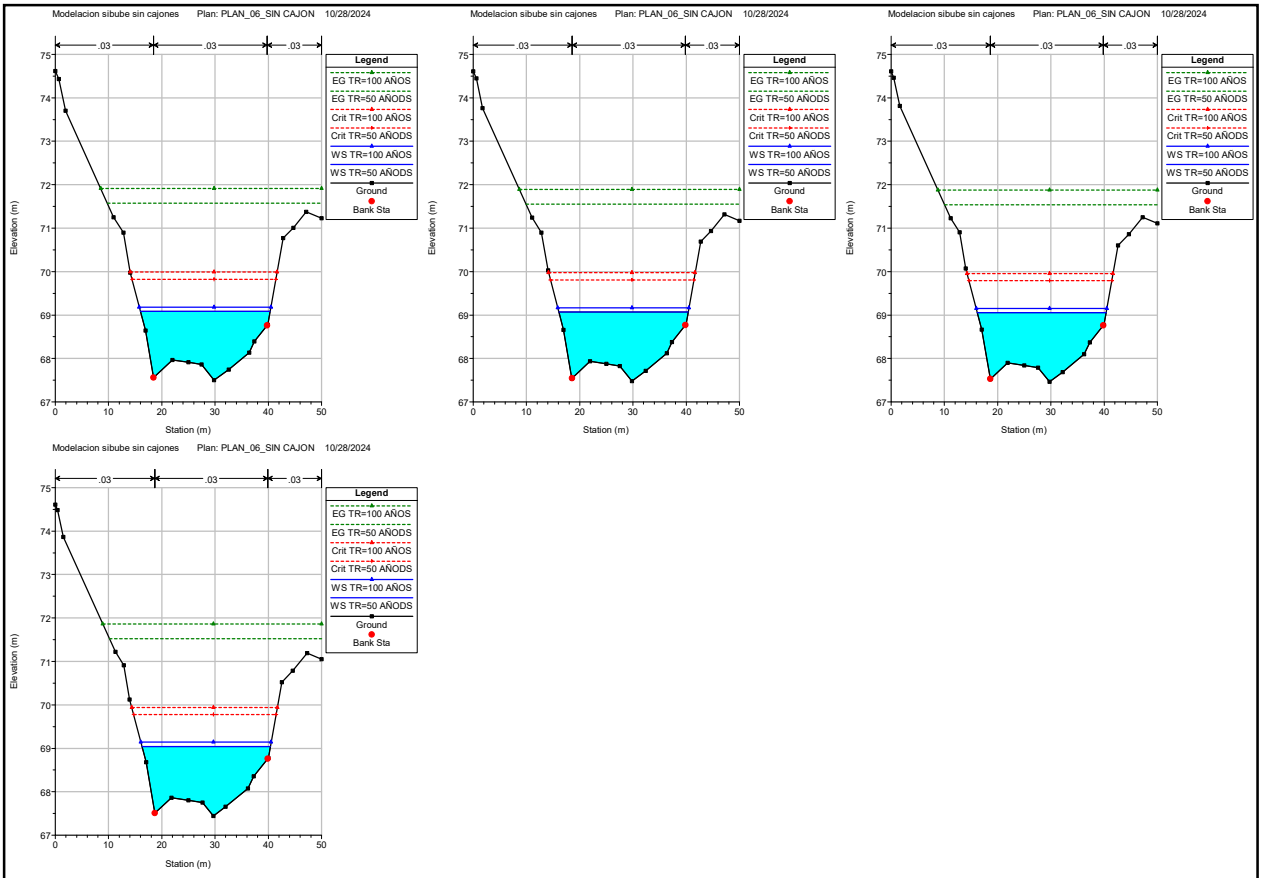

Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Legend
EG TR=100 AÑOS
EG TR=50 AÑODS
Crit TR=100 AÑOS
Crit TR=50 AÑODS
WS TR=100 AÑOS
WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)


Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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Legend
EG TR=100 AÑOS
EG TR=50 AÑODS
Crit TR=100 AÑOS
Crit TR=50 AÑODS
WS TR=100 AÑOS
WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)


Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
.03 .03 .03
Legend
EG TR=100 AÑOS
EG TR=50 AÑODS
Crit TR=100 AÑOS
Crit TR=50 AÑODS
WS TR=100 AÑOS
WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)


Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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.03
Legend
EG TR=100 AÑOS
EG TR=50 AÑODS
Crit TR=100 AÑOS
Crit TR=50 AÑODS
WS TR=100 AÑOS
WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)


Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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.03
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Legend
EG TR=100 AÑOS
EG TR=50 AÑODS
Crit TR=100 AÑOS
Crit TR=50 AÑODS
WS TR=100 AÑOS
WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)


Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
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.03
.03
Legend
EG TR=100 AÑOS
EG TR=50 AÑODS
Crit TR=100 AÑOS
Crit TR=50 AÑODS
WS TR=100 AÑOS
WS TR=50 AÑODS
Ground
Bank Sta
Elevation (m)
Station (m)
Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024
Modelacion sibube sin cajones Plan: PLAN_06_SIN CAJON 10/28/2024

## 1.4. Tabla de resultados del análisis HEC-RAS

Profile Output Table - Standard Table 1

File Options Std. Tables Locations Help

HEC-RAS Plan: PLAN_06_SIN CAJON River: SIBUBE-06 Reach: CL-CAUCE-06 Profile: TR=100 AÑOS Reload Data

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| CL-CAUCE-06 | 211.51 | TR=100 AÑOS | 209.27 | 81.62 | 86.98 | 86.98 | 88.68 | 0.004980 | 6.72 | 42.55 | 13.38 | 0.95 |
| CL-CAUCE-06 | 211.5 | TR=100 AÑOS | 209.27 | 81.62 | 86.95 | 86.98 | 88.68 | 0.005097 | 6.77 | 42.16 | 13.29 | 0.96 |
| CL-CAUCE-06 | 211 | TR=100 AÑOS | 209.27 | 81.49 | 86.26 | 86.78 | 88.61 | 0.010331 | 7.66 | 34.22 | 11.58 | 1.17 |
| CL-CAUCE-06 | 210.5 | TR=100 AÑOS | 209.27 | 81.34 | 86.09 | 86.75 | 88.60 | 0.016721 | 7.77 | 31.56 | 11.38 | 1.25 |
| CL-CAUCE-06 | 210 | TR=100 AÑOS | 209.27 | 81.21 | 86.86 | 86.86 | 88.41 | 0.010702 | 6.09 | 39.00 | 12.83 | 0.96 |
| CL-CAUCE-06 | 209.5 | TR=100 AÑOS | 209.27 | 81.17 | 86.92 | 86.92 | 88.43 | 0.011614 | 5.90 | 38.97 | 13.31 | 0.97 |
| CL-CAUCE-06 | 209 | TR=100 AÑOS | 209.27 | 81.22 | 87.02 | 87.02 | 88.46 | 0.011401 | 5.69 | 39.76 | 14.03 | 0.96 |
| CL-CAUCE-06 | 208.5 | TR=100 AÑOS | 209.27 | 81.42 | 86.76 | 87.00 | 88.43 | 0.014352 | 5.99 | 36.81 | 14.06 | 1.09 |
| CL-CAUCE-06 | 208 | TR=100 AÑOS | 209.27 | 81.93 | 86.58 | 86.92 | 88.41 | 0.015413 | 6.43 | 35.48 | 14.28 | 1.20 |
| CL-CAUCE-06 | 207.5 | TR=100 AÑOS | 209.27 | 82.44 | 86.42 | 86.86 | 88.38 | 0.015652 | 6.73 | 34.62 | 14.52 | 1.28 |
| CL-CAUCE-06 | 207 | TR=100 AÑOS | 209.27 | 82.34 | 86.22 | 86.77 | 88.36 | 0.015948 | 6.97 | 33.60 | 14.69 | 1.35 |
| CL-CAUCE-06 | 206.5 | TR=100 AÑOS | 209.27 | 82.24 | 85.97 | 86.63 | 88.33 | 0.017040 | 7.22 | 32.11 | 14.76 | 1.44 |
| CL-CAUCE-06 | 206 | TR=100 AÑOS | 209.27 | 82.13 | 85.73 | 86.49 | 88.30 | 0.016325 | 7.45 | 31.11 | 14.87 | 1.52 |
| CL-CAUCE-06 | 205.5 | TR=100 AÑOS | 209.27 | 82.02 | 85.41 | 86.27 | 88.26 | 0.019255 | 7.79 | 29.20 | 14.82 | 1.64 |
| CL-CAUCE-06 | 205 | TR=100 AÑOS | 209.27 | 81.92 | 85.11 | 86.07 | 88.22 | 0.021820 | 8.09 | 27.99 | 14.72 | 1.74 |
| CL-CAUCE-06 | 204.5 | TR=100 AÑOS | 209.27 | 81.81 | 84.85 | 85.88 | 88.19 | 0.023831 | 8.34 | 26.99 | 14.58 | 1.82 |
| CL-CAUCE-06 | 204 | TR=100 AÑOS | 209.27 | 81.70 | 84.60 | 85.70 | 88.16 | 0.025313 | 8.57 | 26.24 | 14.36 | 1.88 |
| CL-CAUCE-06 | 203.5 | TR=100 AÑOS | 209.27 | 81.59 | 84.37 | 85.53 | 88.12 | 0.026467 | 8.80 | 25.69 | 14.25 | 1.92 |
| CL-CAUCE-06 | 203 | TR=100 AÑOS | 209.27 | 81.48 | 84.14 | 85.32 | 88.09 | 0.027745 | 9.03 | 25.26 | 14.24 | 1.98 |
| CL-CAUCE-06 | 202.5 | TR=100 AÑOS | 209.27 | 81.37 | 83.92 | 85.16 | 88.06 | 0.029030 | 9.24 | 24.83 | 14.23 | 2.03 |
| CL-CAUCE-06 | 202 | TR=100 AÑOS | 209.27 | 81.26 | 83.77 | 85.05 | 88.03 | 0.028640 | 9.34 | 24.32 | 13.75 | 2.03 |
| CL-CAUCE-06 | 201.5 | TR=100 AÑOS | 209.27 | 80.39 | 83.53 | 84.86 | 87.99 | 0.032470 | 9.52 | 23.43 | 12.87 | 2.06 |
| CL-CAUCE-06 | 201 | TR=100 AÑOS | 209.27 | 78.72 | 82.96 | 84.44 | 87.92 | 0.045776 | 9.97 | 21.80 | 11.38 | 2.17 |
| CL-CAUCE-06 | 200.5 | TR=100 AÑOS | 209.27 | 77.05 | 82.05 | 83.70 | 87.81 | 0.067417 | 10.66 | 19.84 | 10.12 | 2.35 |
| CL-CAUCE-06 | 200 | TR=100 AÑOS | 209.27 | 75.37 | 80.33 | 82.64 | 87.63 | 0.072108 | 11.97 | 17.56 | 6.22 | 2.24 |
| CL-CAUCE-06 | 199.5 | TR=100 AÑOS | 209.27 | 73.68 | 78.49 | 80.88 | 87.42 | 0.094239 | 13.24 | 15.88 | 6.04 | 2.58 |
| CL-CAUCE-06 | 199 | TR=100 AÑOS | 209.27 | 73.44 | 77.00 | 79.58 | 87.24 | 0.093124 | 14.18 | 14.80 | 5.78 | 2.81 |
| CL-CAUCE-06 | 198.5 | TR=100 AÑOS | 209.27 | 73.42 | 76.24 | 78.88 | 87.13 | 0.095047 | 14.62 | 14.40 | 5.92 | 2.98 |
| CL-CAUCE-06 | 198 | TR=100 AÑOS | 209.27 | 73.41 | 75.96 | 78.54 | 87.06 | 0.107700 | 14.76 | 14.22 | 6.31 | 3.12 |
| CL-CAUCE-06 | 197.5 | TR=100 AÑOS | 209.27 | 73.39 | 75.74 | 78.27 | 86.99 | 0.115936 | 14.85 | 14.11 | 6.71 | 3.26 |
| CL-CAUCE-06 | 197 | TR=100 AÑOS | 209.27 | 73.37 | 75.56 | 78.04 | 86.92 | 0.121772 | 14.93 | 14.04 | 7.11 | 3.38 |
| CL-CAUCE-06 | 196.5 | TR=100 AÑOS | 209.27 | 73.36 | 75.41 | 77.83 | 86.85 | 0.138581 | 14.98 | 13.97 | 7.51 | 3.50 |
| CL-CAUCE-06 | 196 | TR=100 AÑOS | 209.27 | 73.34 | 75.29 | 77.66 | 86.77 | 0.146910 | 15.01 | 13.94 | 7.90 | 3.61 |
| CL-CAUCE-06 | 195.5 | TR=100 AÑOS | 209.27 | 73.32 | 75.20 | 77.52 | 86.70 | 0.149936 | 15.02 | 13.94 | 8.25 | 3.69 |
| CL-CAUCE-06 | 195 | TR=100 AÑOS | 209.27 | 73.30 | 75.21 | 77.52 | 86.59 | 0.141788 | 14.94 | 14.01 | 8.25 | 3.66 |
| CL-CAUCE-06 | 194.5 | TR=100 AÑOS | 209.27 | 73.29 | 75.21 | 77.53 | 86.49 | 0.130109 | 14.87 | 14.08 | 8.25 | 3.63 |
| CL-CAUCE-06 | 194 | TR=100 AÑOS | 209.27 | 73.27 | 75.22 | 77.53 | 86.39 | 0.145367 | 14.81 | 14.13 | 8.25 | 3.61 |
| CL-CAUCE-06 | 193.5 | TR=100 AÑOS | 209.27 | 73.25 | 75.22 | 77.53 | 86.29 | 0.130858 | 14.73 | 14.21 | 8.24 | 3.58 |
| CL-CAUCE-06 | 193 | TR=100 AÑOS | 209.27 | 73.26 | 75.24 | 77.55 | 86.19 | 0.124306 | 14.66 | 14.29 | 8.21 | 3.55 |
| CL-CAUCE-06 | 192.5 | TR=100 AÑOS | 209.27 | 73.26 | 75.26 | 77.57 | 86.10 | 0.107734 | 14.58 | 14.38 | 8.19 | 3.51 |
| CL-CAUCE-06 | 192 | TR=100 AÑOS | 209.27 | 73.27 | 75.27 | 77.60 | 86.01 | 0.133613 | 14.51 | 14.42 | 8.17 | 3.49 |
| CL-CAUCE-06 | 191.5 | TR=100 AÑOS | 209.27 | 73.28 | 75.30 | 77.61 | 85.92 | 0.104427 | 14.43 | 14.52 | 8.14 | 3.45 |
| CL-CAUCE-06 | 191 | TR=100 AÑOS | 209.27 | 73.28 | 75.31 | 77.63 | 85.83 | 0.113450 | 14.36 | 14.58 | 8.10 | 3.42 |
| CL-CAUCE-06 | 190.5 | TR=100 AÑOS | 209.27 | 73.29 | 75.34 | 77.65 | 85.74 | 0.122011 | 14.28 | 14.65 | 8.07 | 3.38 |
| CL-CAUCE-06 | 190 | TR=100 AÑOS | 209.27 | 73.29 | 75.36 | 77.67 | 85.64 | 0.121459 | 14.20 | 14.74 | 8.03 | 3.35 |
| CL-CAUCE-06 | 189.5 | TR=100 AÑOS | 209.27 | 73.30 | 75.39 | 77.69 | 85.54 | 0.118509 | 14.11 | 14.83 | 8.00 | 3.31 |
| CL-CAUCE-06 | 189 | TR=100 AÑOS | 209.27 | 73.31 | 75.42 | 77.71 | 85.46 | 0.095975 | 14.03 | 14.93 | 7.97 | 3.27 |
| CL-CAUCE-06 | 188.5 | TR=100 AÑOS | 209.27 | 73.31 | 75.45 | 77.72 | 85.37 | 0.110892 | 13.95 | 15.00 | 7.93 | 3.24 |
| CL-CAUCE-06 | 188 | TR=100 AÑOS | 209.27 | 73.32 | 75.48 | 77.75 | 85.28 | 0.110458 | 13.86 | 15.10 | 7.90 | 3.20 |

Profile Output Table - Standard Table 1

File Options Std. Tables Locations Help

HEC-RAS Plan: PLAN_06_SIN CAJON River: SIBUBE-06 Reach: CL-CAUCE-06 Profile: TR=100 AÑOS

Reload Data

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| CL-CAUCE-06 | 188.5 | TR=100 AÑOS | 209.27 | 73.31 | 75.45 | 77.72 | 85.37 | 0.110892 | 13.95 | 15.00 | 7.93 | 3.24 |
| CL-CAUCE-06 | 188 | TR=100 AÑOS | 209.27 | 73.32 | 75.48 | 77.75 | 85.28 | 0.110458 | 13.86 | 15.10 | 7.90 | 3.20 |
| CL-CAUCE-06 | 187.5 | TR=100 AÑOS | 209.27 | 73.33 | 75.51 | 77.78 | 85.18 | 0.107819 | 13.77 | 15.19 | 7.87 | 3.17 |
| CL-CAUCE-06 | 187 | TR=100 AÑOS | 209.27 | 73.33 | 75.55 | 77.81 | 85.10 | 0.089431 | 13.68 | 15.30 | 7.84 | 3.12 |
| CL-CAUCE-06 | 186.5 | TR=100 AÑOS | 209.27 | 73.34 | 75.59 | 77.83 | 85.02 | 0.100457 | 13.60 | 15.39 | 7.81 | 3.09 |
| CL-CAUCE-06 | 186 | TR=100 AÑOS | 209.27 | 73.34 | 75.63 | 77.87 | 84.93 | 0.100514 | 13.50 | 15.50 | 7.78 | 3.06 |
| CL-CAUCE-06 | 185.5 | TR=100 AÑOS | 209.27 | 73.35 | 75.67 | 77.89 | 84.84 | 0.098105 | 13.41 | 15.61 | 7.75 | 3.02 |
| CL-CAUCE-06 | 185 | TR=100 AÑOS | 209.27 | 73.36 | 75.72 | 77.93 | 84.75 | 0.083011 | 13.31 | 15.73 | 7.72 | 2.98 |
| CL-CAUCE-06 | 184.5 | TR=100 AÑOS | 209.27 | 73.36 | 75.76 | 77.97 | 84.67 | 0.093623 | 13.22 | 15.83 | 7.69 | 2.94 |
| CL-CAUCE-06 | 184 | TR=100 AÑOS | 209.27 | 73.37 | 75.82 | 78.01 | 84.58 | 0.091349 | 13.11 | 15.96 | 7.67 | 2.90 |
| CL-CAUCE-06 | 183.5 | TR=100 AÑOS | 209.27 | 73.37 | 75.87 | 78.04 | 84.50 | 0.089130 | 13.01 | 16.09 | 7.64 | 2.86 |
| CL-CAUCE-06 | 183 | TR=100 AÑOS | 209.27 | 73.38 | 75.92 | 78.08 | 84.41 | 0.076557 | 12.90 | 16.23 | 7.62 | 2.82 |
| CL-CAUCE-06 | 182.5 | TR=100 AÑOS | 209.27 | 73.39 | 75.98 | 78.12 | 84.33 | 0.075006 | 12.80 | 16.36 | 7.59 | 2.78 |
| CL-CAUCE-06 | 182 | TR=100 AÑOS | 209.27 | 73.39 | 76.04 | 78.17 | 84.25 | 0.082633 | 12.69 | 16.49 | 7.58 | 2.75 |
| CL-CAUCE-06 | 181.5 | TR=100 AÑOS | 209.27 | 73.40 | 76.10 | 78.22 | 84.17 | 0.080499 | 12.58 | 16.64 | 7.57 | 2.71 |
| CL-CAUCE-06 | 181 | TR=100 AÑOS | 209.27 | 73.40 | 76.17 | 78.26 | 84.09 | 0.070062 | 12.46 | 16.81 | 7.57 | 2.66 |
| CL-CAUCE-06 | 180.5 | TR=100 AÑOS | 209.27 | 73.41 | 76.24 | 78.31 | 84.01 | 0.068433 | 12.34 | 16.97 | 7.57 | 2.62 |
| CL-CAUCE-06 | 180 | TR=100 AÑOS | 209.27 | 73.42 | 76.31 | 78.36 | 83.93 | 0.071943 | 12.22 | 17.14 | 7.57 | 2.58 |
| CL-CAUCE-06 | 179.5 | TR=100 AÑOS | 209.27 | 73.42 | 76.39 | 78.42 | 83.84 | 0.069967 | 12.10 | 17.32 | 7.58 | 2.54 |
| CL-CAUCE-06 | 179 | TR=100 AÑOS | 209.27 | 73.43 | 76.47 | 78.47 | 83.76 | 0.063372 | 11.96 | 17.53 | 7.58 | 2.49 |
| CL-CAUCE-06 | 178.5 | TR=100 AÑOS | 209.27 | 73.43 | 76.55 | 78.53 | 83.69 | 0.061672 | 11.83 | 17.73 | 7.59 | 2.45 |
| CL-CAUCE-06 | 178 | TR=100 AÑOS | 209.27 | 73.44 | 76.63 | 78.58 | 83.61 | 0.062112 | 11.70 | 17.94 | 7.60 | 2.40 |
| CL-CAUCE-06 | 177.5 | TR=100 AÑOS | 209.27 | 73.45 | 76.72 | 78.64 | 83.53 | 0.059942 | 11.56 | 18.17 | 7.61 | 2.36 |
| CL-CAUCE-06 | 177 | TR=100 AÑOS | 209.27 | 73.45 | 76.81 | 78.70 | 83.45 | 0.057771 | 11.41 | 18.41 | 7.63 | 2.32 |
| CL-CAUCE-06 | 176.5 | TR=100 AÑOS | 209.27 | 73.46 | 76.90 | 78.75 | 83.37 | 0.057267 | 11.27 | 18.61 | 7.66 | 2.29 |
| CL-CAUCE-06 | 176 | TR=100 AÑOS | 209.27 | 73.46 | 76.92 | 78.76 | 83.32 | 0.056568 | 11.21 | 18.78 | 7.89 | 2.29 |
| CL-CAUCE-06 | 175.5 | TR=100 AÑOS | 209.27 | 73.46 | 76.84 | 78.72 | 83.29 | 0.059325 | 11.24 | 18.69 | 8.15 | 2.34 |
| CL-CAUCE-06 | 175 | TR=100 AÑOS | 209.27 | 73.50 | 76.27 | 78.05 | 83.20 | 0.073779 | 11.66 | 17.95 | 9.65 | 2.72 |
| CL-CAUCE-06 | 174.5 | TR=100 AÑOS | 209.27 | 73.56 | 75.97 | 77.68 | 83.14 | 0.074622 | 11.86 | 17.74 | 11.37 | 3.02 |
| CL-CAUCE-06 | 174 | TR=100 AÑOS | 209.27 | 73.61 | 75.86 | 77.46 | 83.09 | 0.091001 | 11.91 | 17.58 | 13.01 | 3.27 |
| CL-CAUCE-06 | 173.5 | TR=100 AÑOS | 209.27 | 73.66 | 75.87 | 77.39 | 83.02 | 0.105334 | 11.84 | 17.68 | 14.83 | 3.45 |
| CL-CAUCE-06 | 173 | TR=100 AÑOS | 209.27 | 73.72 | 75.92 | 77.39 | 82.92 | 0.104594 | 11.72 | 17.85 | 15.08 | 3.44 |
| CL-CAUCE-06 | 172.5 | TR=100 AÑOS | 209.27 | 73.77 | 75.96 | 77.40 | 82.83 | 0.103176 | 11.61 | 18.02 | 15.32 | 3.42 |
| CL-CAUCE-06 | 172 | TR=100 AÑOS | 209.27 | 73.82 | 75.99 | 77.41 | 82.75 | 0.102359 | 11.51 | 18.18 | 15.60 | 3.40 |
| CL-CAUCE-06 | 171.5 | TR=100 AÑOS | 209.27 | 73.88 | 76.03 | 77.42 | 82.66 | 0.101189 | 11.40 | 18.35 | 15.83 | 3.38 |
| CL-CAUCE-06 | 171 | TR=100 AÑOS | 209.27 | 73.93 | 76.07 | 77.44 | 82.57 | 0.100418 | 11.29 | 18.53 | 16.13 | 3.36 |
| CL-CAUCE-06 | 170.5 | TR=100 AÑOS | 209.27 | 73.98 | 76.11 | 77.45 | 82.48 | 0.099192 | 11.18 | 18.72 | 16.44 | 3.34 |
| CL-CAUCE-06 | 170 | TR=100 AÑOS | 209.27 | 74.04 | 76.15 | 77.47 | 82.39 | 0.098624 | 11.06 | 18.92 | 16.77 | 3.32 |
| CL-CAUCE-06 | 169.5 | TR=100 AÑOS | 209.27 | 74.09 | 76.20 | 77.49 | 82.30 | 0.097865 | 10.94 | 19.12 | 17.10 | 3.30 |
| CL-CAUCE-06 | 169 | TR=100 AÑOS | 209.27 | 74.14 | 76.24 | 77.51 | 82.22 | 0.095876 | 10.82 | 19.34 | 17.45 | 3.28 |
| CL-CAUCE-06 | 168.5 | TR=100 AÑOS | 209.27 | 74.20 | 76.29 | 77.53 | 82.13 | 0.094824 | 10.70 | 19.56 | 17.84 | 3.26 |
| CL-CAUCE-06 | 168 | TR=100 AÑOS | 209.27 | 74.25 | 76.33 | 77.55 | 82.04 | 0.092720 | 10.58 | 19.80 | 18.28 | 3.23 |
| CL-CAUCE-06 | 167.5 | TR=100 AÑOS | 209.27 | 74.31 | 76.38 | 77.58 | 81.96 | 0.091006 | 10.46 | 20.05 | 18.68 | 3.21 |
| CL-CAUCE-06 | 167 | TR=100 AÑOS | 209.27 | 74.36 | 76.43 | 77.61 | 81.87 | 0.088987 | 10.33 | 20.31 | 19.00 | 3.17 |
| CL-CAUCE-06 | 166.5 | TR=100 AÑOS | 209.27 | 74.41 | 76.48 | 77.64 | 81.79 | 0.087112 | 10.21 | 20.57 | 19.30 | 3.14 |
| CL-CAUCE-06 | 166 | TR=100 AÑOS | 209.27 | 74.47 | 76.53 | 77.68 | 81.70 | 0.085054 | 10.08 | 20.84 | 19.61 | 3.10 |
| CL-CAUCE-06 | 165.5 | TR=100 AÑOS | 209.27 | 74.52 | 76.58 | 77.71 | 81.62 | 0.083112 | 9.95 | 21.10 | 19.91 | 3.07 |
| CL-CAUCE-06 | 165 | TR=100 AÑOS | 209.27 | 74.57 | 76.63 | 77.75 | 81.54 | 0.081026 | 9.83 | 21.39 | 20.22 | 3.03 |

Profile Output Table - Standard Table 1

File Options Std. Tables Locations Help

HEC-RAS Plan: PLAN_06_SIN CAJON River: SIBUBE-06 Reach: CL-CAUCE-06 Profile: TR=100 AÑOS

Reload Data

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| CL-CAUCE-06 | 165 | TR=100 AÑOS | 209.27 | 74.57 | 76.63 | 77.75 | 81.54 | 0.081026 | 9.83 | 21.39 | 20.22 | 3.03 |
| CL-CAUCE-06 | 164.5 | TR=100 AÑOS | 209.27 | 74.62 | 76.68 | 77.78 | 81.47 | 0.079401 | 9.70 | 21.67 | 20.57 | 3.00 |
| CL-CAUCE-06 | 164 | TR=100 AÑOS | 209.27 | 74.68 | 76.72 | 77.80 | 81.39 | 0.077959 | 9.58 | 21.94 | 20.95 | 2.97 |
| CL-CAUCE-06 | 163.5 | TR=100 AÑOS | 209.27 | 74.73 | 76.76 | 77.83 | 81.32 | 0.076445 | 9.47 | 22.23 | 21.33 | 2.94 |
| CL-CAUCE-06 | 163 | TR=100 AÑOS | 209.27 | 74.78 | 76.80 | 77.86 | 81.25 | 0.075045 | 9.35 | 22.51 | 21.72 | 2.91 |
| CL-CAUCE-06 | 162.5 | TR=100 AÑOS | 209.27 | 74.83 | 76.85 | 77.89 | 81.18 | 0.073491 | 9.23 | 22.81 | 22.54 | 2.88 |
| CL-CAUCE-06 | 162 | TR=100 AÑOS | 209.27 | 74.88 | 76.89 | 77.91 | 81.11 | 0.071988 | 9.11 | 23.12 | 23.35 | 2.85 |
| CL-CAUCE-06 | 161.5 | TR=100 AÑOS | 209.27 | 74.94 | 76.93 | 77.94 | 81.04 | 0.070574 | 8.99 | 23.43 | 24.23 | 2.82 |
| CL-CAUCE-06 | 161 | TR=100 AÑOS | 209.27 | 74.99 | 76.97 | 77.97 | 80.97 | 0.069176 | 8.87 | 23.76 | 25.13 | 2.79 |
| CL-CAUCE-06 | 160.5 | TR=100 AÑOS | 209.27 | 75.05 | 77.01 | 77.99 | 80.90 | 0.069934 | 8.76 | 24.09 | 26.56 | 2.80 |
| CL-CAUCE-06 | 160 | TR=100 AÑOS | 209.27 | 75.10 | 77.03 | 78.00 | 80.84 | 0.066928 | 8.68 | 24.35 | 26.91 | 2.75 |
| CL-CAUCE-06 | 159.5 | TR=100 AÑOS | 209.27 | 75.13 | 77.02 | 77.99 | 80.80 | 0.064567 | 8.64 | 24.49 | 27.21 | 2.71 |
| CL-CAUCE-06 | 159 | TR=100 AÑOS | 209.27 | 75.13 | 76.98 | 77.96 | 80.76 | 0.060126 | 8.65 | 24.48 | 26.44 | 2.63 |
| CL-CAUCE-06 | 158.5 | TR=100 AÑOS | 209.27 | 75.12 | 76.91 | 77.90 | 80.73 | 0.056179 | 8.69 | 24.36 | 25.63 | 2.57 |
| CL-CAUCE-06 | 158 | TR=100 AÑOS | 209.27 | 75.12 | 76.82 | 77.82 | 80.69 | 0.053136 | 8.76 | 24.19 | 24.86 | 2.51 |
| CL-CAUCE-06 | 157.5 | TR=100 AÑOS | 209.27 | 75.12 | 76.70 | 77.75 | 80.66 | 0.051205 | 8.84 | 23.93 | 24.04 | 2.46 |
| CL-CAUCE-06 | 157 | TR=100 AÑOS | 209.27 | 75.11 | 76.56 | 77.65 | 80.62 | 0.054204 | 8.95 | 23.61 | 24.46 | 2.49 |
| CL-CAUCE-06 | 156.5 | TR=100 AÑOS | 209.27 | 75.11 | 76.42 | 77.53 | 80.58 | 0.061214 | 9.06 | 23.31 | 26.09 | 2.62 |
| CL-CAUCE-06 | 156 | TR=100 AÑOS | 209.27 | 75.02 | 76.30 | 77.39 | 80.54 | 0.068616 | 9.14 | 23.07 | 27.82 | 2.74 |
| CL-CAUCE-06 | 155.5 | TR=100 AÑOS | 209.27 | 74.96 | 76.24 | 77.32 | 80.51 | 0.066403 | 9.19 | 23.19 | 29.00 | 2.78 |
| CL-CAUCE-06 | 155 | TR=100 AÑOS | 209.27 | 75.04 | 76.25 | 77.33 | 80.46 | 0.062636 | 9.10 | 23.31 | 29.25 | 2.72 |
| CL-CAUCE-06 | 154.5 | TR=100 AÑOS | 209.27 | 75.10 | 76.27 | 77.34 | 80.40 | 0.064533 | 9.02 | 23.34 | 29.55 | 2.67 |
| CL-CAUCE-06 | 154 | TR=100 AÑOS | 209.27 | 75.10 | 76.26 | 77.33 | 80.39 | 0.010297 | 9.00 | 23.33 | 29.80 | 2.67 |
| CL-CAUCE-06 | 153.5 | TR=100 AÑOS | 209.27 | 75.10 | 76.26 | 77.34 | 80.39 | 0.010275 | 9.00 | 23.35 | 29.98 | 2.66 |
| CL-CAUCE-06 | 153 | TR=100 AÑOS | 209.27 | 75.10 | 76.26 | 77.34 | 80.38 | 0.010254 | 8.99 | 23.36 | 30.16 | 2.66 |
| CL-CAUCE-06 | 152.5 | TR=100 AÑOS | 209.27 | 75.10 | 76.26 | 77.33 | 80.38 | 0.010232 | 8.98 | 23.38 | 30.34 | 2.66 |
| CL-CAUCE-06 | 152 | TR=100 AÑOS | 209.27 | 75.10 | 76.27 | 77.34 | 80.37 | 0.010210 | 8.98 | 23.39 | 30.48 | 2.66 |
| CL-CAUCE-06 | 151.5 | TR=100 AÑOS | 209.27 | 75.10 | 76.27 | 77.33 | 80.37 | 0.010188 | 8.97 | 23.41 | 30.61 | 2.65 |
| CL-CAUCE-06 | 151 | TR=100 AÑOS | 209.27 | 75.10 | 76.27 | 77.34 | 80.36 | 0.010168 | 8.97 | 23.42 | 30.74 | 2.65 |
| CL-CAUCE-06 | 150.5 | TR=100 AÑOS | 209.27 | 75.10 | 76.27 | 77.33 | 80.36 | 0.010147 | 8.96 | 23.44 | 30.87 | 2.65 |
| CL-CAUCE-06 | 150 | TR=100 AÑOS | 209.27 | 75.10 | 76.27 | 77.34 | 80.36 | 0.010126 | 8.96 | 23.45 | 31.00 | 2.65 |
| CL-CAUCE-06 | 149.5 | TR=100 AÑOS | 209.27 | 75.10 | 76.27 | 77.34 | 80.35 | 0.010104 | 8.95 | 23.47 | 31.14 | 2.64 |
| CL-CAUCE-06 | 149 | TR=100 AÑOS | 209.27 | 75.10 | 76.27 | 77.34 | 80.35 | 0.010083 | 8.94 | 23.48 | 31.28 | 2.64 |
| CL-CAUCE-06 | 148.5 | TR=100 AÑOS | 209.27 | 75.10 | 76.27 | 77.34 | 80.34 | 0.010061 | 8.94 | 23.50 | 31.42 | 2.64 |
| CL-CAUCE-06 | 148 | TR=100 AÑOS | 209.27 | 75.10 | 76.27 | 77.33 | 80.34 | 0.010040 | 8.93 | 23.51 | 31.56 | 2.64 |
| CL-CAUCE-06 | 147.5 | TR=100 AÑOS | 209.27 | 75.10 | 76.27 | 77.34 | 80.33 | 0.010020 | 8.93 | 23.53 | 31.68 | 2.63 |
| CL-CAUCE-06 | 147 | TR=100 AÑOS | 209.27 | 75.10 | 76.27 | 77.34 | 80.33 | 0.009996 | 8.92 | 23.53 | 31.77 | 2.63 |
| CL-CAUCE-06 | 146.5 | TR=100 AÑOS | 209.27 | 75.10 | 76.27 | 77.34 | 80.32 | 0.009972 | 8.91 | 23.52 | 31.87 | 2.63 |
| CL-CAUCE-06 | 146 | TR=100 AÑOS | 209.27 | 76.26 | 78.50 | 78.50 | 79.61 | 0.001239 | 4.67 | 45.41 | 33.05 | 1.00 |
| CL-CAUCE-06 | 145.5 | TR=100 AÑOS | 209.27 | 76.69 | 78.92 | 78.92 | 80.03 | 0.001242 | 4.67 | 45.80 | 33.60 | 1.00 |
| CL-CAUCE-06 | 145 | TR=100 AÑOS | 209.27 | 76.66 | 78.75 | 78.89 | 80.01 | 0.001533 | 4.99 | 42.90 | 33.65 | 1.10 |
| CL-CAUCE-06 | 144.5 | TR=100 AÑOS | 209.27 | 76.52 | 78.38 | 78.75 | 79.98 | 0.002237 | 5.61 | 38.06 | 33.54 | 1.32 |
| CL-CAUCE-06 | 144 | TR=100 AÑOS | 209.27 | 76.29 | 77.96 | 78.52 | 79.94 | 0.003140 | 6.24 | 34.13 | 33.51 | 1.54 |
| CL-CAUCE-06 | 143.5 | TR=100 AÑOS | 209.27 | 75.97 | 77.49 | 78.20 | 79.89 | 0.004299 | 6.88 | 30.81 | 33.51 | 1.78 |
| CL-CAUCE-06 | 143 | TR=100 AÑOS | 209.27 | 75.57 | 76.96 | 77.80 | 79.84 | 0.005262 | 7.53 | 28.01 | 33.29 | 2.04 |
| CL-CAUCE-06 | 142.5 | TR=100 AÑOS | 209.27 | 75.09 | 76.37 | 77.33 | 79.79 | 0.006981 | 8.19 | 25.80 | 33.32 | 2.32 |
| CL-CAUCE-06 | 142 | TR=100 AÑOS | 209.27 | 74.59 | 75.78 | 76.83 | 79.73 | 0.008864 | 8.80 | 24.00 | 20.40 | 2.58 |
| CL-CAUCE-06 | 141.5 | TR=100 AÑOS | 209.27 | 74.09 | 75.21 | 76.33 | 79.67 | 0.010867 | 9.36 | 22.55 | 20.34 | 2.83 |

Profile Output Table - Standard Table 1

File Options Std. Tables Locations Help

HEC-RAS Plan: PLAN_06_SIN CAJON River: SIBUBE-06 Reach: CL-CAUCE-06 Profile: TR=100 AÑOS

Reload Data

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| CL-CAUCE-06 | 141.5 | TR=100 AÑOS | 209.27 | 74.09 | 75.21 | 76.33 | 79.67 | 0.010867 | 9.36 | 22.55 | 20.34 | 2.83 |
| CL-CAUCE-06 | 141 | TR=100 AÑOS | 209.27 | 73.74 | 74.82 | 75.97 | 79.63 | 0.012409 | 9.72 | 21.68 | 20.28 | 2.99 |
| CL-CAUCE-06 | 140.5 | TR=100 AÑOS | 209.27 | 73.61 | 74.68 | 75.85 | 79.61 | 0.013781 | 9.84 | 21.42 | 20.28 | 3.05 |
| CL-CAUCE-06 | 140 | TR=100 AÑOS | 209.27 | 73.60 | 74.66 | 75.83 | 79.60 | 0.013857 | 9.85 | 21.44 | 20.36 | 3.06 |
| CL-CAUCE-06 | 139.5 | TR=100 AÑOS | 209.27 | 73.60 | 74.66 | 75.83 | 79.60 | 0.013844 | 9.85 | 21.48 | 20.45 | 3.05 |
| CL-CAUCE-06 | 139 | TR=100 AÑOS | 209.27 | 73.60 | 74.66 | 75.83 | 79.59 | 0.013807 | 9.84 | 21.52 | 20.52 | 3.05 |
| CL-CAUCE-06 | 138.5 | TR=100 AÑOS | 209.27 | 73.60 | 74.66 | 75.83 | 79.58 | 0.013766 | 9.83 | 21.55 | 20.58 | 3.05 |
| CL-CAUCE-06 | 138 | TR=100 AÑOS | 209.27 | 73.60 | 74.66 | 75.83 | 79.57 | 0.013735 | 9.82 | 21.57 | 20.60 | 3.04 |
| CL-CAUCE-06 | 137.5 | TR=100 AÑOS | 209.27 | 73.60 | 74.66 | 75.83 | 79.57 | 0.013703 | 9.82 | 21.58 | 20.60 | 3.04 |
| CL-CAUCE-06 | 137 | TR=100 AÑOS | 209.27 | 73.60 | 74.66 | 75.83 | 79.56 | 0.013672 | 9.81 | 21.60 | 20.60 | 3.04 |
| CL-CAUCE-06 | 136.5 | TR=100 AÑOS | 209.27 | 73.60 | 74.66 | 75.83 | 79.55 | 0.013640 | 9.80 | 21.61 | 20.60 | 3.03 |
| CL-CAUCE-06 | 136 | TR=100 AÑOS | 209.27 | 73.60 | 74.67 | 75.83 | 79.55 | 0.013608 | 9.80 | 21.63 | 20.60 | 3.03 |
| CL-CAUCE-06 | 135.5 | TR=100 AÑOS | 209.27 | 73.60 | 74.67 | 75.83 | 79.54 | 0.013579 | 9.79 | 21.64 | 20.60 | 3.03 |
| CL-CAUCE-06 | 135 | TR=100 AÑOS | 209.27 | 73.60 | 74.67 | 75.83 | 79.54 | 0.013548 | 9.78 | 21.66 | 20.60 | 3.02 |
| CL-CAUCE-06 | 134.5 | TR=100 AÑOS | 209.27 | 73.60 | 74.67 | 75.83 | 79.53 | 0.013518 | 9.78 | 21.67 | 20.60 | 3.02 |
| CL-CAUCE-06 | 134 | TR=100 AÑOS | 209.27 | 73.60 | 74.67 | 75.83 | 79.52 | 0.013486 | 9.77 | 21.69 | 20.60 | 3.02 |
| CL-CAUCE-06 | 133.5 | TR=100 AÑOS | 209.27 | 73.60 | 74.67 | 75.83 | 79.52 | 0.013455 | 9.76 | 21.70 | 20.60 | 3.02 |
| CL-CAUCE-06 | 133 | TR=100 AÑOS | 209.27 | 73.60 | 74.67 | 75.83 | 79.51 | 0.013424 | 9.76 | 21.72 | 20.60 | 3.01 |
| CL-CAUCE-06 | 132.5 | TR=100 AÑOS | 209.27 | 73.60 | 74.67 | 75.83 | 79.51 | 0.013396 | 9.75 | 21.73 | 20.60 | 3.01 |
| CL-CAUCE-06 | 132 | TR=100 AÑOS | 209.27 | 73.60 | 74.67 | 75.83 | 79.50 | 0.013365 | 9.74 | 21.75 | 20.60 | 3.01 |
| CL-CAUCE-06 | 131.5 | TR=100 AÑOS | 209.27 | 73.60 | 74.67 | 75.83 | 79.49 | 0.013335 | 9.74 | 21.77 | 20.60 | 3.00 |
| CL-CAUCE-06 | 131 | TR=100 AÑOS | 209.27 | 73.60 | 74.67 | 75.83 | 79.49 | 0.013305 | 9.73 | 21.78 | 20.60 | 3.00 |
| CL-CAUCE-06 | 130.5 | TR=100 AÑOS | 209.27 | 73.60 | 74.67 | 75.83 | 79.48 | 0.012379 | 9.72 | 21.80 | 20.60 | 3.00 |
| CL-CAUCE-06 | 130 | TR=100 AÑOS | 209.27 | 73.60 | 74.67 | 75.83 | 79.48 | 0.013243 | 9.72 | 21.81 | 20.60 | 2.99 |
| CL-CAUCE-06 | 129.5 | TR=100 AÑOS | 209.27 | 73.60 | 74.68 | 75.83 | 79.47 | 0.013215 | 9.71 | 21.83 | 20.60 | 2.99 |
| CL-CAUCE-06 | 129 | TR=100 AÑOS | 209.27 | 73.60 | 74.68 | 75.83 | 79.46 | 0.013185 | 9.70 | 21.84 | 20.60 | 2.99 |
| CL-CAUCE-06 | 128.5 | TR=100 AÑOS | 209.27 | 73.60 | 74.68 | 75.83 | 79.46 | 0.013155 | 9.70 | 21.86 | 20.60 | 2.98 |
| CL-CAUCE-06 | 128 | TR=100 AÑOS | 209.27 | 73.60 | 74.68 | 75.83 | 79.45 | 0.013126 | 9.69 | 21.87 | 20.60 | 2.98 |
| CL-CAUCE-06 | 127.5 | TR=100 AÑOS | 209.27 | 73.60 | 74.68 | 75.83 | 79.45 | 0.013096 | 9.68 | 21.89 | 20.61 | 2.98 |
| CL-CAUCE-06 | 127 | TR=100 AÑOS | 209.27 | 73.60 | 74.68 | 75.82 | 79.44 | 0.013212 | 9.67 | 21.82 | 20.60 | 2.98 |
| CL-CAUCE-06 | 126.5 | TR=100 AÑOS | 209.27 | 73.60 | 74.67 | 75.82 | 79.44 | 0.013429 | 9.67 | 21.74 | 20.64 | 2.99 |
| CL-CAUCE-06 | 126 | TR=100 AÑOS | 209.27 | 73.72 | 74.82 | 75.94 | 79.36 | 0.012571 | 9.45 | 22.27 | 20.87 | 2.90 |
| CL-CAUCE-06 | 125.5 | TR=100 AÑOS | 209.27 | 73.96 | 75.11 | 76.17 | 79.23 | 0.010866 | 9.00 | 23.41 | 21.19 | 2.71 |
| CL-CAUCE-06 | 125 | TR=100 AÑOS | 209.27 | 74.19 | 75.41 | 76.40 | 79.10 | 0.009159 | 8.52 | 24.82 | 21.52 | 2.51 |
| CL-CAUCE-06 | 124.5 | TR=100 AÑOS | 209.27 | 74.43 | 75.72 | 76.63 | 78.96 | 0.007471 | 7.98 | 26.59 | 21.86 | 2.29 |
| CL-CAUCE-06 | 124 | TR=100 AÑOS | 209.27 | 74.67 | 76.06 | 76.87 | 78.81 | 0.005785 | 7.35 | 28.95 | 22.22 | 2.03 |
| CL-CAUCE-06 | 123.5 | TR=100 AÑOS | 209.27 | 74.90 | 76.46 | 77.10 | 78.64 | 0.004028 | 6.56 | 32.60 | 36.82 | 1.72 |
| CL-CAUCE-06 | 123 | TR=100 AÑOS | 209.27 | 75.14 | 77.07 | 77.32 | 78.40 | 0.001842 | 5.13 | 42.02 | 38.61 | 1.20 |
| CL-CAUCE-06 | 122.5 | TR=100 AÑOS | 209.27 | 74.44 | 76.32 | 76.91 | 78.33 | 0.011187 | 6.30 | 33.77 | 30.45 | 1.64 |
| CL-CAUCE-06 | 122 | TR=100 AÑOS | 209.27 | 74.44 | 76.31 | 76.90 | 78.33 | 0.011462 | 6.32 | 33.78 | 28.59 | 1.66 |
| CL-CAUCE-06 | 121.5 | TR=100 AÑOS | 209.27 | 74.44 | 76.31 | 76.90 | 78.32 | 0.011431 | 6.31 | 33.83 | 26.93 | 1.65 |
| CL-CAUCE-06 | 121 | TR=100 AÑOS | 209.27 | 74.44 | 76.31 | 76.91 | 78.31 | 0.011307 | 6.29 | 33.95 | 26.22 | 1.65 |
| CL-CAUCE-06 | 120.5 | TR=100 AÑOS | 209.27 | 74.44 | 76.31 | 76.90 | 78.31 | 0.011235 | 6.28 | 34.02 | 26.22 | 1.64 |
| CL-CAUCE-06 | 120 | TR=100 AÑOS | 209.27 | 74.44 | 76.32 | 76.91 | 78.30 | 0.011115 | 6.26 | 34.13 | 26.28 | 1.63 |
| CL-CAUCE-06 | 119.5 | TR=100 AÑOS | 209.27 | 74.44 | 76.32 | 76.91 | 78.29 | 0.010995 | 6.24 | 34.25 | 26.33 | 1.63 |
| CL-CAUCE-06 | 119 | TR=100 AÑOS | 209.27 | 74.44 | 76.33 | 76.91 | 78.28 | 0.010848 | 6.21 | 34.40 | 26.42 | 1.62 |
| CL-CAUCE-06 | 118.5 | TR=100 AÑOS | 209.27 | 74.44 | 76.33 | 76.91 | 78.28 | 0.010779 | 6.20 | 34.47 | 26.43 | 1.61 |
| CL-CAUCE-06 | 118 | TR=100 AÑOS | 209.27 | 74.44 | 76.34 | 76.91 | 78.27 | 0.010661 | 6.18 | 34.59 | 26.49 | 1.60 |

Profile Output Table - Standard Table 1

File Options Std. Tables Locations Help

HEC-RAS Plan: PLAN_06_SIN CAJON River: SIBUBE-06 Reach: CL-CAUCE-06 Profile: TR=100 AÑOS

Reload Data

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| CL-CAUCE-06 | 118 | TR=100 AÑOS | 209.27 | 74.44 | 76.34 | 76.91 | 78.27 | 0.010661 | 6.18 | 34.59 | 26.49 | 1.60 |
| CL-CAUCE-06 | 117.5 | TR=100 AÑOS | 209.27 | 74.44 | 76.34 | 76.91 | 78.27 | 0.010593 | 6.17 | 34.66 | 26.49 | 1.60 |
| CL-CAUCE-06 | 117 | TR=100 AÑOS | 209.27 | 74.44 | 76.35 | 76.91 | 78.26 | 0.010477 | 6.15 | 34.78 | 26.54 | 1.59 |
| CL-CAUCE-06 | 116.5 | TR=100 AÑOS | 209.27 | 74.44 | 76.35 | 76.91 | 78.25 | 0.010410 | 6.14 | 34.85 | 26.56 | 1.59 |
| CL-CAUCE-06 | 116 | TR=100 AÑOS | 209.27 | 74.44 | 76.35 | 76.91 | 78.25 | 0.010292 | 6.12 | 34.97 | 26.49 | 1.58 |
| CL-CAUCE-06 | 115.5 | TR=100 AÑOS | 209.27 | 74.44 | 76.36 | 76.91 | 78.24 | 0.010155 | 6.10 | 35.13 | 26.44 | 1.57 |
| CL-CAUCE-06 | 115 | TR=100 AÑOS | 209.27 | 74.44 | 76.36 | 76.91 | 78.23 | 0.010090 | 6.08 | 35.20 | 26.31 | 1.56 |
| CL-CAUCE-06 | 114.5 | TR=100 AÑOS | 209.27 | 74.37 | 76.30 | 76.87 | 78.22 | 0.010585 | 6.17 | 34.78 | 25.10 | 1.60 |
| CL-CAUCE-06 | 114 | TR=100 AÑOS | 209.27 | 74.26 | 76.08 | 76.71 | 78.20 | 0.023320 | 6.48 | 32.92 | 23.90 | 1.72 |
| CL-CAUCE-06 | 113.5 | TR=100 AÑOS | 209.27 | 74.15 | 75.88 | 76.56 | 78.17 | 0.026442 | 6.73 | 31.67 | 23.82 | 1.82 |
| CL-CAUCE-06 | 113 | TR=100 AÑOS | 209.27 | 74.04 | 75.69 | 76.42 | 78.14 | 0.029585 | 6.97 | 30.59 | 23.76 | 1.92 |
| CL-CAUCE-06 | 112.5 | TR=100 AÑOS | 209.27 | 73.93 | 75.50 | 76.27 | 78.10 | 0.032699 | 7.18 | 29.66 | 23.70 | 2.01 |
| CL-CAUCE-06 | 112 | TR=100 AÑOS | 209.27 | 73.82 | 75.32 | 76.13 | 78.07 | 0.035775 | 7.38 | 28.86 | 23.66 | 2.09 |
| CL-CAUCE-06 | 111.5 | TR=100 AÑOS | 209.27 | 73.71 | 75.15 | 75.99 | 78.04 | 0.038873 | 7.57 | 28.13 | 23.62 | 2.17 |
| CL-CAUCE-06 | 111 | TR=100 AÑOS | 209.27 | 73.60 | 74.98 | 75.84 | 78.01 | 0.041958 | 7.74 | 27.48 | 23.59 | 2.25 |
| CL-CAUCE-06 | 110.5 | TR=100 AÑOS | 209.27 | 73.49 | 74.81 | 75.71 | 77.97 | 0.045023 | 7.91 | 26.90 | 23.56 | 2.32 |
| CL-CAUCE-06 | 110 | TR=100 AÑOS | 209.27 | 73.38 | 74.65 | 75.56 | 77.94 | 0.048005 | 8.07 | 26.35 | 23.51 | 2.39 |
| CL-CAUCE-06 | 109.5 | TR=100 AÑOS | 209.27 | 73.27 | 74.50 | 75.43 | 77.90 | 0.050520 | 8.20 | 25.89 | 23.38 | 2.45 |
| CL-CAUCE-06 | 109 | TR=100 AÑOS | 209.27 | 73.16 | 74.36 | 75.31 | 77.86 | 0.052406 | 8.32 | 25.53 | 23.19 | 2.49 |
| CL-CAUCE-06 | 108.5 | TR=100 AÑOS | 209.27 | 73.05 | 74.23 | 75.20 | 77.83 | 0.054056 | 8.44 | 25.22 | 22.99 | 2.53 |
| CL-CAUCE-06 | 108 | TR=100 AÑOS | 209.27 | 72.94 | 74.10 | 75.09 | 77.79 | 0.055685 | 8.55 | 24.92 | 22.81 | 2.56 |
| CL-CAUCE-06 | 107.5 | TR=100 AÑOS | 209.27 | 72.83 | 73.98 | 74.98 | 77.75 | 0.057231 | 8.65 | 24.64 | 22.62 | 2.60 |
| CL-CAUCE-06 | 107 | TR=100 AÑOS | 209.27 | 72.75 | 73.89 | 74.90 | 77.72 | 0.058149 | 8.72 | 24.49 | 22.48 | 2.62 |
| CL-CAUCE-06 | 106.5 | TR=100 AÑOS | 209.27 | 72.75 | 73.89 | 74.90 | 77.67 | 0.056843 | 8.69 | 24.69 | 22.48 | 2.59 |
| CL-CAUCE-06 | 106 | TR=100 AÑOS | 209.27 | 72.75 | 73.92 | 74.91 | 77.62 | 0.054336 | 8.61 | 24.94 | 22.29 | 2.55 |
| CL-CAUCE-06 | 105.5 | TR=100 AÑOS | 209.27 | 72.75 | 73.94 | 74.93 | 77.57 | 0.051895 | 8.52 | 25.19 | 22.10 | 2.50 |
| CL-CAUCE-06 | 105 | TR=100 AÑOS | 209.27 | 72.75 | 74.00 | 74.98 | 77.51 | 0.046346 | 8.33 | 25.60 | 20.73 | 2.38 |
| CL-CAUCE-06 | 104.5 | TR=100 AÑOS | 209.27 | 72.75 | 74.03 | 74.99 | 77.47 | 0.044114 | 8.25 | 25.88 | 20.50 | 2.33 |
| CL-CAUCE-06 | 104 | TR=100 AÑOS | 209.27 | 72.75 | 74.06 | 75.01 | 77.43 | 0.042004 | 8.16 | 26.15 | 20.28 | 2.28 |
| CL-CAUCE-06 | 103.5 | TR=100 AÑOS | 209.27 | 72.75 | 74.09 | 75.02 | 77.39 | 0.039917 | 8.08 | 26.45 | 20.05 | 2.23 |
| CL-CAUCE-06 | 103 | TR=100 AÑOS | 209.27 | 72.75 | 74.12 | 75.04 | 77.34 | 0.037875 | 7.99 | 26.77 | 19.83 | 2.18 |
| CL-CAUCE-06 | 102.5 | TR=100 AÑOS | 209.27 | 72.75 | 74.15 | 75.06 | 77.31 | 0.035942 | 7.90 | 27.07 | 19.60 | 2.13 |
| CL-CAUCE-06 | 102 | TR=100 AÑOS | 209.27 | 72.75 | 74.18 | 75.07 | 77.27 | 0.034036 | 7.81 | 27.40 | 19.38 | 2.08 |
| CL-CAUCE-06 | 101.5 | TR=100 AÑOS | 209.27 | 72.75 | 74.22 | 75.09 | 77.23 | 0.032150 | 7.72 | 27.77 | 19.19 | 2.03 |
| CL-CAUCE-06 | 97.49 | | Culvert | | | | | | | | | |
| CL-CAUCE-06 | 94 | TR=100 AÑOS | 209.27 | 72.66 | 75.00 | 75.00 | 76.17 | 0.006630 | 4.79 | 44.11 | 19.35 | 1.00 |
| CL-CAUCE-06 | 93.5 | TR=100 AÑOS | 209.27 | 72.66 | 74.65 | 74.99 | 76.13 | 0.010527 | 5.40 | 39.01 | 19.66 | 1.22 |
| CL-CAUCE-06 | 93 | TR=100 AÑOS | 209.27 | 72.66 | 74.43 | 75.04 | 76.11 | 0.013789 | 5.73 | 36.84 | 22.12 | 1.38 |
| CL-CAUCE-06 | 92.5 | TR=100 AÑOS | 209.27 | 72.66 | 74.21 | 74.82 | 76.08 | 0.018822 | 6.12 | 36.61 | 36.04 | 1.57 |
| CL-CAUCE-06 | 92 | TR=100 AÑOS | 209.27 | 72.66 | 73.97 | 74.61 | 76.05 | 0.026975 | 6.57 | 35.04 | 36.51 | 1.83 |
| CL-CAUCE-06 | 91.5 | TR=100 AÑOS | 209.27 | 72.66 | 73.81 | 74.45 | 76.02 | 0.035624 | 6.89 | 33.77 | 36.35 | 2.06 |
| CL-CAUCE-06 | 91 | TR=100 AÑOS | 209.27 | 72.59 | 73.66 | 74.32 | 75.99 | 0.043980 | 7.06 | 31.66 | 35.62 | 2.24 |
| CL-CAUCE-06 | 90.5 | TR=100 AÑOS | 209.27 | 72.46 | 73.61 | 74.29 | 75.96 | 0.044441 | 7.05 | 31.50 | 35.52 | 2.24 |
| CL-CAUCE-06 | 90 | TR=100 AÑOS | 209.27 | 72.43 | 73.58 | 74.26 | 75.94 | 0.043922 | 7.04 | 31.47 | 35.26 | 2.23 |
| CL-CAUCE-06 | 89.5 | TR=100 AÑOS | 209.27 | 72.41 | 73.56 | 74.24 | 75.92 | 0.043247 | 7.02 | 31.46 | 34.95 | 2.21 |
| CL-CAUCE-06 | 89 | TR=100 AÑOS | 209.27 | 72.38 | 73.54 | 74.22 | 75.90 | 0.042632 | 7.00 | 31.44 | 34.61 | 2.20 |
| CL-CAUCE-06 | 88.5 | TR=100 AÑOS | 209.27 | 72.36 | 73.51 | 74.20 | 75.88 | 0.042198 | 6.97 | 31.40 | 34.26 | 2.19 |
| CL-CAUCE-06 | 88 | TR=100 AÑOS | 209.27 | 72.34 | 73.49 | 74.18 | 75.86 | 0.041871 | 6.96 | 31.36 | 33.92 | 2.18 |

Profile Output Table - Standard Table 1

File Options Std. Tables Locations Help

HEC-RAS Plan: PLAN_06_SIN CAJON River: SIBUBE-06 Reach: CL-CAUCE-06 Profile: TR=100 AÑOS

Reload Data

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| CL-CAUCE-06 | 88 | TR=100 AÑOS | 209.27 | 72.34 | 73.49 | 74.18 | 75.86 | 0.041871 | 6.96 | 31.36 | 33.92 | 2.18 |
| CL-CAUCE-06 | 87.5 | TR=100 AÑOS | 209.27 | 72.31 | 73.47 | 74.17 | 75.84 | 0.041696 | 6.94 | 31.30 | 33.60 | 2.17 |
| CL-CAUCE-06 | 87 | TR=100 AÑOS | 209.27 | 72.28 | 73.45 | 74.16 | 75.82 | 0.041696 | 6.93 | 31.23 | 33.29 | 2.17 |
| CL-CAUCE-06 | 86.5 | TR=100 AÑOS | 209.27 | 72.23 | 73.43 | 74.13 | 75.80 | 0.041779 | 6.92 | 31.15 | 33.00 | 2.17 |
| CL-CAUCE-06 | 86 | TR=100 AÑOS | 209.27 | 72.19 | 73.41 | 74.11 | 75.78 | 0.041818 | 6.91 | 31.10 | 32.72 | 2.17 |
| CL-CAUCE-06 | 85.5 | TR=100 AÑOS | 209.27 | 72.15 | 73.39 | 74.09 | 75.76 | 0.041993 | 6.90 | 31.06 | 32.47 | 2.17 |
| CL-CAUCE-06 | 85 | TR=100 AÑOS | 209.27 | 72.11 | 73.37 | 74.07 | 75.74 | 0.042106 | 6.89 | 31.03 | 32.22 | 2.17 |
| CL-CAUCE-06 | 84.5 | TR=100 AÑOS | 209.27 | 72.06 | 73.36 | 74.05 | 75.72 | 0.042372 | 6.88 | 31.01 | 32.00 | 2.18 |
| CL-CAUCE-06 | 84 | TR=100 AÑOS | 209.27 | 72.02 | 73.34 | 74.03 | 75.70 | 0.041909 | 6.87 | 31.05 | 31.80 | 2.17 |
| CL-CAUCE-06 | 83.5 | TR=100 AÑOS | 209.27 | 71.98 | 73.32 | 74.01 | 75.68 | 0.041531 | 6.86 | 31.07 | 31.60 | 2.16 |
| CL-CAUCE-06 | 83 | TR=100 AÑOS | 209.27 | 71.94 | 73.31 | 73.99 | 75.66 | 0.041198 | 6.85 | 31.08 | 31.42 | 2.15 |
| CL-CAUCE-06 | 82.5 | TR=100 AÑOS | 209.27 | 71.91 | 73.29 | 73.98 | 75.64 | 0.040893 | 6.84 | 31.09 | 31.26 | 2.14 |
| CL-CAUCE-06 | 82 | TR=100 AÑOS | 209.27 | 71.87 | 73.28 | 73.97 | 75.62 | 0.040590 | 6.83 | 31.10 | 31.10 | 2.14 |
| CL-CAUCE-06 | 81.5 | TR=100 AÑOS | 209.27 | 71.83 | 73.26 | 73.95 | 75.60 | 0.040346 | 6.82 | 31.12 | 30.95 | 2.13 |
| CL-CAUCE-06 | 81 | TR=100 AÑOS | 209.27 | 71.79 | 73.25 | 73.93 | 75.58 | 0.040097 | 6.81 | 31.13 | 30.82 | 2.12 |
| CL-CAUCE-06 | 80.5 | TR=100 AÑOS | 209.27 | 71.75 | 73.23 | 73.92 | 75.57 | 0.039874 | 6.80 | 31.14 | 30.70 | 2.12 |
| CL-CAUCE-06 | 80 | TR=100 AÑOS | 209.27 | 71.72 | 73.22 | 73.90 | 75.55 | 0.039684 | 6.79 | 31.16 | 30.58 | 2.11 |
| CL-CAUCE-06 | 79.5 | TR=100 AÑOS | 209.27 | 71.68 | 73.20 | 73.89 | 75.53 | 0.039469 | 6.78 | 31.18 | 30.48 | 2.11 |
| CL-CAUCE-06 | 79 | TR=100 AÑOS | 209.27 | 71.64 | 73.19 | 73.88 | 75.51 | 0.039316 | 6.77 | 31.19 | 30.39 | 2.10 |
| CL-CAUCE-06 | 78.5 | TR=100 AÑOS | 209.27 | 71.61 | 73.17 | 73.86 | 75.49 | 0.039336 | 6.77 | 31.21 | 30.43 | 2.10 |
| CL-CAUCE-06 | 78 | TR=100 AÑOS | 209.27 | 71.57 | 73.16 | 73.85 | 75.47 | 0.039419 | 6.76 | 31.22 | 30.48 | 2.10 |
| CL-CAUCE-06 | 77.5 | TR=100 AÑOS | 209.27 | 71.54 | 73.15 | 73.83 | 75.46 | 0.039541 | 6.75 | 31.24 | 30.55 | 2.10 |
| CL-CAUCE-06 | 77 | TR=100 AÑOS | 209.27 | 71.50 | 73.13 | 73.82 | 75.44 | 0.039648 | 6.74 | 31.26 | 30.63 | 2.10 |
| CL-CAUCE-06 | 76.5 | TR=100 AÑOS | 209.27 | 71.47 | 73.12 | 73.80 | 75.42 | 0.039693 | 6.72 | 31.31 | 30.79 | 2.10 |
| CL-CAUCE-06 | 76 | TR=100 AÑOS | 209.27 | 71.43 | 73.11 | 73.79 | 75.40 | 0.039756 | 6.71 | 31.36 | 30.96 | 2.10 |
| CL-CAUCE-06 | 75.5 | TR=100 AÑOS | 209.27 | 71.40 | 73.09 | 73.77 | 75.37 | 0.039887 | 6.70 | 31.42 | 31.13 | 2.10 |
| CL-CAUCE-06 | 75 | TR=100 AÑOS | 209.27 | 71.36 | 73.08 | 73.76 | 75.36 | 0.040133 | 6.69 | 31.44 | 31.31 | 2.11 |
| CL-CAUCE-06 | 74.5 | TR=100 AÑOS | 209.27 | 71.33 | 73.07 | 73.75 | 75.34 | 0.040239 | 6.68 | 31.51 | 31.51 | 2.11 |
| CL-CAUCE-06 | 74 | TR=100 AÑOS | 209.27 | 71.29 | 73.06 | 73.73 | 75.31 | 0.040399 | 6.66 | 31.56 | 31.73 | 2.11 |
| CL-CAUCE-06 | 73.5 | TR=100 AÑOS | 209.27 | 71.26 | 73.05 | 73.72 | 75.29 | 0.040537 | 6.65 | 31.63 | 31.96 | 2.11 |
| CL-CAUCE-06 | 73 | TR=100 AÑOS | 209.27 | 71.22 | 73.03 | 73.71 | 75.27 | 0.040684 | 6.63 | 31.70 | 32.20 | 2.11 |
| CL-CAUCE-06 | 72.5 | TR=100 AÑOS | 209.27 | 71.19 | 73.02 | 73.69 | 75.25 | 0.040895 | 6.62 | 31.76 | 32.45 | 2.12 |
| CL-CAUCE-06 | 72 | TR=100 AÑOS | 209.27 | 71.15 | 73.01 | 73.68 | 75.23 | 0.040903 | 6.60 | 31.83 | 32.72 | 2.12 |
| CL-CAUCE-06 | 71.5 | TR=100 AÑOS | 209.27 | 71.12 | 73.00 | 73.66 | 75.21 | 0.040625 | 6.59 | 31.91 | 33.00 | 2.11 |
| CL-CAUCE-06 | 71 | TR=100 AÑOS | 209.27 | 71.09 | 73.00 | 73.65 | 75.18 | 0.039846 | 6.55 | 32.11 | 33.38 | 2.09 |
| CL-CAUCE-06 | 70.5 | TR=100 AÑOS | 209.27 | 71.11 | 72.99 | 73.64 | 75.15 | 0.039383 | 6.53 | 32.25 | 33.70 | 2.08 |
| CL-CAUCE-06 | 70 | TR=100 AÑOS | 209.27 | 71.14 | 72.98 | 73.63 | 75.12 | 0.038502 | 6.48 | 32.48 | 33.90 | 2.06 |
| CL-CAUCE-06 | 69.5 | TR=100 AÑOS | 209.27 | 71.18 | 72.98 | 73.63 | 75.09 | 0.037624 | 6.44 | 32.70 | 33.89 | 2.04 |
| CL-CAUCE-06 | 69 | TR=100 AÑOS | 209.27 | 71.22 | 72.98 | 73.62 | 75.07 | 0.036805 | 6.40 | 32.90 | 33.88 | 2.02 |
| CL-CAUCE-06 | 68.5 | TR=100 AÑOS | 209.27 | 71.26 | 72.98 | 73.60 | 75.04 | 0.035959 | 6.36 | 33.12 | 33.88 | 2.00 |
| CL-CAUCE-06 | 68 | TR=100 AÑOS | 209.27 | 71.30 | 72.98 | 73.60 | 75.01 | 0.035179 | 6.32 | 33.33 | 33.90 | 1.98 |
| CL-CAUCE-06 | 67.5 | TR=100 AÑOS | 209.27 | 71.30 | 72.98 | 73.59 | 74.99 | 0.034606 | 6.29 | 33.48 | 33.90 | 1.97 |
| CL-CAUCE-06 | 67 | TR=100 AÑOS | 209.27 | 71.28 | 72.97 | 73.58 | 74.97 | 0.034085 | 6.27 | 33.61 | 33.90 | 1.96 |
| CL-CAUCE-06 | 66.5 | TR=100 AÑOS | 209.27 | 71.26 | 72.96 | 73.57 | 74.95 | 0.033690 | 6.25 | 33.71 | 33.89 | 1.95 |
| CL-CAUCE-06 | 66 | TR=100 AÑOS | 209.27 | 71.25 | 72.96 | 73.56 | 74.93 | 0.033225 | 6.23 | 33.82 | 33.89 | 1.94 |
| CL-CAUCE-06 | 65.5 | TR=100 AÑOS | 209.27 | 71.23 | 72.95 | 73.54 | 74.92 | 0.032811 | 6.22 | 33.92 | 33.91 | 1.93 |
| CL-CAUCE-06 | 65 | TR=100 AÑOS | 209.27 | 71.22 | 72.94 | 73.54 | 74.90 | 0.032380 | 6.20 | 34.03 | 33.93 | 1.92 |
| CL-CAUCE-06 | 64.5 | TR=100 AÑOS | 209.27 | 71.20 | 72.93 | 73.54 | 74.88 | 0.032124 | 6.19 | 34.08 | 33.93 | 1.91 |

Profile Output Table - Standard Table 1

File Options Std. Tables Locations Help

HEC-RAS Plan: PLAN_06_SIN CAJON River: SIBUBE-06 Reach: CL-CAUCE-06 Profile: TR=100 AÑOS

Reload Data

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| CL-CAUCE-06 | 64.5 | TR=100 AÑOS | 209.27 | 71.20 | 72.93 | 73.54 | 74.88 | 0.032124 | 6.19 | 34.08 | 33.93 | 1.91 |
| CL-CAUCE-06 | 64 | TR=100 AÑOS | 209.27 | 71.18 | 72.93 | 73.54 | 74.87 | 0.031791 | 6.18 | 34.15 | 33.95 | 1.90 |
| CL-CAUCE-06 | 63.5 | TR=100 AÑOS | 209.27 | 71.17 | 72.91 | 73.54 | 74.85 | 0.031537 | 6.18 | 34.21 | 33.98 | 1.90 |
| CL-CAUCE-06 | 63 | TR=100 AÑOS | 209.27 | 71.15 | 72.90 | 73.53 | 74.84 | 0.031292 | 6.17 | 34.27 | 34.00 | 1.89 |
| CL-CAUCE-06 | 62.5 | TR=100 AÑOS | 209.27 | 71.14 | 72.89 | 73.52 | 74.82 | 0.031045 | 6.17 | 34.31 | 34.03 | 1.89 |
| CL-CAUCE-06 | 62 | TR=100 AÑOS | 209.27 | 71.12 | 72.88 | 73.50 | 74.81 | 0.030835 | 6.16 | 34.36 | 34.06 | 1.88 |
| CL-CAUCE-06 | 61.5 | TR=100 AÑOS | 209.27 | 71.11 | 72.87 | 73.48 | 74.79 | 0.030654 | 6.16 | 34.40 | 34.10 | 1.88 |
| CL-CAUCE-06 | 61 | TR=100 AÑOS | 209.27 | 71.09 | 72.85 | 73.46 | 74.78 | 0.030480 | 6.16 | 34.44 | 34.31 | 1.87 |
| CL-CAUCE-06 | 60.5 | TR=100 AÑOS | 209.27 | 71.08 | 72.84 | 73.44 | 74.76 | 0.030357 | 6.16 | 34.50 | 34.78 | 1.87 |
| CL-CAUCE-06 | 60 | TR=100 AÑOS | 209.27 | 71.06 | 72.83 | 73.42 | 74.74 | 0.030215 | 6.15 | 34.59 | 35.26 | 1.87 |
| CL-CAUCE-06 | 59.5 | TR=100 AÑOS | 209.27 | 71.05 | 72.81 | 73.40 | 74.73 | 0.030302 | 6.16 | 34.59 | 35.70 | 1.87 |
| CL-CAUCE-06 | 59 | TR=100 AÑOS | 209.27 | 71.03 | 72.79 | 73.38 | 74.72 | 0.030464 | 6.17 | 34.59 | 36.14 | 1.88 |
| CL-CAUCE-06 | 58.5 | TR=100 AÑOS | 209.27 | 71.02 | 72.77 | 73.36 | 74.70 | 0.030592 | 6.19 | 34.62 | 36.61 | 1.88 |
| CL-CAUCE-06 | 58 | TR=100 AÑOS | 209.27 | 71.01 | 72.75 | 73.34 | 74.69 | 0.030801 | 6.20 | 34.64 | 37.08 | 1.89 |
| CL-CAUCE-06 | 57.5 | TR=100 AÑOS | 209.27 | 70.99 | 72.72 | 73.31 | 74.67 | 0.031096 | 6.21 | 34.64 | 37.54 | 1.90 |
| CL-CAUCE-06 | 57 | TR=100 AÑOS | 209.27 | 70.98 | 72.70 | 73.28 | 74.65 | 0.031448 | 6.23 | 34.62 | 38.01 | 1.91 |
| CL-CAUCE-06 | 56.5 | TR=100 AÑOS | 209.27 | 70.97 | 72.67 | 73.26 | 74.64 | 0.031911 | 6.25 | 34.60 | 38.50 | 1.92 |
| CL-CAUCE-06 | 56 | TR=100 AÑOS | 209.27 | 70.95 | 72.64 | 73.22 | 74.62 | 0.032352 | 6.28 | 34.59 | 39.04 | 1.93 |
| CL-CAUCE-06 | 55.5 | TR=100 AÑOS | 209.27 | 70.94 | 72.62 | 73.20 | 74.60 | 0.032934 | 6.30 | 34.55 | 39.60 | 1.95 |
| CL-CAUCE-06 | 55 | TR=100 AÑOS | 209.27 | 70.92 | 72.59 | 73.17 | 74.58 | 0.033518 | 6.32 | 34.51 | 39.82 | 1.96 |
| CL-CAUCE-06 | 54.5 | TR=100 AÑOS | 209.27 | 70.91 | 72.56 | 73.14 | 74.56 | 0.034218 | 6.35 | 34.43 | 39.92 | 1.98 |
| CL-CAUCE-06 | 54 | TR=100 AÑOS | 209.27 | 70.90 | 72.53 | 73.11 | 74.55 | 0.034840 | 6.37 | 34.37 | 40.04 | 1.99 |
| CL-CAUCE-06 | 53.5 | TR=100 AÑOS | 209.27 | 70.88 | 72.50 | 73.08 | 74.53 | 0.035619 | 6.39 | 34.28 | 40.17 | 2.01 |
| CL-CAUCE-06 | 53 | TR=100 AÑOS | 209.27 | 70.87 | 72.47 | 73.06 | 74.51 | 0.036022 | 6.41 | 34.22 | 40.23 | 2.02 |
| CL-CAUCE-06 | 52.5 | TR=100 AÑOS | 209.27 | 70.84 | 72.44 | 73.03 | 74.49 | 0.036477 | 6.43 | 34.11 | 40.18 | 2.03 |
| CL-CAUCE-06 | 52 | TR=100 AÑOS | 209.27 | 70.82 | 72.41 | 73.01 | 74.47 | 0.036622 | 6.45 | 34.05 | 40.13 | 2.04 |
| CL-CAUCE-06 | 51.5 | TR=100 AÑOS | 209.27 | 70.80 | 72.38 | 72.98 | 74.45 | 0.036798 | 6.46 | 33.97 | 40.09 | 2.04 |
| CL-CAUCE-06 | 51 | TR=100 AÑOS | 209.27 | 70.78 | 72.35 | 72.95 | 74.43 | 0.037167 | 6.48 | 33.88 | 40.04 | 2.05 |
| CL-CAUCE-06 | 50.5 | TR=100 AÑOS | 209.27 | 70.76 | 72.32 | 72.93 | 74.41 | 0.037273 | 6.49 | 33.83 | 40.00 | 2.05 |
| CL-CAUCE-06 | 50 | TR=100 AÑOS | 209.27 | 70.73 | 72.30 | 72.89 | 74.39 | 0.037423 | 6.50 | 33.76 | 39.95 | 2.06 |
| CL-CAUCE-06 | 49.5 | TR=100 AÑOS | 209.27 | 70.71 | 72.27 | 72.87 | 74.37 | 0.037712 | 6.52 | 33.68 | 39.90 | 2.06 |
| CL-CAUCE-06 | 49 | TR=100 AÑOS | 209.27 | 70.69 | 72.24 | 72.84 | 74.35 | 0.037811 | 6.53 | 33.62 | 39.70 | 2.06 |
| CL-CAUCE-06 | 48.5 | TR=100 AÑOS | 209.27 | 70.67 | 72.21 | 72.82 | 74.33 | 0.038298 | 6.55 | 33.51 | 39.50 | 2.07 |
| CL-CAUCE-06 | 48 | TR=100 AÑOS | 209.27 | 70.65 | 72.17 | 72.78 | 74.31 | 0.038748 | 6.58 | 33.41 | 39.29 | 2.09 |
| CL-CAUCE-06 | 47.5 | TR=100 AÑOS | 209.27 | 70.62 | 72.14 | 72.75 | 74.29 | 0.039406 | 6.61 | 33.29 | 39.07 | 2.10 |
| CL-CAUCE-06 | 47 | TR=100 AÑOS | 209.27 | 70.60 | 72.10 | 72.72 | 74.26 | 0.040450 | 6.64 | 33.12 | 38.85 | 2.12 |
| CL-CAUCE-06 | 46.5 | TR=100 AÑOS | 209.27 | 70.58 | 72.06 | 72.68 | 74.24 | 0.041654 | 6.68 | 32.90 | 38.58 | 2.15 |
| CL-CAUCE-06 | 46 | TR=100 AÑOS | 209.27 | 70.56 | 72.01 | 72.64 | 74.22 | 0.042772 | 6.73 | 32.64 | 38.21 | 2.17 |
| CL-CAUCE-06 | 45.5 | TR=100 AÑOS | 209.27 | 70.54 | 71.95 | 72.58 | 74.19 | 0.044043 | 6.78 | 32.34 | 37.82 | 2.20 |
| CL-CAUCE-06 | 45 | TR=100 AÑOS | 209.27 | 70.50 | 71.90 | 72.53 | 74.17 | 0.045195 | 6.83 | 32.07 | 37.45 | 2.22 |
| CL-CAUCE-06 | 44.5 | TR=100 AÑOS | 209.27 | 70.45 | 71.84 | 72.49 | 74.14 | 0.046019 | 6.88 | 31.85 | 37.21 | 2.25 |
| CL-CAUCE-06 | 44 | TR=100 AÑOS | 209.27 | 70.41 | 71.79 | 72.45 | 74.12 | 0.047078 | 6.92 | 31.62 | 36.98 | 2.27 |
| CL-CAUCE-06 | 43.5 | TR=100 AÑOS | 209.27 | 70.36 | 71.74 | 72.40 | 74.09 | 0.048112 | 6.96 | 31.40 | 36.75 | 2.29 |
| CL-CAUCE-06 | 43 | TR=100 AÑOS | 209.27 | 70.32 | 71.69 | 72.36 | 74.06 | 0.049103 | 7.00 | 31.18 | 36.53 | 2.31 |
| CL-CAUCE-06 | 42.5 | TR=100 AÑOS | 209.27 | 70.27 | 71.63 | 72.31 | 74.04 | 0.050139 | 7.04 | 30.96 | 36.30 | 2.34 |
| CL-CAUCE-06 | 42 | TR=100 AÑOS | 209.27 | 70.23 | 71.58 | 72.27 | 74.01 | 0.051069 | 7.08 | 30.75 | 36.07 | 2.35 |
| CL-CAUCE-06 | 41.5 | TR=100 AÑOS | 209.27 | 70.19 | 71.53 | 72.22 | 73.99 | 0.051985 | 7.11 | 30.56 | 35.84 | 2.37 |
| CL-CAUCE-06 | 41 | TR=100 AÑOS | 209.27 | 70.14 | 71.48 | 72.18 | 73.96 | 0.052847 | 7.14 | 30.36 | 35.62 | 2.39 |

Profile Output Table - Standard Table 1

File Options Std. Tables Locations Help

HEC-RAS Plan: PLAN_06_SIN CAJON River: SIBUBE-06 Reach: CL-CAUCE-06 Profile: TR=100 AÑOS

Reload Data

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| CL-CAUCE-06 | 41 | TR=100 AÑOS | 209.27 | 70.14 | 71.48 | 72.18 | 73.96 | 0.052847 | 7.14 | 30.36 | 35.62 | 2.39 |
| CL-CAUCE-06 | 40.5 | TR=100 AÑOS | 209.27 | 70.09 | 71.43 | 72.13 | 73.93 | 0.053593 | 7.17 | 30.19 | 35.39 | 2.41 |
| CL-CAUCE-06 | 40 | TR=100 AÑOS | 209.27 | 70.05 | 71.38 | 72.09 | 73.91 | 0.054307 | 7.19 | 30.03 | 35.17 | 2.42 |
| CL-CAUCE-06 | 39.5 | TR=100 AÑOS | 209.27 | 70.00 | 71.33 | 72.04 | 73.88 | 0.054939 | 7.22 | 29.87 | 34.94 | 2.43 |
| CL-CAUCE-06 | 39 | TR=100 AÑOS | 209.27 | 69.96 | 71.29 | 72.00 | 73.85 | 0.055488 | 7.24 | 29.73 | 34.72 | 2.44 |
| CL-CAUCE-06 | 38.5 | TR=100 AÑOS | 209.27 | 69.92 | 71.24 | 71.96 | 73.82 | 0.056007 | 7.26 | 29.59 | 34.49 | 2.45 |
| CL-CAUCE-06 | 38 | TR=100 AÑOS | 209.27 | 69.87 | 71.19 | 71.91 | 73.79 | 0.056304 | 7.27 | 29.48 | 34.27 | 2.46 |
| CL-CAUCE-06 | 37.5 | TR=100 AÑOS | 209.27 | 69.83 | 71.14 | 71.86 | 73.76 | 0.056565 | 7.28 | 29.38 | 34.05 | 2.47 |
| CL-CAUCE-06 | 37 | TR=100 AÑOS | 209.27 | 69.78 | 71.10 | 71.82 | 73.72 | 0.056774 | 7.29 | 29.29 | 33.83 | 2.47 |
| CL-CAUCE-06 | 36.5 | TR=100 AÑOS | 209.27 | 69.74 | 71.05 | 71.78 | 73.69 | 0.056946 | 7.30 | 29.20 | 33.61 | 2.47 |
| CL-CAUCE-06 | 36 | TR=100 AÑOS | 209.27 | 69.69 | 71.01 | 71.73 | 73.66 | 0.057085 | 7.30 | 29.11 | 33.39 | 2.48 |
| CL-CAUCE-06 | 35.5 | TR=100 AÑOS | 209.27 | 69.65 | 70.96 | 71.69 | 73.63 | 0.057180 | 7.31 | 29.03 | 33.17 | 2.48 |
| CL-CAUCE-06 | 35 | TR=100 AÑOS | 209.27 | 69.60 | 70.92 | 71.65 | 73.60 | 0.057247 | 7.32 | 28.95 | 32.95 | 2.48 |
| CL-CAUCE-06 | 34.5 | TR=100 AÑOS | 209.27 | 69.56 | 70.87 | 71.61 | 73.57 | 0.057284 | 7.33 | 28.87 | 32.73 | 2.48 |
| CL-CAUCE-06 | 34 | TR=100 AÑOS | 209.27 | 69.51 | 70.83 | 71.57 | 73.53 | 0.057293 | 7.34 | 28.80 | 32.52 | 2.49 |
| CL-CAUCE-06 | 33.5 | TR=100 AÑOS | 209.27 | 69.47 | 70.79 | 71.53 | 73.50 | 0.057278 | 7.35 | 28.73 | 32.30 | 2.49 |
| CL-CAUCE-06 | 33 | TR=100 AÑOS | 209.27 | 69.42 | 70.74 | 71.49 | 73.47 | 0.057241 | 7.36 | 28.66 | 32.08 | 2.49 |
| CL-CAUCE-06 | 32.5 | TR=100 AÑOS | 209.27 | 69.38 | 70.70 | 71.44 | 73.44 | 0.057181 | 7.37 | 28.60 | 31.87 | 2.49 |
| CL-CAUCE-06 | 32 | TR=100 AÑOS | 209.27 | 69.33 | 70.66 | 71.40 | 73.41 | 0.057102 | 7.38 | 28.54 | 31.65 | 2.49 |
| CL-CAUCE-06 | 31.5 | TR=100 AÑOS | 209.27 | 69.29 | 70.62 | 71.36 | 73.38 | 0.056976 | 7.39 | 28.48 | 31.44 | 2.49 |
| CL-CAUCE-06 | 31 | TR=100 AÑOS | 209.27 | 69.24 | 70.57 | 71.32 | 73.35 | 0.056830 | 7.40 | 28.42 | 31.22 | 2.49 |
| CL-CAUCE-06 | 30.5 | TR=100 AÑOS | 209.27 | 69.20 | 70.53 | 71.29 | 73.32 | 0.056613 | 7.41 | 28.37 | 31.01 | 2.48 |
| CL-CAUCE-06 | 30 | TR=100 AÑOS | 209.27 | 69.15 | 70.49 | 71.25 | 73.29 | 0.056478 | 7.43 | 28.31 | 30.80 | 2.48 |
| CL-CAUCE-06 | 29.5 | TR=100 AÑOS | 209.27 | 69.11 | 70.45 | 71.21 | 73.26 | 0.056320 | 7.44 | 28.25 | 30.58 | 2.48 |
| CL-CAUCE-06 | 29 | TR=100 AÑOS | 209.27 | 69.06 | 70.41 | 71.17 | 73.23 | 0.056151 | 7.46 | 28.20 | 30.37 | 2.48 |
| CL-CAUCE-06 | 28.5 | TR=100 AÑOS | 209.27 | 69.02 | 70.37 | 71.13 | 73.20 | 0.055983 | 7.47 | 28.15 | 30.19 | 2.48 |
| CL-CAUCE-06 | 28 | TR=100 AÑOS | 209.27 | 68.97 | 70.33 | 71.09 | 73.17 | 0.055778 | 7.49 | 28.10 | 30.02 | 2.48 |
| CL-CAUCE-06 | 27.5 | TR=100 AÑOS | 209.27 | 68.93 | 70.29 | 71.06 | 73.15 | 0.055797 | 7.50 | 28.04 | 29.85 | 2.47 |
| CL-CAUCE-06 | 27 | TR=100 AÑOS | 209.27 | 68.89 | 70.25 | 71.03 | 73.12 | 0.055553 | 7.52 | 28.00 | 29.68 | 2.47 |
| CL-CAUCE-06 | 26.5 | TR=100 AÑOS | 209.27 | 68.84 | 70.22 | 71.00 | 73.09 | 0.055299 | 7.54 | 27.96 | 29.51 | 2.47 |
| CL-CAUCE-06 | 26 | TR=100 AÑOS | 209.27 | 68.79 | 70.18 | 70.96 | 73.06 | 0.055027 | 7.56 | 27.92 | 29.34 | 2.47 |
| CL-CAUCE-06 | 25.5 | TR=100 AÑOS | 209.27 | 68.75 | 70.14 | 70.93 | 73.03 | 0.055055 | 7.58 | 27.87 | 29.16 | 2.46 |
| CL-CAUCE-06 | 25 | TR=100 AÑOS | 209.27 | 68.70 | 70.10 | 70.90 | 73.00 | 0.054700 | 7.60 | 27.84 | 28.97 | 2.46 |
| CL-CAUCE-06 | 24.5 | TR=100 AÑOS | 209.27 | 68.64 | 70.07 | 70.87 | 72.97 | 0.054703 | 7.61 | 27.79 | 28.77 | 2.46 |
| CL-CAUCE-06 | 24 | TR=100 AÑOS | 209.27 | 68.59 | 70.03 | 70.83 | 72.95 | 0.054287 | 7.63 | 27.76 | 28.57 | 2.45 |
| CL-CAUCE-06 | 23.5 | TR=100 AÑOS | 209.27 | 68.53 | 69.99 | 70.79 | 72.92 | 0.054256 | 7.64 | 27.72 | 28.37 | 2.45 |
| CL-CAUCE-06 | 23 | TR=100 AÑOS | 209.27 | 68.48 | 69.96 | 70.76 | 72.89 | 0.053931 | 7.66 | 27.69 | 28.18 | 2.44 |
| CL-CAUCE-06 | 22.5 | TR=100 AÑOS | 209.27 | 68.42 | 69.92 | 70.74 | 72.86 | 0.053447 | 7.68 | 27.67 | 27.99 | 2.44 |
| CL-CAUCE-06 | 22 | TR=100 AÑOS | 209.27 | 68.37 | 69.89 | 70.71 | 72.84 | 0.052999 | 7.69 | 27.65 | 27.79 | 2.43 |
| CL-CAUCE-06 | 21.5 | TR=100 AÑOS | 209.27 | 68.31 | 69.85 | 70.68 | 72.81 | 0.052587 | 7.71 | 27.63 | 27.60 | 2.43 |
| CL-CAUCE-06 | 21 | TR=100 AÑOS | 209.27 | 68.26 | 69.82 | 70.65 | 72.78 | 0.052137 | 7.72 | 27.61 | 27.41 | 2.42 |
| CL-CAUCE-06 | 20.5 | TR=100 AÑOS | 209.27 | 68.23 | 69.78 | 70.62 | 72.75 | 0.051652 | 7.73 | 27.60 | 27.22 | 2.41 |
| CL-CAUCE-06 | 20 | TR=100 AÑOS | 209.27 | 68.20 | 69.75 | 70.59 | 72.73 | 0.051233 | 7.74 | 27.59 | 27.07 | 2.41 |
| CL-CAUCE-06 | 19.5 | TR=100 AÑOS | 209.27 | 68.18 | 69.72 | 70.56 | 72.70 | 0.050874 | 7.74 | 27.59 | 26.96 | 2.40 |
| CL-CAUCE-06 | 19 | TR=100 AÑOS | 209.27 | 68.16 | 69.70 | 70.53 | 72.67 | 0.050396 | 7.74 | 27.61 | 26.86 | 2.39 |
| CL-CAUCE-06 | 18.5 | TR=100 AÑOS | 209.27 | 68.13 | 69.68 | 70.51 | 72.65 | 0.050114 | 7.74 | 27.61 | 26.76 | 2.39 |
| CL-CAUCE-06 | 18 | TR=100 AÑOS | 209.27 | 68.11 | 69.66 | 70.49 | 72.62 | 0.049435 | 7.72 | 27.67 | 26.68 | 2.38 |
| CL-CAUCE-06 | 17.5 | TR=100 AÑOS | 209.27 | 68.10 | 69.64 | 70.47 | 72.59 | 0.048786 | 7.71 | 27.75 | 26.62 | 2.36 |
| CL-CAUCE-06 | 17 | TR=100 AÑOS | 209.27 | 68.08 | 69.63 | 70.45 | 72.57 | 0.048443 | 7.70 | 27.78 | 26.58 | 2.36 |
| CL-CAUCE-06 | 16.5 | TR=100 AÑOS | 209.27 | 68.06 | 69.61 | 70.43 | 72.54 | 0.047798 | 7.69 | 27.86 | 26.53 | 2.35 |
| CL-CAUCE-06 | 16 | TR=100 AÑOS | 209.27 | 68.04 | 69.60 | 70.42 | 72.52 | 0.047251 | 7.67 | 27.92 | 26.49 | 2.33 |
| CL-CAUCE-06 | 15.5 | TR=100 AÑOS | 209.27 | 68.02 | 69.58 | 70.40 | 72.49 | 0.046723 | 7.67 | 27.98 | 26.45 | 2.33 |

Profile Output Table - Standard Table 1

File Options Std. Tables Locations Help

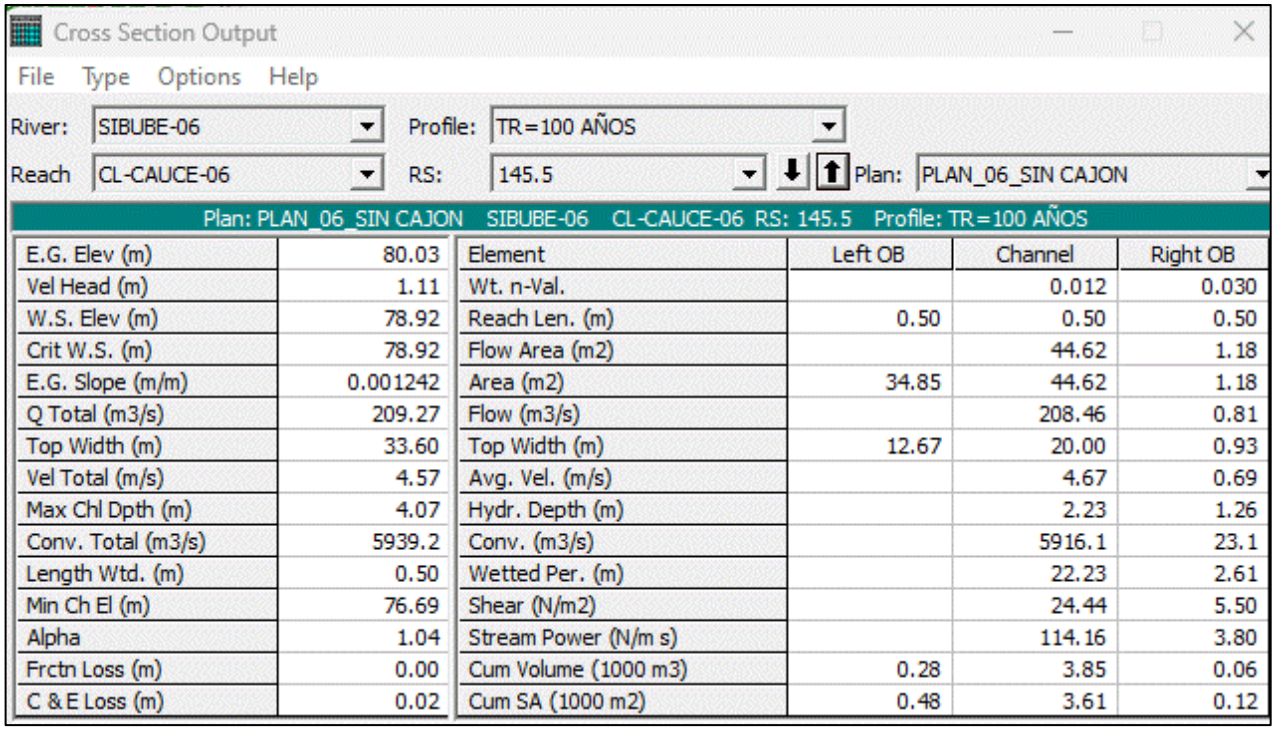
HEC-RAS Plan: PLAN_06_SIN CAJON River: SIBUBE-06 Reach: CL-CAUCE-06 Profile: TR=100 AÑOS

Reload Data

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| CL-CAUCE-06 | 26 | TR=100 AÑOS | 209.27 | 68.79 | 70.18 | 70.96 | 73.06 | 0.055027 | 7.56 | 27.92 | 29.34 | 2.47 |
| CL-CAUCE-06 | 25.5 | TR=100 AÑOS | 209.27 | 68.75 | 70.14 | 70.93 | 73.03 | 0.055055 | 7.58 | 27.87 | 29.16 | 2.46 |
| CL-CAUCE-06 | 25 | TR=100 AÑOS | 209.27 | 68.70 | 70.10 | 70.90 | 73.00 | 0.054700 | 7.60 | 27.84 | 28.97 | 2.46 |
| CL-CAUCE-06 | 24.5 | TR=100 AÑOS | 209.27 | 68.64 | 70.07 | 70.87 | 72.97 | 0.054703 | 7.61 | 27.79 | 28.77 | 2.46 |
| CL-CAUCE-06 | 24 | TR=100 AÑOS | 209.27 | 68.59 | 70.03 | 70.83 | 72.95 | 0.054287 | 7.63 | 27.76 | 28.57 | 2.45 |
| CL-CAUCE-06 | 23.5 | TR=100 AÑOS | 209.27 | 68.53 | 69.99 | 70.79 | 72.92 | 0.054256 | 7.64 | 27.72 | 28.37 | 2.45 |
| CL-CAUCE-06 | 23 | TR=100 AÑOS | 209.27 | 68.48 | 69.96 | 70.76 | 72.89 | 0.053931 | 7.66 | 27.69 | 28.18 | 2.44 |
| CL-CAUCE-06 | 22.5 | TR=100 AÑOS | 209.27 | 68.42 | 69.92 | 70.74 | 72.86 | 0.053447 | 7.68 | 27.67 | 27.99 | 2.44 |
| CL-CAUCE-06 | 22 | TR=100 AÑOS | 209.27 | 68.37 | 69.89 | 70.71 | 72.84 | 0.052999 | 7.69 | 27.65 | 27.79 | 2.43 |
| CL-CAUCE-06 | 21.5 | TR=100 AÑOS | 209.27 | 68.31 | 69.85 | 70.68 | 72.81 | 0.052587 | 7.71 | 27.63 | 27.60 | 2.43 |
| CL-CAUCE-06 | 21 | TR=100 AÑOS | 209.27 | 68.26 | 69.82 | 70.65 | 72.78 | 0.052137 | 7.72 | 27.61 | 27.41 | 2.42 |
| CL-CAUCE-06 | 20.5 | TR=100 AÑOS | 209.27 | 68.23 | 69.78 | 70.62 | 72.75 | 0.051652 | 7.73 | 27.60 | 27.22 | 2.41 |
| CL-CAUCE-06 | 20 | TR=100 AÑOS | 209.27 | 68.20 | 69.75 | 70.59 | 72.73 | 0.051233 | 7.74 | 27.59 | 27.07 | 2.41 |
| CL-CAUCE-06 | 19.5 | TR=100 AÑOS | 209.27 | 68.18 | 69.72 | 70.56 | 72.70 | 0.050874 | 7.74 | 27.59 | 26.96 | 2.40 |
| CL-CAUCE-06 | 19 | TR=100 AÑOS | 209.27 | 68.16 | 69.70 | 70.53 | 72.67 | 0.050396 | 7.74 | 27.61 | 26.86 | 2.39 |
| CL-CAUCE-06 | 18.5 | TR=100 AÑOS | 209.27 | 68.13 | 69.68 | 70.51 | 72.65 | 0.050114 | 7.74 | 27.61 | 26.76 | 2.39 |
| CL-CAUCE-06 | 18 | TR=100 AÑOS | 209.27 | 68.11 | 69.66 | 70.49 | 72.62 | 0.049435 | 7.72 | 27.67 | 26.68 | 2.38 |
| CL-CAUCE-06 | 17.5 | TR=100 AÑOS | 209.27 | 68.10 | 69.64 | 70.47 | 72.59 | 0.048786 | 7.71 | 27.75 | 26.62 | 2.36 |
| CL-CAUCE-06 | 17 | TR=100 AÑOS | 209.27 | 68.08 | 69.63 | 70.45 | 72.57 | 0.048443 | 7.70 | 27.78 | 26.58 | 2.36 |
| CL-CAUCE-06 | 16.5 | TR=100 AÑOS | 209.27 | 68.06 | 69.61 | 70.43 | 72.54 | 0.047798 | 7.69 | 27.86 | 26.53 | 2.35 |
| CL-CAUCE-06 | 16 | TR=100 AÑOS | 209.27 | 68.04 | 69.60 | 70.42 | 72.52 | 0.047251 | 7.67 | 27.92 | 26.49 | 2.33 |
| CL-CAUCE-06 | 15.5 | TR=100 AÑOS | 209.27 | 68.02 | 69.58 | 70.40 | 72.49 | 0.046723 | 7.67 | 27.98 | 26.45 | 2.33 |
| CL-CAUCE-06 | 15 | TR=100 AÑOS | 209.27 | 68.00 | 69.56 | 70.39 | 72.47 | 0.046228 | 7.65 | 28.04 | 26.40 | 2.32 |
| CL-CAUCE-06 | 14.5 | TR=100 AÑOS | 209.27 | 67.99 | 69.55 | 70.37 | 72.44 | 0.045703 | 7.64 | 28.10 | 26.36 | 2.31 |
| CL-CAUCE-06 | 14 | TR=100 AÑOS | 209.27 | 67.97 | 69.54 | 70.35 | 72.42 | 0.045167 | 7.63 | 28.17 | 26.32 | 2.29 |
| CL-CAUCE-06 | 13.5 | TR=100 AÑOS | 209.27 | 67.95 | 69.52 | 70.34 | 72.39 | 0.044769 | 7.62 | 28.21 | 26.27 | 2.29 |
| CL-CAUCE-06 | 13 | TR=100 AÑOS | 209.27 | 67.93 | 69.50 | 70.32 | 72.37 | 0.044386 | 7.61 | 28.26 | 26.23 | 2.28 |
| CL-CAUCE-06 | 12.5 | TR=100 AÑOS | 209.27 | 67.91 | 69.49 | 70.31 | 72.35 | 0.043836 | 7.60 | 28.33 | 26.19 | 2.27 |
| CL-CAUCE-06 | 12 | TR=100 AÑOS | 209.27 | 67.89 | 69.48 | 70.29 | 72.32 | 0.043523 | 7.59 | 28.36 | 26.15 | 2.26 |
| CL-CAUCE-06 | 11.5 | TR=100 AÑOS | 209.27 | 67.87 | 69.46 | 70.27 | 72.30 | 0.043095 | 7.58 | 28.41 | 26.11 | 2.25 |
| CL-CAUCE-06 | 11 | TR=100 AÑOS | 209.27 | 67.85 | 69.45 | 70.25 | 72.28 | 0.042634 | 7.57 | 28.47 | 26.07 | 2.24 |
| CL-CAUCE-06 | 10.5 | TR=100 AÑOS | 209.27 | 67.84 | 69.43 | 70.24 | 72.25 | 0.042096 | 7.56 | 28.54 | 26.03 | 2.23 |
| CL-CAUCE-06 | 10 | TR=100 AÑOS | 209.27 | 67.82 | 69.42 | 70.22 | 72.23 | 0.041770 | 7.55 | 28.58 | 25.99 | 2.22 |
| CL-CAUCE-06 | 9.5 | TR=100 AÑOS | 209.27 | 67.80 | 69.40 | 70.21 | 72.21 | 0.041379 | 7.54 | 28.62 | 25.95 | 2.22 |
| CL-CAUCE-06 | 9 | TR=100 AÑOS | 209.27 | 67.78 | 69.39 | 70.20 | 72.19 | 0.040984 | 7.53 | 28.68 | 25.91 | 2.21 |
| CL-CAUCE-06 | 8.5 | TR=100 AÑOS | 209.27 | 67.76 | 69.38 | 70.19 | 72.17 | 0.040670 | 7.52 | 28.72 | 25.87 | 2.20 |
| CL-CAUCE-06 | 8 | TR=100 AÑOS | 209.27 | 67.74 | 69.36 | 70.17 | 72.15 | 0.040258 | 7.52 | 28.76 | 25.83 | 2.19 |
| CL-CAUCE-06 | 7.5 | TR=100 AÑOS | 209.27 | 67.72 | 69.35 | 70.16 | 72.13 | 0.040002 | 7.51 | 28.78 | 25.75 | 2.19 |
| CL-CAUCE-06 | 7 | TR=100 AÑOS | 209.27 | 67.70 | 69.34 | 70.14 | 72.12 | 0.039626 | 7.50 | 28.81 | 25.67 | 2.18 |
| CL-CAUCE-06 | 6.5 | TR=100 AÑOS | 209.27 | 67.69 | 69.32 | 70.13 | 72.10 | 0.039385 | 7.49 | 28.83 | 25.58 | 2.17 |
| CL-CAUCE-06 | 6 | TR=100 AÑOS | 209.27 | 67.67 | 69.31 | 70.11 | 72.07 | 0.039067 | 7.48 | 28.87 | 25.49 | 2.16 |
| CL-CAUCE-06 | 5.5 | TR=100 AÑOS | 209.27 | 67.65 | 69.29 | 70.10 | 72.06 | 0.038715 | 7.47 | 28.89 | 25.41 | 2.16 |
| CL-CAUCE-06 | 5 | TR=100 AÑOS | 209.27 | 67.63 | 69.28 | 70.08 | 72.04 | 0.038498 | 7.47 | 28.91 | 25.32 | 2.15 |
| CL-CAUCE-06 | 4.5 | TR=100 AÑOS | 209.27 | 67.61 | 69.27 | 70.07 | 72.02 | 0.038150 | 7.46 | 28.94 | 25.23 | 2.14 |
| CL-CAUCE-06 | 4 | TR=100 AÑOS | 209.27 | 67.59 | 69.25 | 70.06 | 72.00 | 0.037946 | 7.45 | 28.95 | 25.15 | 2.14 |
| CL-CAUCE-06 | 3.5 | TR=100 AÑOS | 209.27 | 67.57 | 69.24 | 70.04 | 71.98 | 0.037763 | 7.45 | 28.96 | 25.06 | 2.13 |
| CL-CAUCE-06 | 3 | TR=100 AÑOS | 209.27 | 67.55 | 69.22 | 70.03 | 71.97 | 0.037424 | 7.44 | 28.99 | 24.98 | 2.13 |
| CL-CAUCE-06 | 2.5 | TR=100 AÑOS | 209.27 | 67.54 | 69.21 | 70.01 | 71.95 | 0.037239 | 7.44 | 29.00 | 24.89 | 2.12 |
| CL-CAUCE-06 | 2 | TR=100 AÑOS | 209.27 | 67.52 | 69.20 | 70.01 | 71.93 | 0.037012 | 7.43 | 29.01 | 24.80 | 2.12 |
| CL-CAUCE-06 | 1.5 | TR=100 AÑOS | 209.27 | 67.50 | 69.18 | 69.99 | 71.91 | 0.036751 | 7.42 | 29.03 | 24.72 | 2.11 |
| CL-CAUCE-06 | 1 | TR=100 AÑOS | 209.27 | 67.48 | 69.17 | 69.97 | 71.89 | 0.036594 | 7.42 | 29.04 | 24.63 | 2.11 |
| CL-CAUCE-06 | 0.5 | TR=100 AÑOS | 209.27 | 67.46 | 69.15 | 69.96 | 71.88 | 0.036276 | 7.41 | 29.07 | 24.55 | 2.10 |
| CL-CAUCE-06 | 0 | TR=100 AÑOS | 209.27 | 67.44 | 69.14 | 69.94 | 71.86 | 0.036110 | 7.41 | 29.08 | 24.46 | 2.10 |

*Resultados del Análisis en Hec-Ras para EL RIO SIBUBE - Lluvia de 1 en 100 años*

1.5. Tabla de resultados del análisis HEC-RAS para la Sección en el área de la Presa en laToma de agua cruda para la potabilizadora de Sibube



Cross Section Output

File Type Options Help

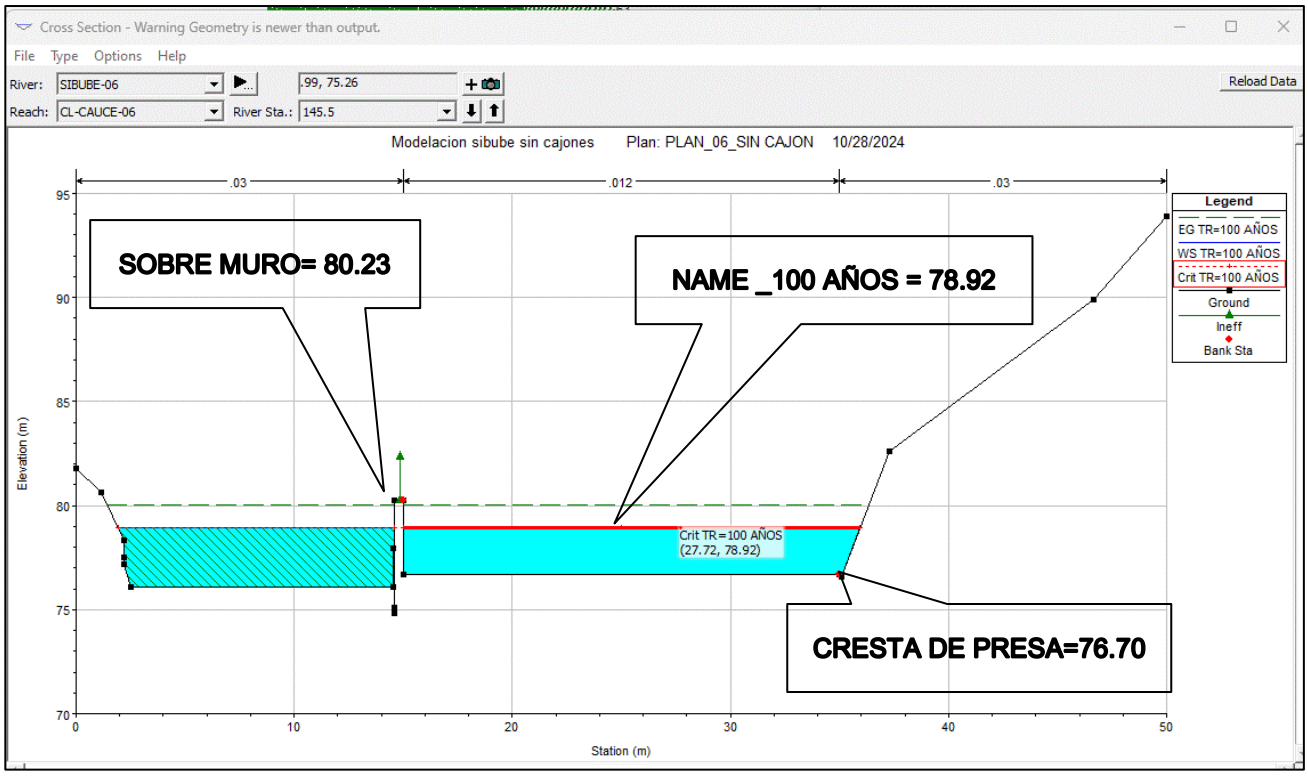
River: SIBUBE-06 Profile: TR=100 AÑOS

Reach CL-CAUCE-06 RS: 145.5 Plan: PLAN_06_SIN CAJON

Plan: PLAN_06_SIN CAJON SIBUBE-06 CL-CAUCE-06 RS: 145.5 Profile: TR=100 AÑOS

| | | Element | Left OB | Channel | Right OB |
|---|---|---|---|---|---|
| E.G. Elev (m) | 80.03 | | | | |
| Vel Head (m) | 1.11 | Wt. n-Val. | | 0.012 | 0.030 |
| W.S. Elev (m) | 78.92 | Reach Len. (m) | 0.50 | 0.50 | 0.50 |
| Crit W.S. (m) | 78.92 | Flow Area (m2) | | 44.62 | 1.18 |
| E.G. Slope (m/m) | 0.001242 | Area (m2) | 34.85 | 44.62 | 1.18 |
| Q Total (m3/s) | 209.27 | Flow (m3/s) | | 208.46 | 0.81 |
| Top Width (m) | 33.60 | Top Width (m) | 12.67 | 20.00 | 0.93 |
| Vel Total (m/s) | 4.57 | Avg. Vel. (m/s) | | 4.67 | 0.69 |
| Max Chl Dpth (m) | 4.07 | Hydr. Depth (m) | | 2.23 | 1.26 |
| Conv. Total (m3/s) | 5939.2 | Conv. (m3/s) | | 5916.1 | 23.1 |
| Length Wtd. (m) | 0.50 | Wetted Per. (m) | | 22.23 | 2.61 |
| Min Ch El (m) | 76.69 | Shear (N/m2) | | 24.44 | 5.50 |
| Alpha | 1.04 | Stream Power (N/m s) | | 114.16 | 3.80 |
| Frctn Loss (m) | 0.00 | Cum Volume (1000 m3) | 0.28 | 3.85 | 0.06 |
| C & E Loss (m) | 0.02 | Cum SA (1000 m2) | 0.48 | 3.61 | 0.12 |

La toma de captación de agua cruda se ubica en la estación 0k+145.45del modelo analizado en HEC-RAS, por lo que el nivel de aguas máximas extraordinarias (NAME) para la lluvia de periodo de retorno de 1 en 100 años es de 78.92 metros sobre la cresta de la presa COANDA de 76.70m.




.

CONCLUSION: La estructura de toma de captación en la Qda Sibube está dentro de los rangos esperados según el análisis de crecidas para un periodo de retorno de 100 años.

## CALCULO HIDRAULICO

**TOMA DE AGUA CRUDA SIBUBE**
**PROYECTO: ESTUDIO, DISEÑO, CONSTRUCCION, ACUED. DE CHANGUINOLA**
**PROV DE BOCAS DEL TORO**

*Fecha: 2 de septiembre de 2024*
*Cal por: Ing. Franklin Achú*
*Rev por: Ing. Jaime Gutierrez*

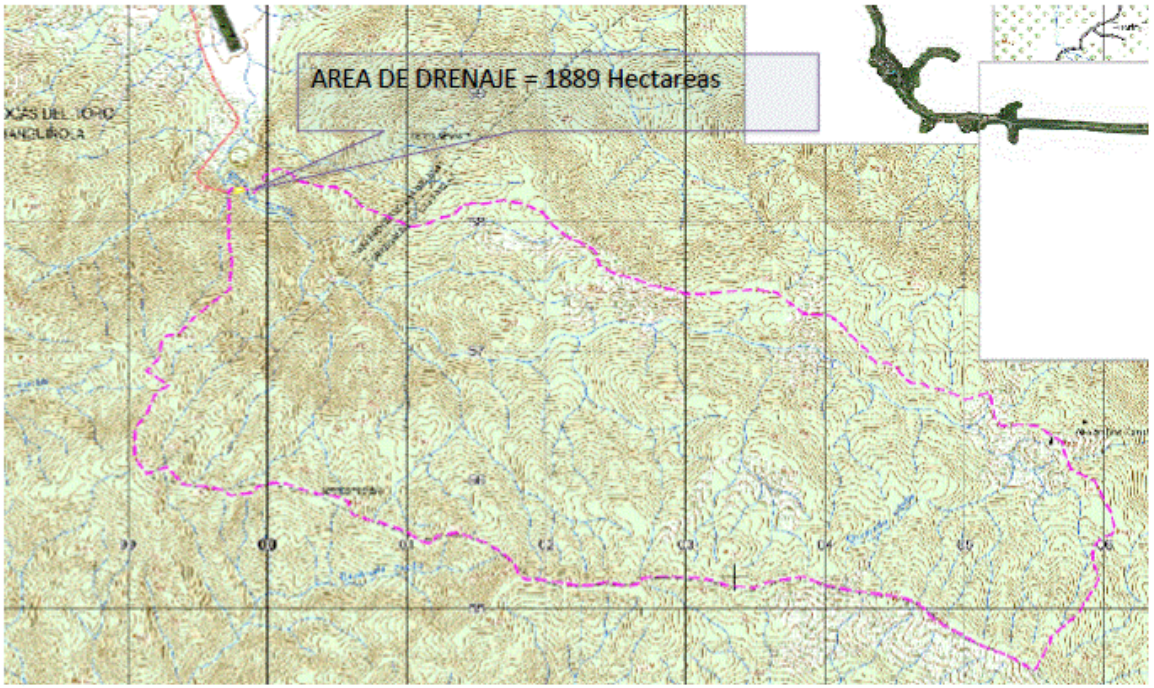
para AD < 250 racional (50anos) para AD > 250, analisis Regional de Crecidas max.(100anos)

**DATOS DE LA CUENCA :**

- AREA DE DRENAJE .....AD= 1,889.00 Ha 18.89 km2
- Factor para zona 6 con Tr= 100 AÑOS ..... F = 2.64 P.RETORNO: 100 AÑOS
- CAUDAL MAX. PROMEDIO ..... Qmax =14*A^(0.59)= 79.27 m3/seg
- CAUDAL REQUERIDO (100 anos)..... $Q_R$= 209.27 m3/seg

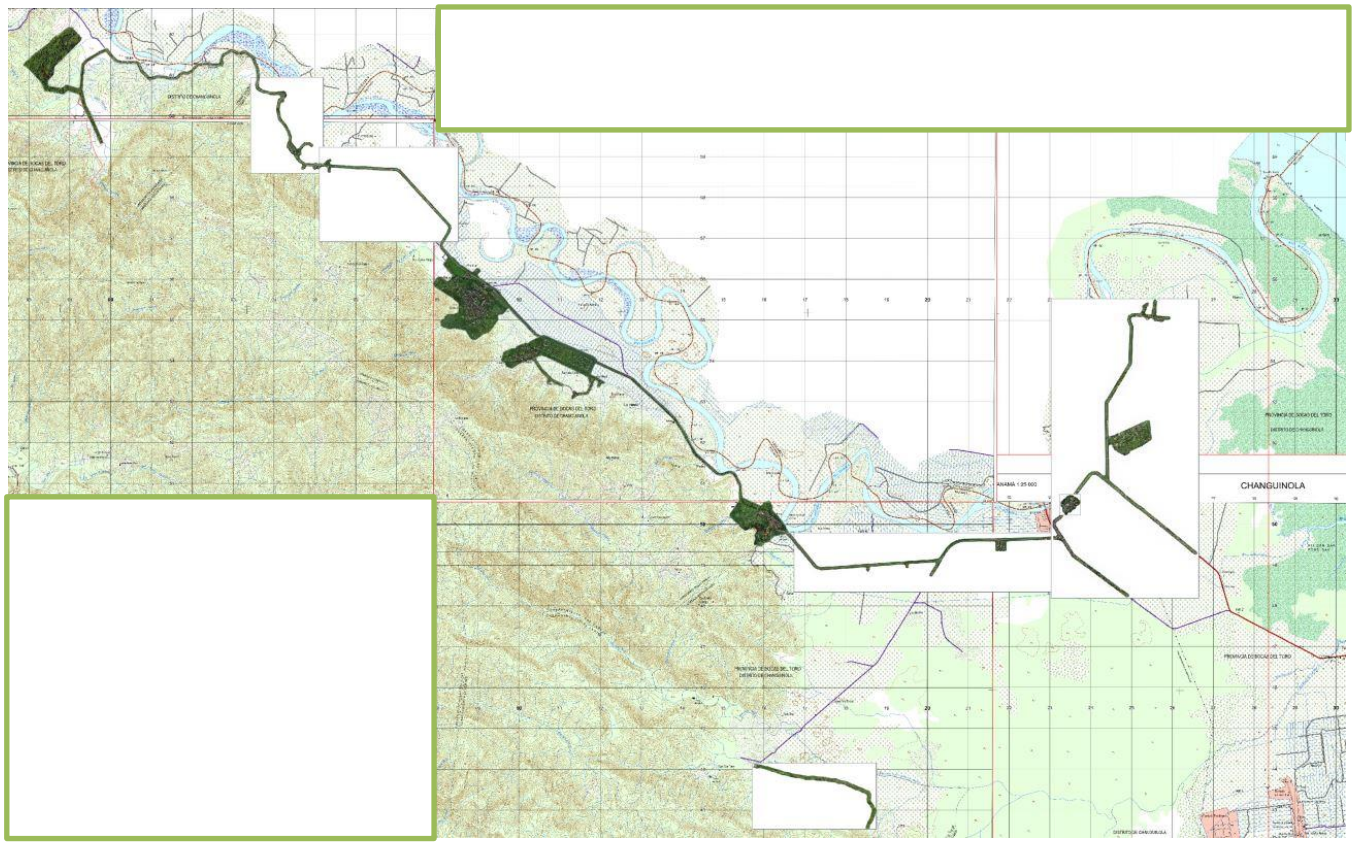
| Tr_ años | Factor Maxima | Caudal |
|---|---|---|
| 2 | 0.93 | 73.72 |
| 20 | 1.94 | 153.78 |
| 50 | 2.32 | 183.90 |
| 100 | 2.64 | 209.27 |

**AREA DE DRENAJES SIBUBE:** Mosaico 3644_IV_SE en escala 1:25,000



**Ver Anexo N°5. informe Drenajes Pluviales para el Camino Potabilizadora de Sibube hasta Guabito, Changuinola, provincia de Bocas del Toro.**

**"ESTUDIO, DISEÑO, CONSTRUCCIÓN, OPERACIÓN - MANTENIMIENTO Y FINANCIAMIENTO DEL NUEVO SISTEMA DE AGUA POTABLE PARA LAS COMUNIDADES DE LAS TABLAS, LA MESA, GUABITO, DISTRITO DE CHANGUINOLA, PROVINCIA DE BOCAS DEL TORO".**




# INFORME PLUVIAL DE CAMINOS POTABILIZADORA LAS TABLAS

En este documento se presenta el informe correspondiente a Los Estudios de Hidrología e Hidráulica para los drenajes pluviales, ubicado en la Provincia de Bocas del Toro.

REPÚBLICA DE PANAMÁ
GOBIERNO NACIONAL

INSTITUTO DE ACUEDUCTOS Y ALCANTARILLADOS NACIONALES

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# 1 UBICACIÓN DEL SÍTIO

## 1.1 ASPECTOS TÉCNICOS

**Breve descripción del proyecto**

El proyecto se enmarca dentro de los corregimientos de Las Tablas, Guabito y parte del corregimiento de las Delicias, Distrito de Changuinola, Provincia de Bocas del Toro, República de Panamá. Actualmente requiere un sistema pluvial nuevo en la vía a la Toma de agua cruda en Sibube además de acceso a la nueva potabilizadora y tanques de almacenamiento, que permite el tránsito de vehículos.

La etapa de construcción / ejecución para este proyecto contempla las adecuaciones de acceso al sitio en donde se hará la construcción e instalaciones de equipos para abastecer de agua potable a las comunidades mencionadas.

## 1.2 LOCALIZACIÓN REGIONAL DEL PROYECTO

El Proyecto se encuentra ubicado en la Provincia de Bocas del Toro.

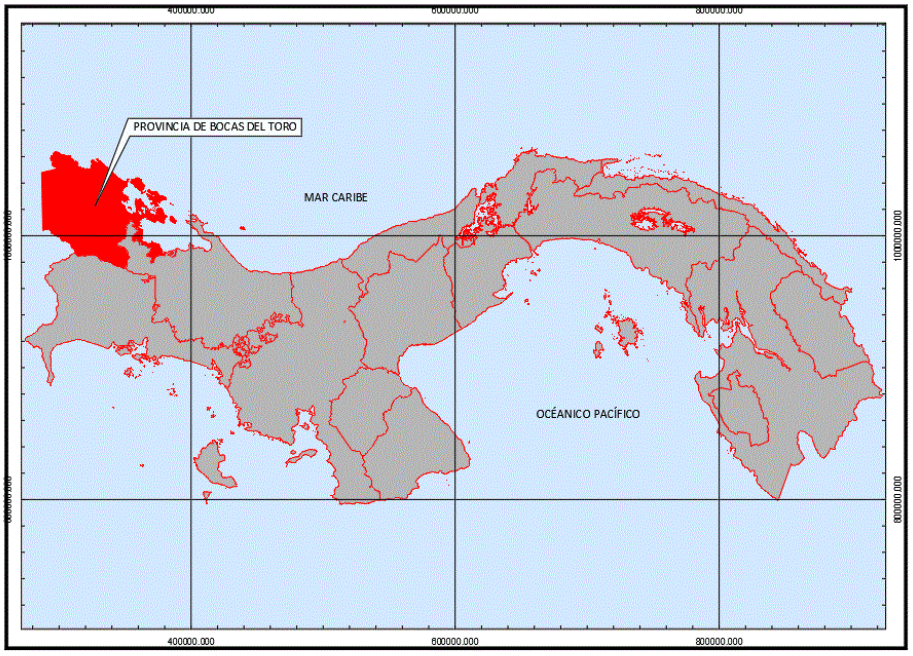
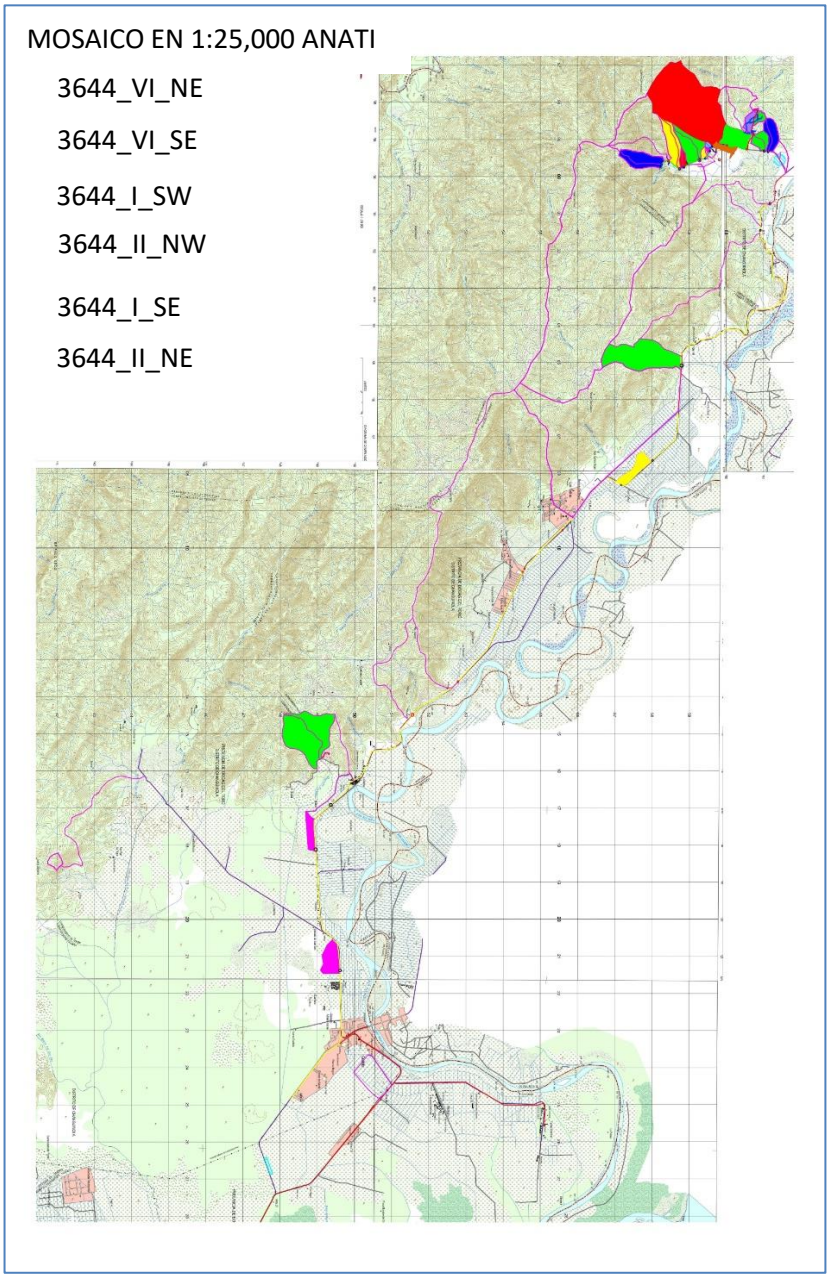



***Fig.1*** *Localización Regional del Proyecto*

EVALUACIÓN HIDRÁULICA DEL SISTEMA ACTUAL Y PROPUESTA DE DISEÑO.

Después del diagnóstico general del área, se procede a delimitar las áreas tributarias haciendo uso de la topografía e inspección de campo, se determinan las cuencas y las corrientes receptoras de la escorrentía. Obteniendo como resultado las áreas como se muestra en la siguiente imagen.



### 1.2.1 La descripción del uso del suelo

El área donde se desarrollará el proyecto se trata de un predio donde el suelo tiene uso agropecuario de subsistencia, en algunos lugares predomina el uso de bosques secundarios mixtos (o medianamente intervenidos), área de pajonales con presencia de árboles aislados, pastos, rastrojos y bosques de galería.

## 1.3 ASPECTOS CLIMATICOS

El sistema climático de Panamá se rige por una temporada lluviosa y una temporada seca, la primera comienza a partir del mes de mayo y dura aproximadamente hasta el mes de diciembre, siendo los meses de octubre y noviembre los más lluviosos. La temporada seca o meses con poca lluvia es notoria entre los meses de diciembre a abril, exceptuando la vertiente del Caribe donde llueve casi todo el año.

En base a las características presentes en el área y utilizando la clasificación de zonas de vida de Holdridge, se puede ubicar el área del proyecto en la categoría de Bosque Húmedo Tropical (bh-T), correspondiente a tierras bajas, con temperaturas anuales promedios mayores de 24ºC, con una precipitación superior a los 4,000 mm/año.

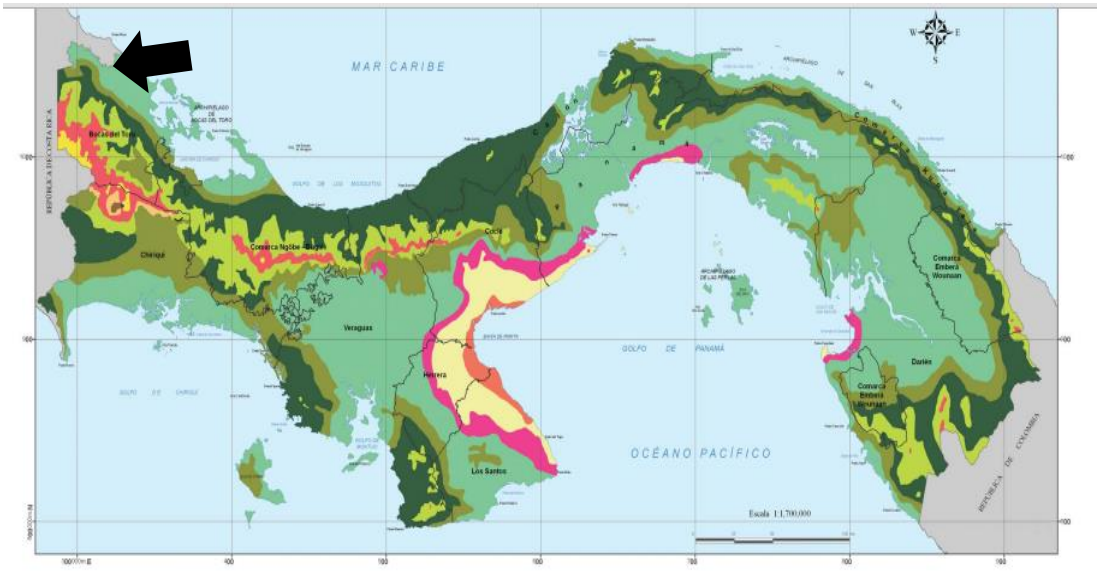





**FIGURA 3.** Mapa de las zonas de vida según Holdridge.

Fuente: Atlas Ambiental de la República de Panamá (2010). Enero, 2024.

El clima en el área del Proyecto está determinado por su localización geográfica, la altura sobre el nivel del mar, el relieve y la extensión territorial. Específicamente, para definir la clasificación climática, se utilizó la definición de McKay, teniendo en cuenta las características pluviométricas y térmicas del área de influencia. Según esta clasificación, regionalmente en el área del Proyecto predomina un Clima Tropical Oceánico, el cual se extiende por las islas y tierras bajas de la vertiente del Caribe desde Bocas del Toro por el Oeste, hasta Colón occidental y Coclé noroccidental por el Este. Los promedios anuales de temperatura ascienden a los 25 y 27 °C. Los totales anuales de precipitación son elevados, alcanzando los 4,346mm.

Este clima no posee estación seca y en todos los meses caen más de 100 mm de lluvia. Los vientos alisios, provenientes del Norte y del Nordeste, provocan lluvias orográficas copiosas.

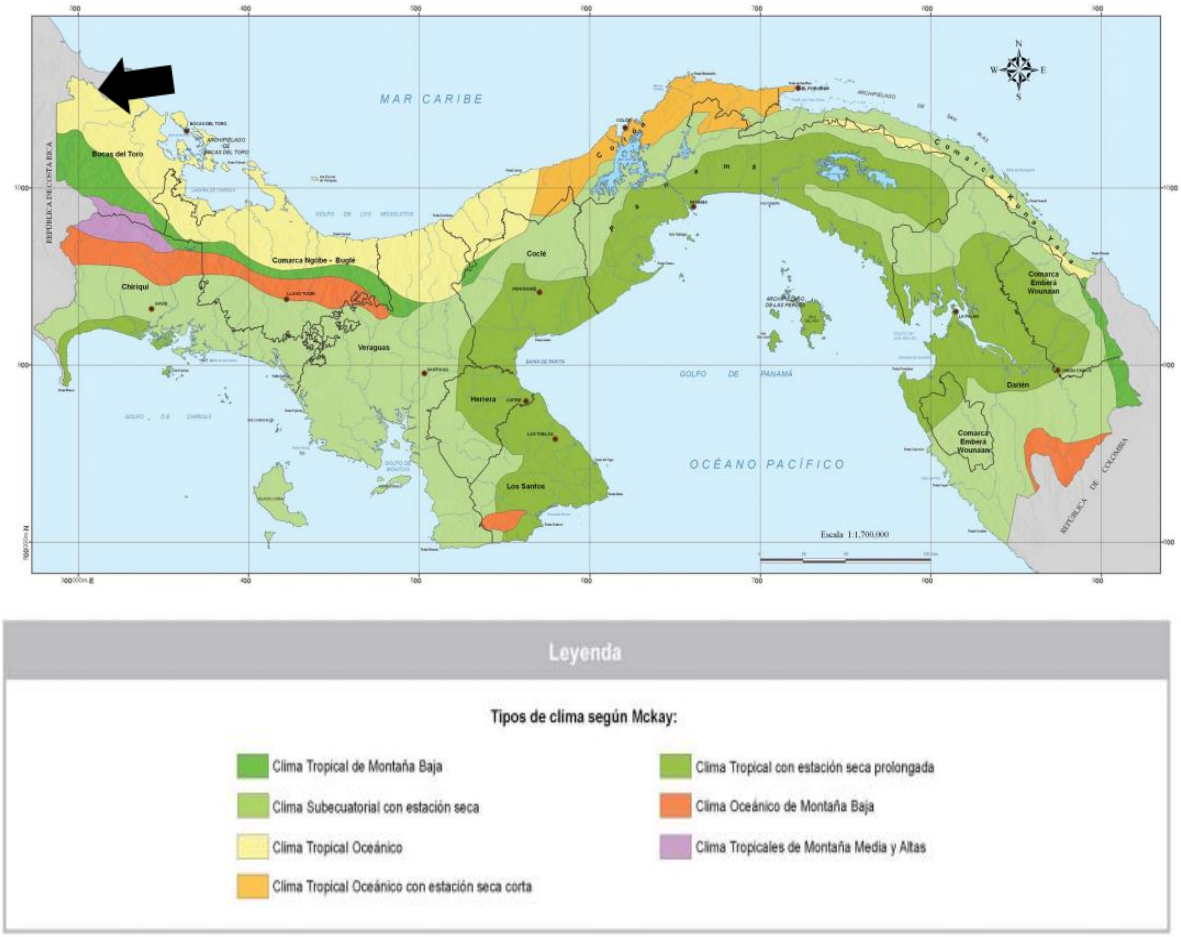



**FIGURA 4.** Mapa de los tipos de climas en Panamá según Mckay.

Fuente: Atlas Ambiental de la República de Panamá (2010). Enero, 2024.

### 1.3.1 Descripción general de aspectos climáticos: precipitación, temperatura, humedad, presión atmosférica

A continuación, se describirán los aspectos climáticos en base a los datos históricos de las Estaciones Meteorológicas del Instituto de Meteorología e Hidrología de Panamá más cercanos al área del proyecto, de acuerdo con el parámetro climático medible:

- **Precipitación**

Los datos arrojados por la Estación Sieyik (91-001) indican que la precipitación promedio anual es de 264.2mm. El mes más lluvioso es el de mayo con lluvias promedios de 325mm y el mes menos lluvioso es el de marzo con lluvias promedios de 175.4mm.

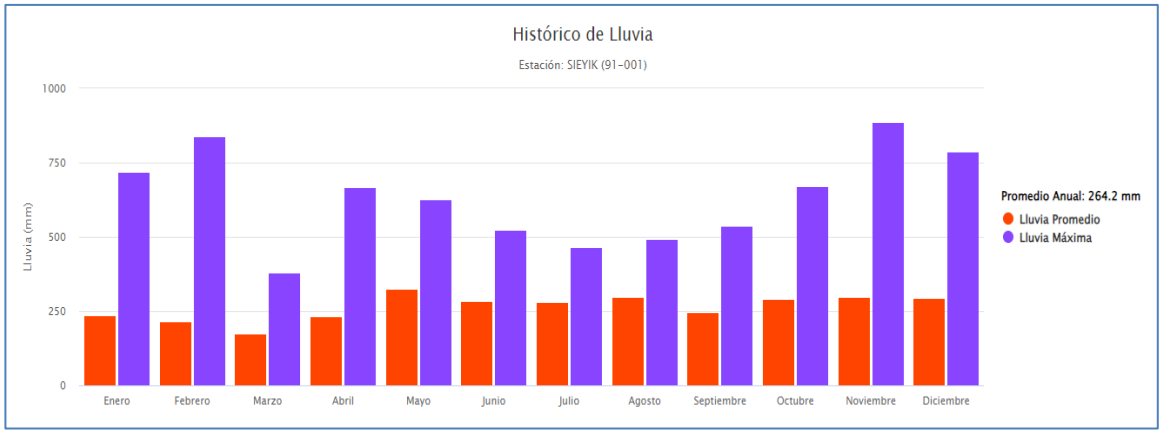



**FIGURA 5.** Registros históricos de precipitación en la Estación Sieyik. (Fuente: IMHPA, ETESA).

## Temperatura

La temperatura promedio anual según los datos de la Estación Changuinola Sur (91-026) es de 23.8°C, siendo los meses más calurosos septiembre y junio con temperaturas promedios de 24.7°C.

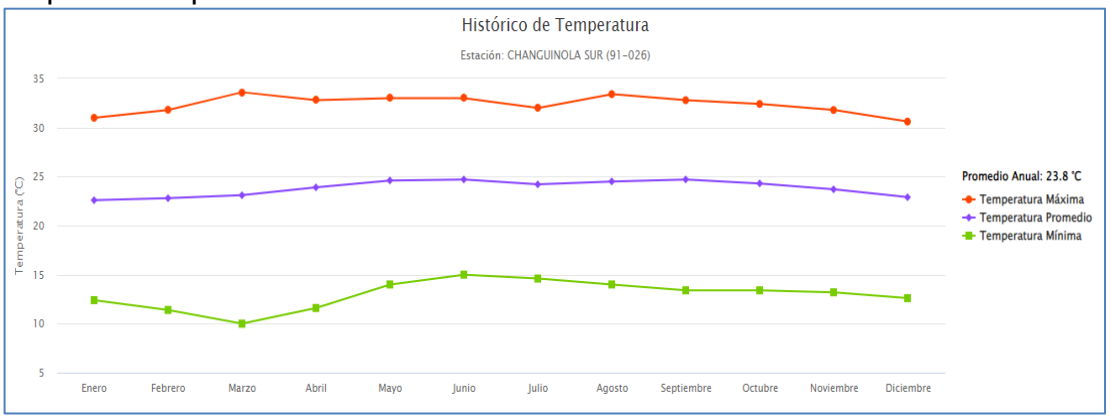


**FIGURA 6.** Registros históricos de temperatura en la Estación Changuinola Sur. (Fuente: IMHPA, ETESA).

- **Humedad**

La humedad relativa promedio anual es de 85.3%, según la Estación Almirante (93-004) siendo el mes de septiembre en donde se presentan mayor humedad.

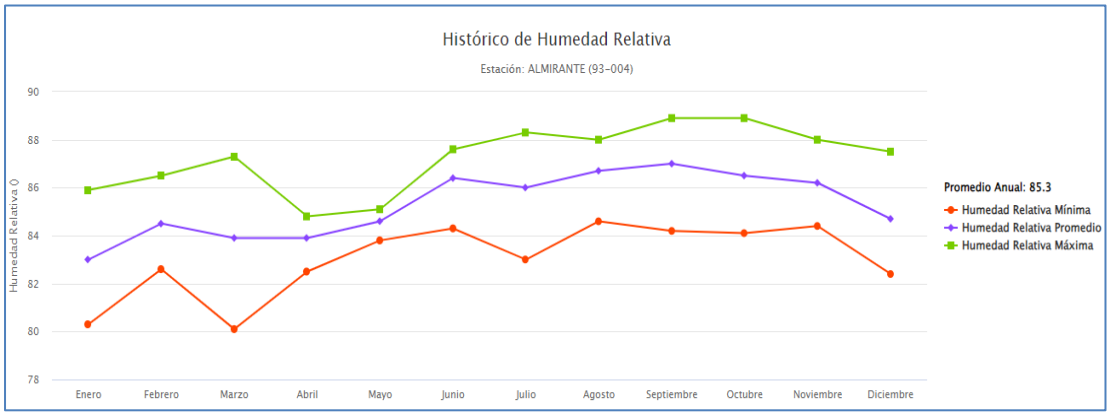



**FIGURA 7.** Registros históricos de humedad relativa en la Estación Almirante. (Fuente: IMHPA, ETESA).

- **Presión atmoférica**

La presión atmosférica media en el distrito de Changuinola es de 1011 hectopascal (hPa).

### 1.3.2 Riesgo y vulnerabilidad climática y por cambio climático futuro, tomando en cuenta las condiciones actuales en el área de influencia

Los impactos del cambio climático constituyen amenazas para los sistemas naturales y sociales representando riesgos para el desarrollo nacional. Según el Banco Interamericano de Desarrollo (BID, 2019), la región de América Latina es una de las más vulnerables a los efectos relacionados con el cambio climático, representado riesgos importantes en la población y los servicios básicos.

La evaluación y análisis de los múltiples ámbitos de afectación del cambio climático representa una estrategia de inversiones seguras y resistentes al clima, dirigido a un crecimiento sostenible de la economía.

Múltiples estudios han proyectado cambios en los patrones de temperatura, precipitación e incremento del nivel del mar. El IPCC (por sus siglas en inglés) en su Quinto Informe de Evaluación 5AR (2014), indica que los riesgos asociados al cambio climático por alteraciones en los patrones normales de precipitaciones y temperaturas están clasificados en un rango moderado y mantienen un alto nivel de ocurrencia e intensificación a futuro.

La Tercera Comunicación Nacional de Cambio Climático (MiAmbiente, 2019), a través de los escenarios de cambio climático para Panamá, define que la tendencia de cambio de la variabilidad climática, hacia eventos extremos, es cada vez más evidente.

La variabilidad climática, en especial, los cambios en los patrones de lluvia son la principal amenaza que enfrenta el Istmo, debido a los impactos que estos cambios ejercen sobre las actividades económicas y su funcionamiento regular. Dichos cambios en las precipitaciones han aumento su eventualidad en los últimos veinte años, resultando en un incremento de la vulnerabilidad de resistencia ante eventos extremos que inducen a desastres como inundaciones y deslizamientos de tierra.

Datos de la oficina de Naciones Unidas para la Reducción de Riesgos ante desastres (UNDRR) mediante su programa DESINVENTAR, muestra el registro de desastres para la República de Panamá en el período 1920 – 2017.

Los resultados indican una mayor susceptibilidad a inundaciones en las áreas de la costa Atlántica, con mayores afectaciones en las provincias de Colón y Bocas del Toro, mientras que, en la vertiente del pacífico, la provincia de Panamá, y el distrito de Tonosí son los más afectados.

La vulnerabilidad es definida como aquellas características que aumentan la magnitud de la probabilidad ante riesgo. Para conocer la vulnerabilidad del proyecto, primero es necesario evaluar la sensibilidad del proyecto.

La sensibilidad del proyecto debe determinarse en relación a las variables climáticas y sus efectos secundarios sobre la Infraestructura y sistemas asociados. De igual forma, según la Guía Técnica de Cambio Climático para Proyectos de Infraestructura de Inversión Pública (Ministerio de Ambiente, 2020), la sensibilidad del proyecto ante los efectos relacionados al cambio climático debe ser evaluados sistémicamente a través de cuatro importantes elementos que componen cadenas productivas:

- Activos y Bienes en el Sitito
- Procesos
- Servicios (Procesos, Mercado, Demanda)
- Insumos (Agua, Energía, otros)

Para la realización de la Matriz de Sensibilidad se tomó en cuenta tres puntajes subjetivos, los cuales son:

| Sensibilidad | Descripción | Color (Representado En La Matriz) |
|---|---|---|
| **Baja** | Ninguna variable climática parece tener efecto sobre la infraestructura o los procesos y/o servicios ofrecidos por el proyecto. | |
| **Media** | La variable de peligro climático puede tener un ligero impacto en los activos, procesos, servicios, recursos y suministros. | |
| **Alta** | Las variables climáticas pueden tener un impacto significativo en los bienes, procesos y/o servicios, recursos y suministros del proyecto. | |

**CUADRO 4.** Matriz de sensibilidad para el proyecto

| **Elementos de sensibilidad** | **Activos** Bienes de infraestructura | **Procesos** Tratamiento de agua | **Servicios** Suministro de agua potable | **Insumos** Agua, energía, otros. |
|---|---|---|---|---|
| Incremento de las temperaturas promedios. | | | | |
| Incremento extremo de temperaturas. | | | | |
| Cambio en los patrones de lluvia. | | | | |
| Cambios extremos de lluvia. | | | | |
| Deslizamientos de tierra | | | | |
| Radiación solar | | | | |
| Disponibilidad de agua | | | | |
| Tormentas | | | | |
| Inundaciones | | | | |
| Erosión del suelo | | | | |
| Incendios forestales | | | | |
| Calidad del aire | | | | |

**Fuente:** Matriz de sensibilidad de Guía Técnica de Cambio Climático para proyectos de Inversión Pública con adaptación por el equipo consultor. Enero, 2024.

Con respecto a la matriz de sensibilidad del proyecto con valoración subjetiva se considera que presenta una sensibilidad alta ante la variable climática impulsora de riesgos: precipitación. Esta trae como efectos secundarios la disponibilidad de agua, tormentas, inundaciones e incluso erosión del suelo.

Otra variable climática que se consideró de alta sensibilidad para el proyecto es el incremento de temperaturas por la naturaleza del proyecto.

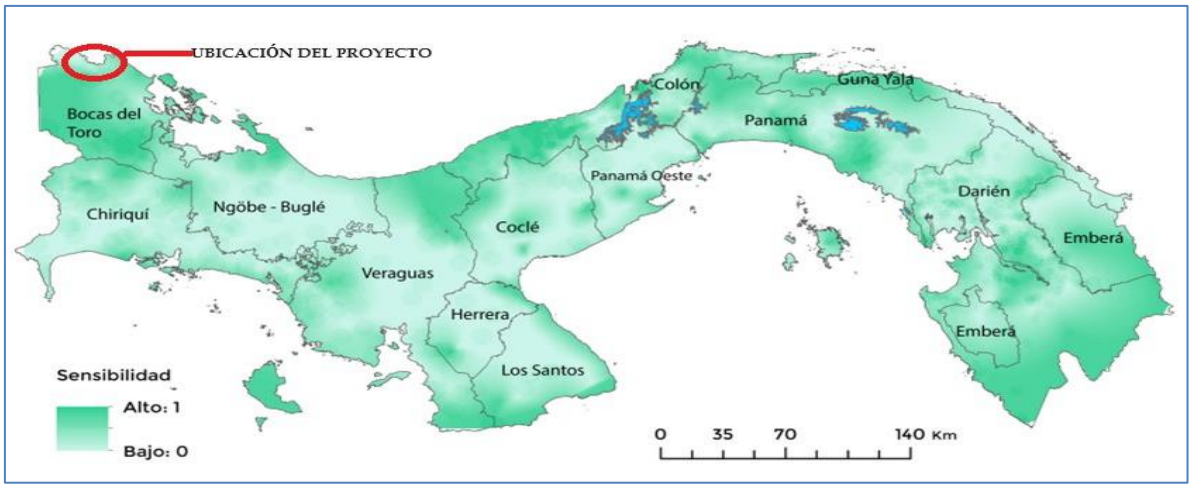



**FIGURA 8.** Mapa de sensibilidad al Cambio Climático de la República de Panamá.
**Fuente:** Índice de vulnerabilidad al cambio climático de la República de Panamá. Ministerio de Ambiente, 2021.

En el mapa de sensibilidad al cambio climático se puede observar que el área donde se desarrollará el proyecto presenta una sensibilidad de baja a media.

Seguido de la identificación de sensibilidad, se proseguirá a evaluar la Exposición del proyecto y los servicios que este ofrece ante amenazas climáticas en el sitio donde se planea desarrollar.

### 1.3.3 Análisis de Exposición

Según el mapa de exposición al cambio climático publicado por el Ministerio de Ambiente de Panamá, el área del proyecto se encuentra en un área con exposición de media a alta como resultado de las frecuencias de las inundaciones.

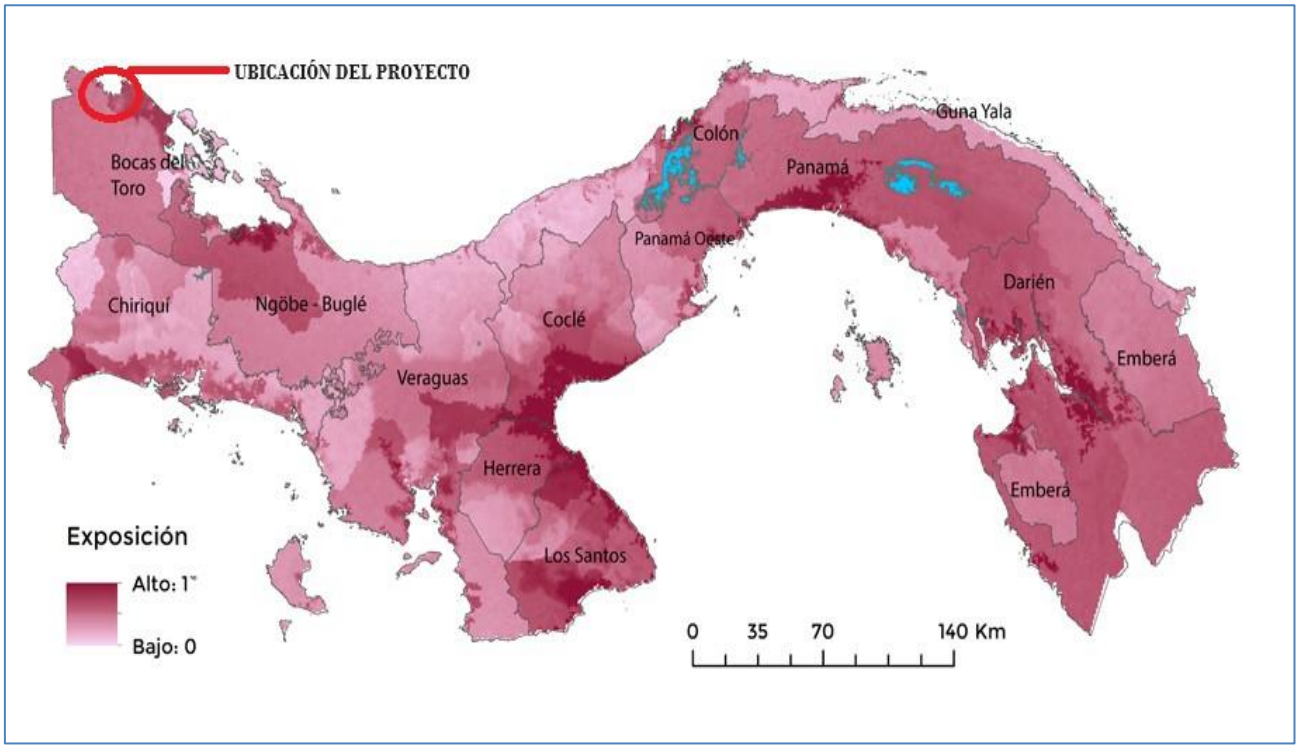
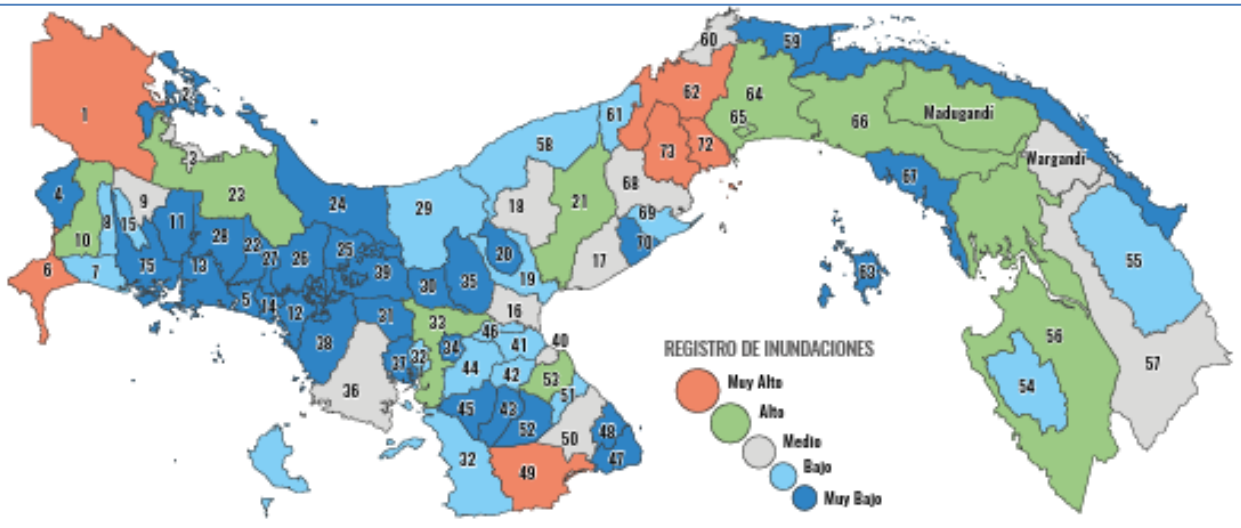



**FIGURA 9.** Mapa de exposición al Cambio Climático de la República de Panamá.
**Fuente:** Índice de vulnerabilidad al cambio climático de la República de Panamá. Ministerio de Ambiente, 2021.

La Tercera Comunicación Nacional Sobre Cambio Climático – Panamá del Ministerio de Ambiente indica que se conoce que los sitios con mayor susceptibilidad a inundaciones son aquellos ubicados en las costas del Caribe, destacándose distritos localizados en las provincias de Panamá y Bocas del Toro.

Como se observa en la siguiente figura el distrito de Changuinola presenta un registro de inundaciones muy alto.




| Nº | DISTRITO | PROVINCIA |
|---|---|---|
| 1 | CHANGUINOLA | Bocas del Toro |
| 2 | BOCAS DEL TORO | Bocas del Toro |
| 3 | CHIRIQUÍ GRANDE | Bocas del Toro |
| 4 | RENACIMIENTO | Chiriquí |
| 5 | SAN FÉLIX | Chiriquí |
| 6 | BARÚ | Chiriquí |
| 7 | ALANJE | Chiriquí |
| 8 | BOQUERÓN | Chiriquí |
| 9 | BOQUETE | Chiriquí |
| 10 | BUGABA | Chiriquí |
| 11 | GUALACA | Chiriquí |
| 12 | TOLE | Chiriquí |
| 13 | SAN LORENZO | Chiriquí |
| 14 | REMEDIOS | Chiriquí |
| 15 | DOLEGA | Chiriquí |
| 16 | AGUADULCE (CAB) | Coclé |
| 17 | ANTÓN | Coclé |
| 18 | LA PINTADA | Coclé |
| 19 | NATÁ | Coclé |
| 20 | OLA | Coclé |
| 21 | PENONOMÉ | Coclé |
| 22 | MIRONÓ | Comarca Ngäbe-Buglé |
| 23 | KANKINTÚ | Comarca Ngäbe-Buglé |
| 24 | KUSAPÍN | Comarca Ngäbe-Buglé |
| 25 | ÑÜRÜM | Comarca Ngäbe-Buglé |

| Nº | DISTRITO | PROVINCIA |
|---|---|---|
| 26 | MÚNA | Comarca Ngäbe-Buglé |
| 27 | NOLE DUIMA | Comarca Ngäbe-Buglé |
| 28 | BESIKO | Comarca Ngäbe-Buglé |
| 29 | SANTA FÉ | Veraguas |
| 30 | SAN FRANCISCO | Veraguas |
| 31 | LA MESA | Veraguas |
| 32 | MONTIJO | Veraguas |
| 33 | SANTIAGO | Veraguas |
| 34 | ATALAYA | Veraguas |
| 35 | CALOBRE | Veraguas |
| 36 | SONÁ | Veraguas |
| 37 | RÍO DE JESÚS | Veraguas |
| 38 | LAS PALMAS | Veraguas |
| 39 | CAÑAZAS | Veraguas |
| 40 | CHITRÉ | Herrera |
| 41 | PARITA | Herrera |
| 42 | PESÉ | Herrera |
| 43 | LOS POZOS | Herrera |
| 44 | OCÚ | Herrera |
| 45 | LAS MINAS | Herrera |
| 46 | SANTA MARÍA | Herrera |
| 47 | PEDASÍ | Los Santos |
| 48 | POCRÍ | Los Santos |
| 49 | TONOSÍ | Los Santos |
| 50 | LAS TABLAS | Los Santos |

| Nº | DISTRITO | PROVINCIA |
|---|---|---|
| 51 | GUARARÉ | Los Santos |
| 52 | MACARACAS | Los Santos |
| 53 | LOS SANTOS | Los Santos |
| 54 | SAMBÚ | Darién |
| 55 | CÉMACO | Darién |
| 56 | CHEPIGANA | Darién |
| 57 | PINOGANA | Darién |
| 58 | DONOSO | Colón |
| 59 | SANTA ISABEL | Colón |
| 60 | PORTOBELO | Colón |
| 61 | CHAGRES | Colón |
| 62 | COLÓN | Colón |
| 63 | BALBOA | Panamá |
| 64 | PANAMÁ | Panamá |
| 65 | SAN MIGUELITO | Panamá |
| 66 | CHEPO | Panamá |
| 67 | CHIMÁN | Panamá |
| 68 | CAPIRA | Panamá |
| 69 | CHAME | Panamá |
| 70 | SAN CARLOS | Panamá |
| 71 | TABOGA | Panamá |
| 72 | ARRAIJÁN | Panamá |
| 73 | LA CHORRERA | Panamá |
| 74 | COMARCA KUNA YALA | Comarca Kuna Yala |
| 75 | DAVID | Chiriquí |

**FIGURA 10.** Registro de inundaciones por distritos de Panamá en el período 1920 - 2017.
**Fuente:** Cathalac, 2017 con datos de DESINVENTAR, 2017.

De acuerdo a la información de CATHALAC (2016) sobre una nueva clasificación de climas considerando el régimen de las lluvias en Panamá, partiendo del hecho de que es la variable más importante, se tiene que las regiones son:

- Región Caribe Occidental: Esta región abarca toda la porción caribeña desde Bocas del Toro, parte de comarca Ngäbe-Bugle, Veraguas y costa abajo de Colón.
- Región Pacífico Occidental: Esta región cubre Chiriquí, parte interior de la comarca Ngäbe-Bugle, interior y Sur de Veraguas, porción Oeste de Herrera y Los Santos.
- Región del Pacifico Central: Esta región incluye las porciones este de Los Santos, Herrera, Sur de Coclé y Sur de gran parte de Panamá Oeste. (Arco Seco de Panamá)
- Región Central: Esta región abarca toda la porción del centro del territorio de las provincias de Coclé, Panamá Oeste, Panamá Metro y resto de la provincia de Colón hasta su frontera con comarca Guna Yala.
- Región Pacifico Oriental: Esta región comprende gran parte de la provincia de Panamá Este, comarcas Madugandí, Wargandí, las Emberas Wounaan y Darién.
- Región Caribe Oriental: Esta región se refiere solo la porción que cubre la comarca Guna Yala.

Con esta clasificación, el proyecto se ubica en la Región Caribe Occidental, la cual según la publicación del Ministerio de Ambiente en el año 2019 llamada Estrategia Nacional de Cambio Climático 2050, esta región tendrá sus principales impactos en:

**Recursos hídricos**

- Aumento de la frecuencia de fenómenos de precipitaciones extremos.
- Aumento en inundaciones / deslizamientos.

**Zonas costeras**

- Elevación del nivel del mar
- Erosión de la línea de la costa
- Explosión a la intrusión marina
- Afectación de zonas de manglares
- Pérdidas de terreno costero
- Inundaciones prolongadas

**Salud humana**

- Aumento en la tasa de incidencia de enfermedades transmitidas por vectores.

**Principales impactos del cambio climático en ciudades prioritarias**

- Afectados por inundaciones
- Mayor susceptibilidad a inundaciones

Al tener en cuenta el análisis del escenario regional se evaluará la Exposición del proyecto y los servicios que este ofrece ante amenazas climáticas antes vistas.

**CUADRO 5.** Exposición del proyecto a amenazas climáticas

| FASE | AMENAZAS | CONSECUENCIA | EXPOSICIÓN |
|---|---|---|---|
| **Planificación** | En esta etapa no se prevé exposición. | | Nula |
| **Construcción** | Fuertes lluvias | Interrupciones de los trabajos de construcción.<br><br>Afectaciones a los caminos de acceso al proyecto e incremento de erosión. | Alta |
| | Temperaturas altas de calor | Incremento del uso de enfriadores en espacios cerrados, mayor uso de energía eléctrica, mayor uso de energías no renovables.<br><br>Afectación en la salud o bienestar de los trabajadores del proyecto. | Baja |
| | Sequías prolongadas | Baja disponibilidad de recurso hídrico para actividades dentro de la construcción. | Baja |
| | Inundación | Interrupciones de servicios básicos: energía, transporte, telecomunicaciones. | Alta |
| | Deslizamiento de tierra | Afectación a las vías de acceso al proyecto.<br><br>Interrupción de las labores de construcción. | Media |
| **Operación** | Inundaciones | Afectación al sistema de distribución de agua potable. | Media |
| | Deslizamientos de tierra | Daños en las infraestructuras | Media |

| FASE | AMENAZAS | CONSECUENCIA | EXPOSICIÓN |
|---|---|---|---|
| | Sequías prolongadas | Baja disponibilidad de agua para el abastecimiento de agua potable. | Baja |
| **Cierre** | Esta etapa no está contemplada para este proyecto. | | Nula |

**Fuente:** equipo consultor. Enero, 2024.

Cabe mencionar que el proyecto considera esta exposición en los diseños del mismo, debido a ser la provincia de Bocas del Toro un área susceptible a eventos hidroclimáticos.

## 1.4 METODOLOGÍA UTILIZADA PARA LA ESTIMACIÓN DE CAUDALES:

### 1.4.1 Método Racional

Es el método recomendado por el ***Manual de Aprobaciones de Planos 2003***, designado por el ***Ministerio de obras Públicas de Panamá*** el cual designa parámetros y recomendaciones para el diseño de drenajes pluviales de acuerdo a lo exigido por dicho ministerio.

Este método es sólo aceptado para el cálculo de soluciones pluviales para cuencas menores a 250 hectáreas.

$$Q = CiA$$

### 1.4.2 Análisis de Crecidas Máximas de ETESA

Dicho informe describe los datos generales de las cuencas y estaciones hidrométricas en el análisis regional de crecidas.

A continuación se presentan los pasos básicos utilizados para realizar el análisis regional de crecidas máximas:

- Recopilar las crecidas máximas: datos de estaciones activas y suspendidas operadas por ETESA; y de estaciones operadas por la Autoridad del Canal de Panamá.

- Realizar análisis de consistencia: comparación de niveles y caudales registrados en estaciones hidrológicas ubicadas en el mismo río; verificación de crecidas máximas históricas registrados en el país con la envolvente de crecidas máximas para Centroamérica.
- Revisar las curvas de descarga y ajustarlas, de ser necesario.
- Extender y rellenar la información de caudales máximos instantáneos: mediante el análisis del comportamiento y la tendencia persistente de los niveles y caudales registrados en estaciones hidrológicas ubicadas en el mismo río.
- Homologar el periodo de análisis.
- Determinar la ecuación que relaciona la crecida promedio anual con el área de la cuenca.
- Elaborar la curva de frecuencia adimensional que relaciona el caudal máximo instantáneo anual con el promedio del registro, en función de las probabilidades.
- Delimitar las regiones hidrológicamente homogéneas.
- Elaborar el mapa que muestra las distintas regiones hidrológicas.

#### *1.4.2.1 Determinación de las ecuaciones que definen la relación entre la crecida media anual y el área del drenaje de la cuenca.*

Para establecer los límites de las regiones con igual comportamiento de crecidas, se tomó en consideración el área de drenaje que, de acuerdo a las investigaciones, está relacionada con el indicador de crecidas, y puede utilizarse como una base confiable para la estimación de la magnitud de las crecidas en cuencas no aforadas. Para esto, se relacionó el área de drenaje de la cuenca y el promedio de todas las crecidas máximas anuales registradas durante el periodo 1972- 2007, en las 58 estaciones hidrológicas limnigráficas convencionales, operadas por ETESA (53 son estaciones limnigráficas activas y 5 son limnigráficas suspendidas con buena información); y las 6 estaciones limnigráficas activas con registro largo manejadas por la Autoridad del Canal de Panamá.

Estas relaciones permiten estimar la crecida promedio anual de las cuencas no controladas a partir de su área de drenaje en $Km^2$ y de su ubicación en el país. De acuerdo a la teoría de los valores extremos, la media de todas las crecidas deberá tener su valor correspondiente a aquel de un acontecimiento de 2.33 años de periodo de retorno.

### *1.4.2.2 Factores para diferentes periodos de retorno en años*

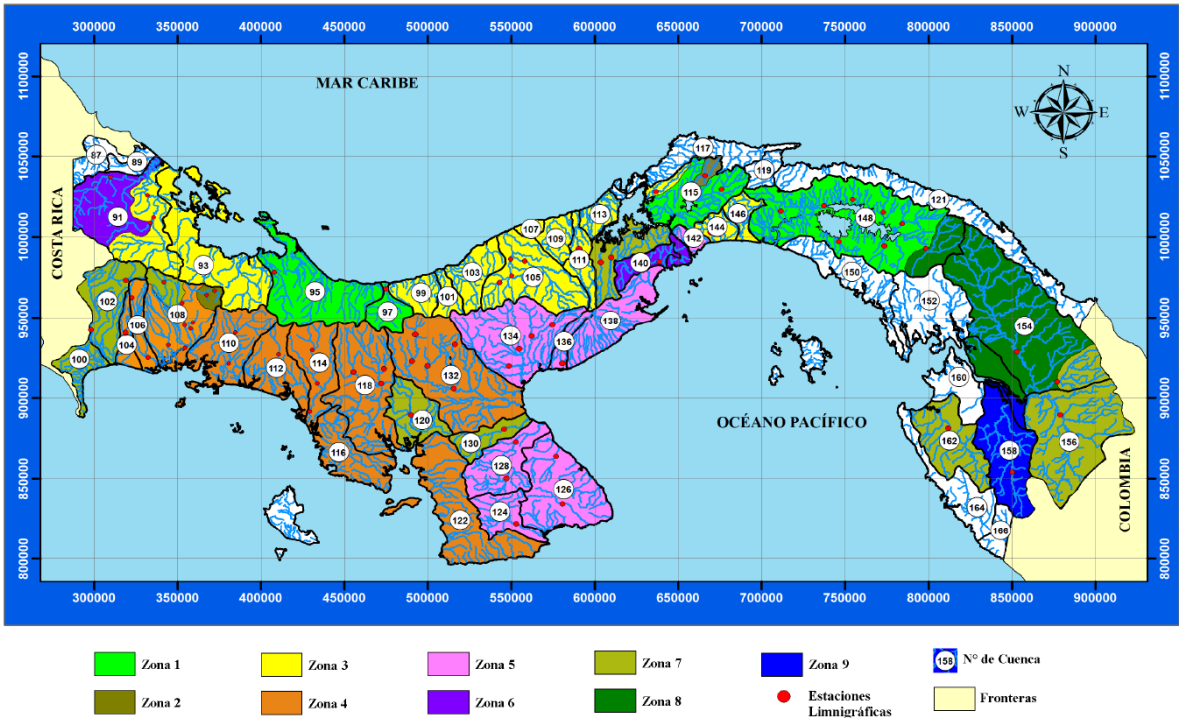
| *Factores Qmáx./ Qprom.máx para distintos Tr.* | | | | |
|---|---|---|---|---|
| *Tr, años* | *Tabla # 1* | *Tabla # 2* | *Tabla # 3* | *Tabla # 4* |
| 1.005 | 0.28 | 0.29 | 0.3 | 0.34 |
| 1.05 | 0.43 | 0.44 | 0.45 | 0.49 |
| 1.25 | 0.62 | 0.63 | 0.64 | 0.67 |
| 2 | 0.92 | 0.93 | 0.92 | 0.93 |
| 5 | 1.36 | 1.35 | 1.32 | 1.30 |
| 10 | 1.66 | 1.64 | 1.6 | 1.55 |
| 20 | 1.96 | 1.94 | 1.88 | 1.78 |
| 50 | 2.37 | 2.32 | 2.24 | 2.10 |
| 100 | 2.68 | 2.64 | 2.53 | 2.33 |
| 1,000 | 3.81 | 3.71 | 3.53 | 3.14 |
| 10,000 | 5.05 | 5.48 | 4.6 | 4.00 |

### *1.4.2.3 Delimitación de las regiones hidrológicamente homogéneas y la elaboración del mapa que muestra las distintas regiones.*

Para definir las regiones de crecidas máximas se agruparon los resultados de los puntos 4.1 y 4.2, es decir, las áreas con igual ecuación e igual tabla de distribución de frecuencia, dando como resultado 9 zonas.

| Zona | Número de ecuación | Ecuación | Distribución de frecuencia |
|---|---|---|---|
| 1 | 1 | $Qmáx = 34A^{0.59}$ | Tabla # 1 |
| 2 | 1 | $Qmáx = 34A^{0.59}$ | Tabla # 3 |
| 3 | 2 | $Qmáx = 25A^{0.59}$ | Tabla # 1 |
| 4 | 2 | $Qmáx = 25A^{0.59}$ | Tabla # 4 |
| 5 | 3 | $Qmáx = 14A^{0.59}$ | Tabla # 1 |
| 6 | 3 | $Qmáx = 14A^{0.59}$ | Tabla # 2 |
| 7 | 4 | $Qmáx = 9A^{0.59}$ | Tabla # 3 |
| 8 | 5 | $Qmáx = 4.5A^{0.59}$ | Tabla # 3 |
| 9 | 2 | $Qmáx = 25A^{0.59}$ | Tabla # 3 |

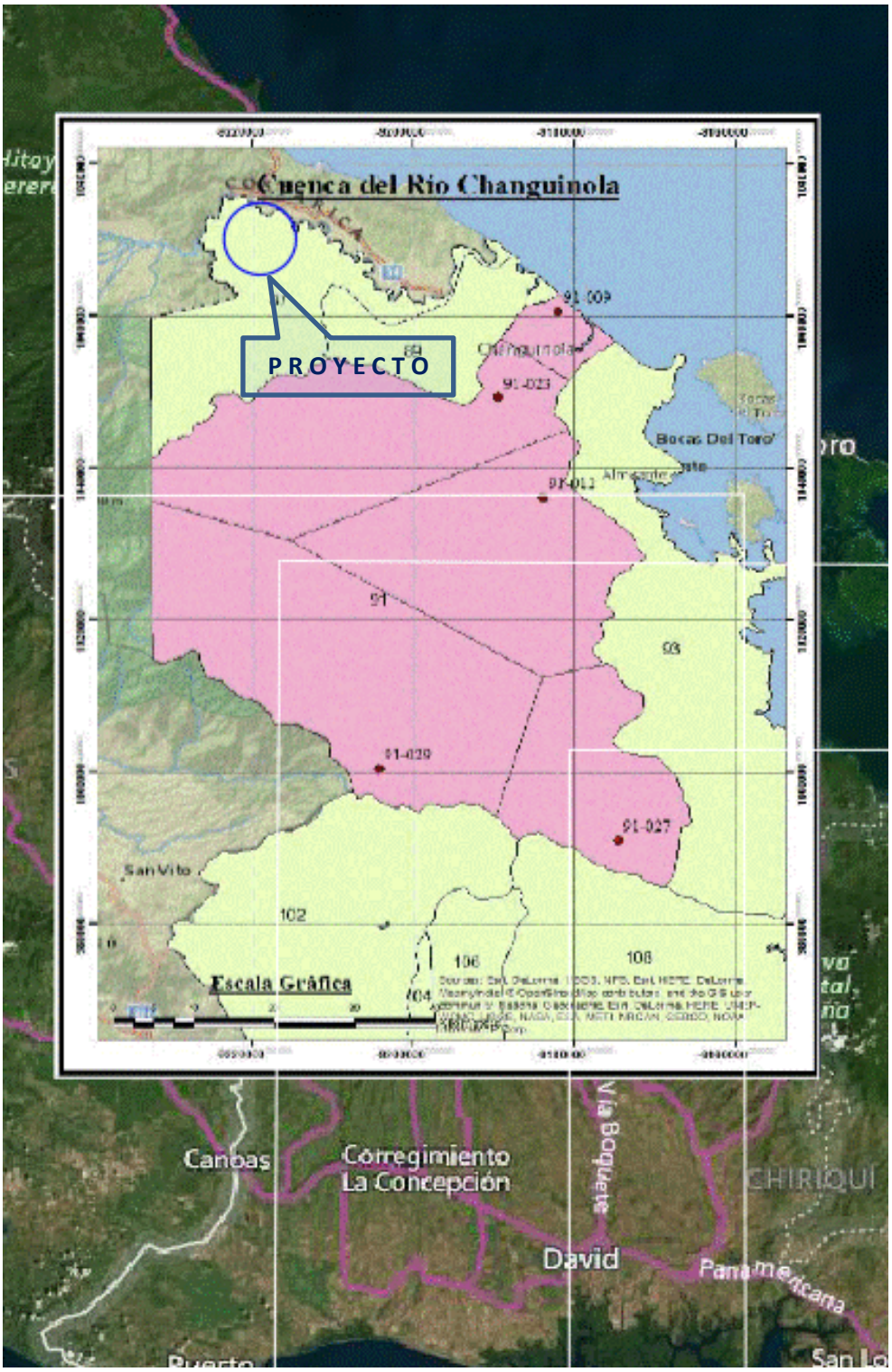
Regiones hidrológicamente homogéneas que se utilizan para la evaluación de crecidas en las diferentes cuencas.




Mapa de Regiones Hidrológicamente Homogéneas

## 1.5 DESCRIPCIÓN DE LA CUENCA.

Como ya se mencionó en el diagnóstico, la recolección de la escorrentía superficial es por medio de drenajes naturales, cunetas de tierra y pavimentadas que descargan directamente en el cauce del río; el cauce de la quebrada no se encuentra pavimentado. La cuenca se caracteriza por tener escasas áreas pavimentadas, vegetación moderada y caseríos.


Cuenca del Río Changuinola
PROYECTO
Changuinola
Bocas Del Toro
91-009
91-023
91-011
91
93
91-029
91-027
San Vito
102
106
108
104
Escala Gráfica
Canbas
Corregimiento
La Concepción
David
CHIRIQUÍ
Panamericana

## 1.6 CÁLCULO DE LOS CAUDALES GENERADOS POR LA PRECIPITACIÓN.

### 1.6.1 PARÁMETROS DE DISEÑO.

Los parámetros que debe considerar el Profesional que diseñe el sistema Pluvial, los sugiere el Ministerio de Obras Públicas en su publicación (***Manual de aprobaciones de planos del MOP 2003)***, dichos parámetros se basan en estudios del comportamiento de las precipitaciones en la ciudad de Panamá y en conceptos básicos de Hidrología.

#### *1.6.1.1 COEFICIENTE DE ESCORRENTÍA:*

Este coeficiente es adimensional, es la relación que hay entre el volumen de agua que escurre en la superficie con respecto a la precipitación total, toma en cuenta varios parámetros que varían según las características del terreno, tales como la impermeabilidad, la infiltración, la evaporación y la rugosidad del terreno o área drenada, forma y por la previsión de los probables desarrollos futuros.

$$C = \frac{a'}{a}$$

Donde,
C = Coeficiente de escurrimiento (adimensional)
a' = Agua que escurre
a = Agua llovida

**Tabla #1** *Coeficientes* de escurrimientos Método Racional

| Tipo de Cobertura | Coeficiente de Escurrimiento |
|---|---|
| **Césped** | 0.05-0.35 |
| **Bosque** | 0.05-0.25 |
| **Tierras Cultivadas** | 0.08-0.41 |
| **Prados** | 0.1-0.5 |
| **Parques y cementerios** | 0.1-0.25 |
| **Áreas de pastizales** | 0.12-0.62 |
| **Zonas Residenciales** | 0.3-0.75 |
| **Zonas de Negocios** | 0.5-0.95 |
| **Zonas Industriales** | 0.5-0.9 |
| **Calles de Asfalto** | 0.7-0.95 |
| **Calles de Ladrillos** | 0.7-0.85 |
| **Techos** | 0.75-0.95 |
| **Calles de Concreto** | 0.7-0.95 |

El coeficiente de escurrimiento seleccionado dado a las características de la zona en estudio fue, **C= 0.85** de acuerdo a las características del suelo. Pendiente y vegetación existente del sitio. Este coeficiente de escorrentía fue elegido dado a que el sitio en estudio presenta vegetación moderada, áreas de pastizales e indicado en el pliego de cargos.

### *1.6.1.2 DETERMINACIÓN DE LAS ECUACIONES DE INTENSIDAD – DURACIÓN –FRECUENCIA PARA 16 CUENCAS DE LA REPÚBLICA DE PANAMÁ.*

La intensidad de lluvia en general no permanece constante durante un período considerable de tiempo, sino que es variable.

El diseño de estructuras hidráulicas que sean capaz de desalojar los volúmenes de agua procedentes de la escorrentía superficial ha sido responsabilidad primaria de los ingenieros civiles, en la República de Panamá.La medición de las variables hidrometereológicas, inició en la República de

Panamá, con la construcción del Ferrocarril Transístmico de Panamá. La compañía del Ferrocarril de Panamá estableció en 1862, la primera estación pluviométrica, para la medición de la precipitación pluvial. Posteriormente con la llegada de los ingenieros franceses se establecieron otro conjunto de estaciones pluviométricas, en Balboa, Colon, Gamboa, Bohío y la isla de Naos. (Tecnociencia 2001, Volumen 3, revista 2, Pino y Espinosa).

A continuación con la llegada del contingente de ingenieros norteamericanos destinados a la construcción del Canal de Panamá, se regularizo, sistematizo la lectura, procesamiento y almacenamiento de los datos hidrometereológicos. Desafortunadamente, esto solo ocurrió en la región denominada Cuenca del Canal de Panamá y en el resto del país, se contaba con muy escasas estaciones para medir precipitación pluvial o caudal en las cuencas de los otros ríos del país.

Con la creación del Instituto de Recursos Hidráulicos y Electrificación (IRHE) en 1961, la medición de las variables hidrometereológicas recibe otro impulso. Pero los registros eran pocos y la longitud de estos, también. Es entonces a través de un estudio para definir las características hidráulicas de los ríos que fluyen a través de la Ciudad de Panamá, el Ingeniero Federico Guardia Conte, Presidente y

Representante Legal de la Firma Federico Guardia y Asociados, en 1972, quien utilizando los datos de las estaciones meteorológicas de la Universidad de Panamá, Balboa Heights y Balboa Docks, con un registro de 57 años desarrollo las curvas de Intensidad- Duración- Frecuencia (IDF) para la vertiente pacifico de la República de Panamá.

Para la vertiente del Atlántico, el Ingeniero Federico Guardia C., desarrollo el Estudio del Sistema Pluvial de la Ciudad de Colon para el Ministerio de Obras Publicas y derivo las ecuaciones IDF, para el sector Atlántico.

El Ministerio de Obras Públicas, publicó en la Gaceta Oficial No. 24,766, en la página 80 las ecuaciones que derivó el Ingeniero Guardia y son de uso mandatorio para cualquier diseño de drenaje pluvial en la República de Panamá.

A partir de 1972, estas ecuaciones han sido empleados por la mayoría de los ingenieros, en la República de Panamá, al momento de dimensionar las estructuras dedicadas al drenaje de las aguas provenientes de la escorrentía superficial. Sería útil, el actualizar estas ecuaciones y utilizar los datos más recientes en las cuencas del país, para así incluir también, los efectos del cambio climático.

El inconveniente principal para la elaboración de las curvas de Intensidad –Duración – Frecuencia reside en que no se cuenta con la calidad de los registros y la longitud de estos. Por calidad nos referimos a que se requieren de series de datos que nos proporcionen los datos cada 5, 10 o 15 minutos, esto requiere de una estación registradora automática, pero la mayoría de las estaciones cuentan con registros de precipitación son manuales, o sea estaciones pluviométricas, es decir un observador humano acude a las 7:00 am y a las 6:00 pm todos los días y lo que tenemos así es un dato diario.

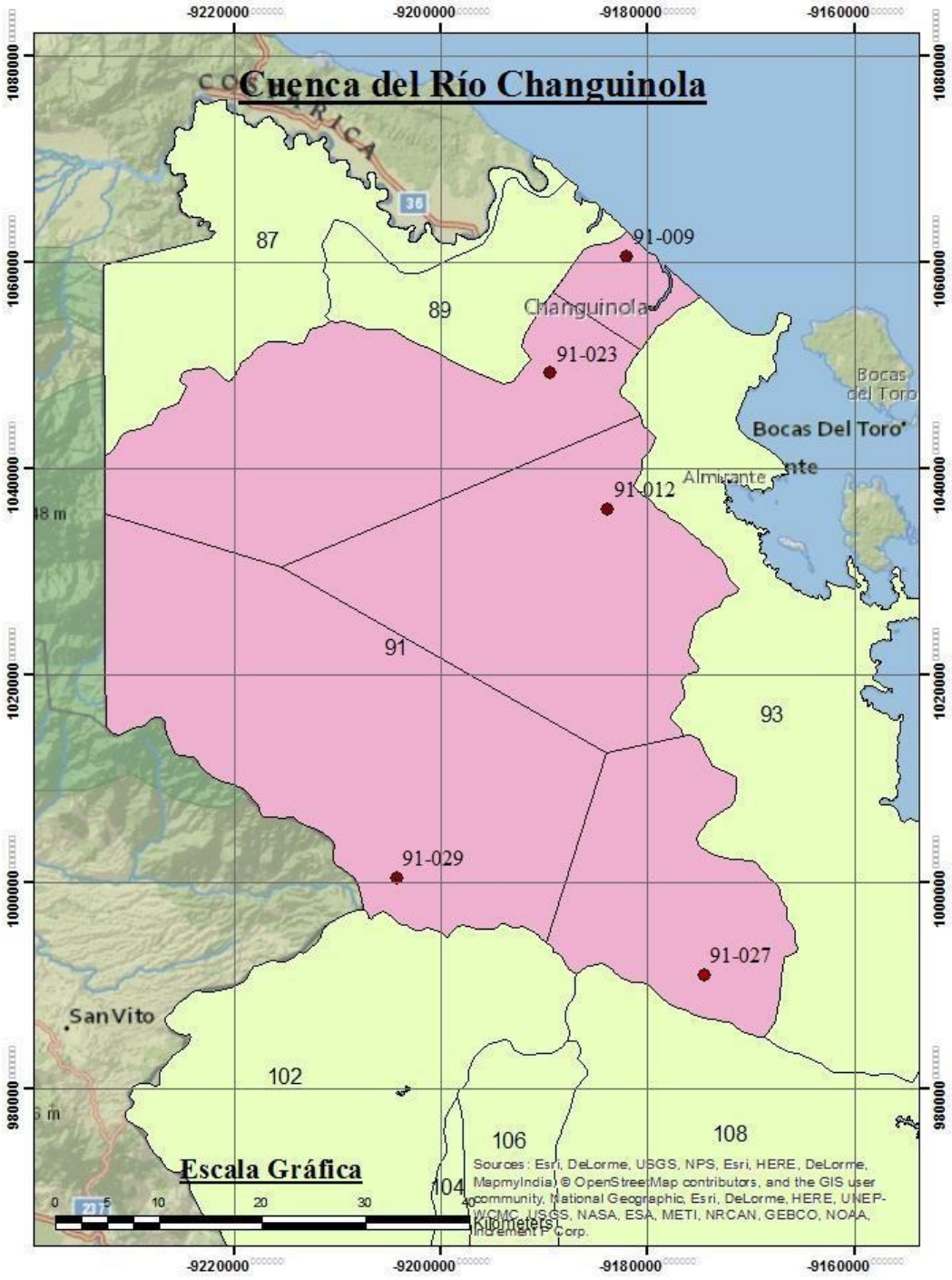
Entre los intentos más recientes para comparar los resultados de las ecuaciones derivadas por el Ingeniero Guardia Conte con el comportamiento actual de las variables hidrometereológicas, fue la tesis para optar por el título de Ingeniero Civil de los estudiantes Alcely Lau y Antonio Pérez, quienes asesorados por el Ing. Erick Vallester, de la Universidad Tecnológica de Panamá, en 2015, desarrollaron las ecuaciones de Intensidad – Duración – Frecuencia para 10 cuencas hidrográfica dela República de Panamá.

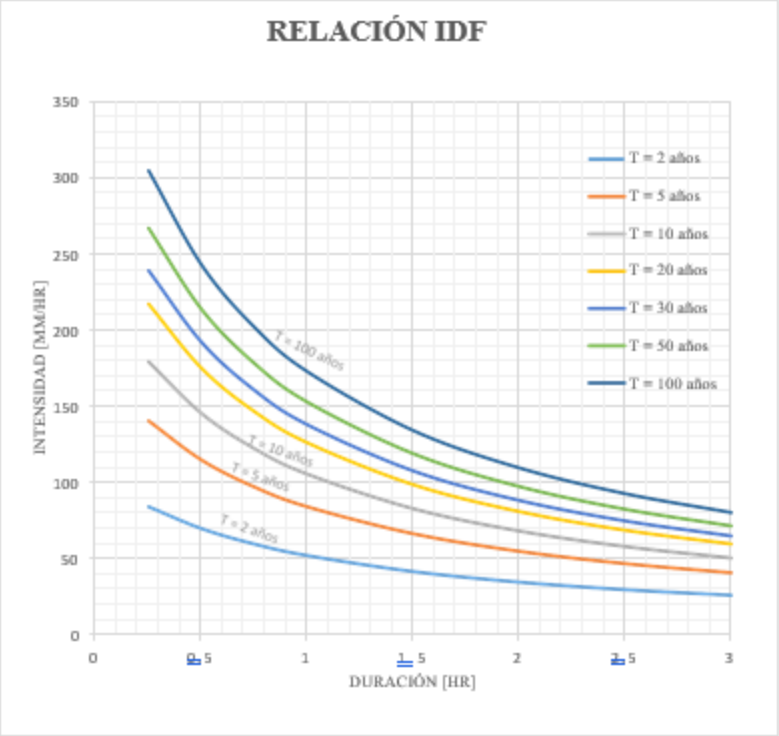
Estas cuencas fueron:

1. Cuenca del Rio Changuinola. Para este estudio
2. Cuenca del Rio Chiriquí Viejo.
3. Cuenca del Rio Chiriquí.
4. Cuenca del Rio Fonseca.
5. Cuenca del Rio San Pablo.
6. Cuenca del Rio Juan Díaz.
7. Cuenca del Rio Bayano.
8. Cuenca del Rio Cricamola
9. Cuenca del Rio Chagres.

10. Cuenca de Ríos entre Antón y Caimito.

### *1.6.1.3 CUENCA DEL RIO CHANGUINOLA*






*Gráfica 4. 2: 91 - Relación Intensidad Duración Frecuencia*

*Tabla 4. 5: Ecuación de Intensidad Relación Frecuencia para Eventos con Duración d en Horas de cuenca del río Changuinola*

$$I = \frac{a}{d + b}$$

| T [años] | 2 | 5 | 10 | 20 | 30 | 50 | 100 |
|---|---|---|---|---|---|---|---|
| a [mm] | 100.949 | 155.879 | 191.195 | 224.504 | 243.463 | 266.991 | 298.469 |
| b [hr] | 0.954 | 0.861 | 0.817 | 0.784 | 0.768 | 0.750 | 0.729 |
| $R^2$ | 99.39% | 99.63% | 99.55% | 99.41% | 99.32% | 99.20% | 99.05% |

Las imágenes de las primeras 10 cuencas y las curvas IDF, correspondientes a estas cuencas fueron obtenidas del trabajo de graduación, para optar para el título de Ingenieros Civiles, en la Universidad Tecnológica de Panamá, por los estudiantes Alcely Lau y Antonio Pérez, en 2015.

Las imágenes de las 6 cuencas restantes fueron tomadas del sitio web delSmithsonian Tropical Research Institute.

Las ecuaciones y gráficos, de las 6 últimas cuencas fueron elaborados por un equipo de estudiantes de la UTP.

### *1.6.1.4 ECUACIONES DE IDF CON INFORMACIÓN HIDROMETEOROLÓGICA*

Las siguientes ecuaciones aplican para todo proyecto estatal y para las urbanizaciones no estatales. Sin embargo los promotores podrán utilizar las ecuaciones del manual anterior hasta 24 meses después de la fecha de publicación de este documento en Gaceta Oficial.

En las cuencas donde no hay ecuaciones se deberá utilizar un promedio entre las dos cuencas más próximas con información.

En las cuencas donde no hay ecuaciones y solo exista una cuenca próxima con información, se deberá usar la información de la misma.

Para las provincias de Herrera y los Santos se podrá utilizar de referencia la información de la cuenca 140 entre Antón y Caimito.

Si se utiliza en el diseño la fórmula de Manning, se deberá utilizar los siguientes valores de "n":

**CANALES**

| ***"n"*** | ***Descripción del tipo de canal*** |
|---|---|
| 0.012 | Para Canales de Matacán repellado. |
| 0.015 | Para Canales de Matacán Liso sin Repellar |
| 0.020 | Para Canales de Matacán Liso y Fondo de Tierra. |
| 0.025 | Para Cauce de tierra lisa con Vegetación Rasante. |
| 0.030 | Para Cauce de tierra con Vegetación normal, lodo con Escombro o irregular a causa de erosión. |
| 0.035 | Excavaciones Naturales, cubiertas de escombros con vegetación. |
| 0.020 | Excavaciones Naturales de trazado sinuoso. |

**TUBERÍAS**

| | |
|---|---|
| 0.009 | Tubos de P.V.C. y de Polietilenos |
| 0.013 | Tubos de Concreto |

Si se utiliza en el diseño la fórmula de Bazin en el diseño, se deberá utilizar los siguientes valores de **"m", s**iendo "m" un coeficiente que depende de la naturaleza de las paredes.

**VALORES DE "M"**

| *"m"* | |
|---|---|
| 0.06 | Para tubos de barro vitrificado |
| 0.14 | Para mampostería de cemento |
| 0.14 | Para tubos de concreto |
| 0.14 | Para canales revestidos de concreto |
| 0.05 | Para mampostería de piedra bruta |
| 0.06 | Para conductos metálicos lisos |
| 0.88 | Para conductos metálicos corrugados |
| 0.50 | Para canales de tierra en buenas condiciones |
| 0.05 | Para canales de tierra con vegetación y roca |
| 0.38 | Para canales excavados en roca |

### *1.6.1.5 PERÍODOS DE RETORNO PARA DISEÑOS DE SISTEMAS PLUVIALES:*

- Las alcantarillas pluviales, los aliviaderos de sistemas pluviales y zanjas de drenajes pluviales en urbanizaciones nuevas deben ser diseñados para la peor lluvia de un periodo de retorno de 1 en 10 años (1:10 años). De hacerse conexiones al alcantarillado pluvial existente el mismo deberá tener la suficiente capacidad para desalojar la peor lluvia (lluvia extraordinaria) de 1 en 10 años. De no tener la capacidad antes mencionada el diseñador deberá adecuar el sistema existente, según se especifica en este manual en el capítulo. (V.9. sección 1.c.4.)
- Entubamiento, cajones pluviales, muros de retén en cauces y otras estructuras permanentes del sistema pluvial, así como estructuras hidráulicas, zanjas abiertas, deberán diseñarse para un periodo de retorno de 1 en 50 años (1:50 años).
- En el caso de puentes sobre cauces, se usarán periodos de retorno de 1 en 100 años (1:100 años) para determinar el nivel inferior de vigas del puente y la longitud del puente.
- Cauces de ríos y quebradas: La canalización de ríos o quebradas serán diseñadas para que las aguas pluviales no causen daños a las propiedades adyacentes por motivo de inundaciones cuando ocurra la peor lluvia (lluvia extraordinaria) con un período de retorno de 1 en 50 años (1:50 años).
- Para el diseño de vados, según regiones de lluvia, se deberá utilizar un período de retorno de 1 en 5 años (1:5 años), para vados (provisionales) destinados a permanecer no más de 10 meses y 1 en 20 años (1: 20 años) que se dispondrán para periodos mayores de 10 meses.

**"Ver requisitos mínimos para revisión de cajones pluviales"**

### *1.6.1.6 PARÁMETROS MÍNIMOS PARA DISEÑO DE TUBERÍAS:*

Se utilizará un diámetro mínimo de 0.45m (18″ Ø) en tramo inicial no mayor de 15.00 m, con alturas de relleno entre 0.45 m y 1.00 m. Si no se cumple alguna de estas restricciones, se deberá utilizar tuberías con un diámetro mínimo de 0.60m (24″ Ø).

・Los cruces pluviales bajo servidumbres de calle deberán realizarse con tuberías de H.R. No se permitirán cruces con tuberías "plásticas" o sistemas distintos.

・En el caso de descargas pluviales de edificios (fuera de la línea de propiedad), se permitirán diámetros mínimos de tuberías de 0.45 m (18″ Ø) de H.R., utilizando tramos con longitudes máximas de 15.00 m, con alturas de relleno entre 0.45 m y 1.00m.. Si no se cumple alguna de estas restricciones, se deberá utilizar tuberías con un diámetro mínimo de 0.60m (24″ Ø).

・Para sistemas con tuberías con diámetros mayores a 0.91m (36″ Ø), las mismas deberán ser de H.R. Al menos que se cumpla con lo estipulado en el la V. GUÍA PARA LA REVISIÓN DE PLANOS EN GENERAL, PUNTO 1.9, FINAL DE ESTE MANUAL.

・Para proyectos de urbanización, se permitirá el uso de tuberías flexibles, con las excepciones indicadas en el punto anterior. Estas tuberías deberán diseñarse según los parámetros de diseño AASHTO para este tipo de construcción.

・Se deberá diseñar los diámetros de tuberías para una condición que la misma trabaje al 80% de su capacidad hidráulica.

・Para proyectos viales (estatales o privados que no sean de urbanización), solo podrán utilizarse tuberías que se especifiquen según los términos de referencia y a lo estipulado en este manual.

・Se permitirá la utilización de cajas pluviales con bloques Lincoln con alturas de 2.70m máximo. Para cajas con profundidades mayores a 2.70m, se deberá utilizar paredes de H.R., sustentado mediante cálculos estructurales.

・Para cajas pluviales o cámaras de inspección con profundidades mayores a 1.75m, se deberá colocar escaleras de gato para el acceso.

・Se permitirá la utilización de metodologías de excavación para instalación de tuberías tipo: perforación dirigida, micro tuneladora, excavación manual de túnel, tuneladoras, entre otros, siempre y cuando se presente el sustento técnico correspondiente.

・Se permitirá la utilización de nuevas tecnologías para sistemas de drenaje, siempre y cuando sus diseños cumplan con la normativa AASHTO vigente para el diseño de estas, con el REP 2014/2021 y con las metodologías de cálculo hidráulico indicadas en este Manual.

## 1.7 VELOCIDADES PERMISIBLES EN SISTEMAS PLUVIALES:

**MÍNIMA PERMISIBLE:** Se refiere a las velocidades mínimas que no permitan la sedimentación y el crecimiento de vegetación en las estructuras pluviales.

**MÁXIMA PERMISIBLE:** Se refiere a la mayor velocidad con la cual la estructura pluvial no se erosiona.

・Para tuberías de H.R., la velocidad máxima permitida será de 4.73m/s (15 p/s) y la mínima de 0.60 m/s (1.968 p/s).

・En canales de mampostería y de concreto, la velocidad máxima permitida será de 4.573 m/s (15 p/s) la mínima de 0.60 m/s (1.968p/s).

・En canales de canto rodado, arena y tierra la velocidad máxima será de 1.52 m/s (5 p/s) y la mínima de 0.60 m/s (1.968 p/s).

・Para tuberías flexibles, la velocidad máxima será de 5 m/s (16.4 p/s) y la mínima de 0.60 m/s (1.968 p/s).

・Se permitirán velocidades hasta 8.00 m/s como caso especial, para sistemas pluviales en zonas de montaña o zonas con pendientes fuertes, en donde existan limitantes específicas de relieve o suelos rocosos.

### 1.7.1 PENDIENTES PERMISIBLES EN SISTEMAS PLUVIALES:

Todos los sistemas de drenajes deberán proyectarse con pendientes suficientes para que la velocidad media no sobrepase los límites indicados.

### 1.7.2 RECUBRIMIENTO DE LAS TUBERÍAS:

El recubrimiento mínimo para tuberías de H.R., sobre la corona será de cm 0.45 m. hasta la parte inferior de la losa de pavimento o hasta elterreno natural, en caso de no contar con una estructura de pavimento definida en lugares en donde no se encuentre tráfico vehicular.

Cuando el recubrimiento sea inferior, se deberá reforzar la zona de instalación de la tubería con losa de pavimento de hormigón tipo Portland, según detalle indicado en este documento.

・En el caso de que la estructura de pavimento de la vía sea mayor a 0.45m y la tubería deba estar dentro de esta zona de estructura de pavimento (capa base + subbase), la misma deberá colocarse por debajo de la estructura de pavimento de la vía o reforzar la zona de instalación de la tubería con losa de pavimento de hormigón tipo Portland, según detalle indicado en este documento.

・En el caso de la existencia de tráfico vehicular, en zonas en donde no haya estructura de pavimento definida, y que el valor del recubrimiento de la tubería sea menor a 0.45 m hasta el nivel del terreno natural, el diseñador deberá aportar los cálculos estructurales correspondientes para el sustento de la capacidad portante de la tubería ante las cargas.

・Para tuberías flexibles, el recubrimiento y compactación lateral y sobre la tubería; deberá ser en base al Manual de Instalación del Fabricante. Para tal fin el ingeniero diseñador deberá aportar la información técnica (ficha técnica) correspondiente para revisión por parte del Departamento de Revisión de Planos.

#### *1.7.2.1 Fórmula de Manning:*

$$V = \left(\frac{1}{n}\right) R^{\frac{2}{3}} S^{\frac{1}{2}}$$

Donde:

V = Velocidad de escurrimiento, en m/s

N = Coeficiente de rugosidad n, adimensional.
R = Radio hidráulico, en m
S = Pendiente del canal, en milésimas.

Radio Hidráulico:

$$R = \frac{A}{P}$$

Donde:

R = Radio hidráulico, en m
A = Área hidráulica de la sección, en m²
P = Perímetro mojado, en m.

Por la ecuación de Continuidad:

$$Q = VA$$

Donde:

Q = Caudal, m³/s

V= Velocidad obtenida con la fórmula de Manning, en m/s
A = Área de la sección hidráulica, en m²

# 2 RESULTADOS DE LOS CALCULOS DE CAPACIDADES DEL SISTEMA PLUVIAL PARA TUBOS Y CAJONES DE LOS CAMINOS DEL PROYECTO DE LA NUEVA POTABILIZADORA DE SIBUBE.

## ALCANTARILLAS DE TUBOS DE CONCRETO

**Hoja de Cálculos Hidráulicos del Alcantarillado Pluvial**

IDAAN — NSTITUTO DE ACUEDUCTOS Y ALCANTARILLADOS NACIONALES

n= 0.013
C= 85 %

Localización: SISTEMA DE AGUA POTABLE PARA LAS TABLAS - GUABITO
Diseñado por: Ing. Franklin Achú T.
Revisado por: Ing. Jaime M. Gutiérrez C.

CONSORCIO PTAP LAS TABLAS

| Estacion | ID | Cuenca L m | Cuenca H m | Area Ha | Area Acum Ha | Calculo Intensidad - Relación IDF T= 20 Años a mm | b Hr | d Hr | I 20 años mm/Hr | q $m^3/s$ | Datos de la Tuberia N unid | L m | ϕ pulg | S m/m | Tubo lleno V m/s | Tubo lleno Q $m^3/s$ | Diseño q/Q % | Diseño d/D % | Diseño v/V % | Diseño V m/s | Datos de Elevaciones Cota Invertida Inicial | Cota Invertida Final |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CAMINO DE ACCESO A PLANTA DE TRATAMIENTO DE AGUA POTABLE - SINOSTRE - SIBUBE - C1** | | | | | | | | | | | | | | | | | | | | | | |
| **1K + 384.69** | **DREN - 03A** | 1,006.32 | 38.00 | 30.679 | **30.679** | 224.504 | 0.784 | 0.50 | 174.85 | **12.665** | **2.0** | 10.746 | **60** | 0.0150 | 4.95 | **18.064** | 70.11 | 61.78 | 108.33 | **5.364** | 33.802 | 33.641 |
| **CAMINO DE ACCESO A LOS TANQUES DE ALMACENAMIENTO EN SIBUBE - C2** | | | | | | | | | | | | | | | | | | | | | | |
| **0K + 256.39** | **DREN - 006** | 150.12 | 7.50 | 1.780 | **1.780** | 224.504 | 0.784 | 0.50 | 174.85 | **0.735** | **1.0** | 9.437 | **36** | 0.0107 | 2.97 | **1.954** | 37.62 | 42.50 | 93.03 | 2.767 | 37.411 | 37.310 |
| **0K + 551.62** | **DREN - 004** | 536.66 | 62.50 | 16.930 | **16.930** | 224.504 | 0.784 | 0.50 | 174.85 | **6.989** | **1.0** | 18.222 | **60** | 0.0280 | 6.76 | **12.340** | 56.64 | 53.92 | 103.14 | 6.977 | 36.542 | 36.032 |
| **0K + 831.26** | **DREN - 003** | 420.00 | 83.13 | 8.750 | **8.750** | 224.504 | 0.784 | 0.50 | 174.85 | **3.612** | **1.0** | 16.684 | **60** | 0.0100 | 4.04 | **7.375** | 48.98 | 49.45 | 99.63 | 4.028 | 54.994 | 54.827 |
| **0K + 981.70** | **DREN - 002** | 350.00 | 52.00 | 2.500 | **2.500** | 224.504 | 0.784 | 0.50 | 174.85 | **1.032** | **1.0** | 13.277 | **36** | 0.0118 | 3.12 | **2.052** | 50.31 | 50.22 | 100.18 | 3.130 | 78.536 | 78.380 |
| **1K + 127.80** | **DREN - 001** | 120.07 | 20.25 | 0.539 | **0.539** | 224.504 | 0.784 | 0.50 | 174.85 | **0.222** | **1.0** | 11.545 | **30** | 0.0100 | 2.55 | **1.161** | 19.16 | 29.66 | 77.13 | 1.964 | 105.850 | 105.735 |
| **CAMINO ACCESO A TOMA DE AGUA - SIBUBE - C3** | | | | | | | | | | | | | | | | | | | | | | |
| **0K + 575.52** | **DREN - 03** | 255.51 | 18.00 | 6.652 | **6.652** | 224.504 | 0.784 | 0.50 | 174.85 | **2.746** | **1.0** | 15.343 | **54** | 0.0075 | 3.26 | **4.822** | 56.95 | 54.14 | 103.30 | 3.371 | 40.000 | 39.885 |
| **0K + 925.30** | **DREN - 05** | 401.00 | 33.70 | 4.353 | **4.353** | 224.504 | 0.784 | 0.50 | 174.85 | **1.797** | **1.0** | 15.891 | **60** | 0.0150 | 4.95 | **9.032** | 19.90 | 30.26 | 77.99 | 3.861 | 45.974 | 45.736 |
| **1K + 038.84** | **DREN - 06** | 250.14 | 32.13 | 2.524 | **2.524** | 224.504 | 0.784 | 0.50 | 174.85 | **1.042** | **1.0** | 15.377 | **36** | 0.0100 | 2.88 | **1.889** | 55.17 | 53.05 | 102.47 | 2.947 | 51.990 | 51.836 |
| **1K + 160.24** | **DREN - 07** | 189.05 | 21.70 | 1.106 | **1.106** | 224.504 | 0.784 | 0.50 | 174.85 | **0.457** | **1.0** | 22.660 | **48** | 0.0300 | 6.03 | **7.045** | 6.48 | 17.28 | 56.50 | 3.409 | 52.638 | 51.959 |
| **1K + 214.86** | **DREN - 08** | 159.97 | 19.50 | 0.490 | **0.490** | 224.504 | 0.784 | 0.50 | 174.85 | **0.202** | **1.0** | 11.480 | **30** | 0.0300 | 4.41 | **2.012** | 10.05 | 21.50 | 64.19 | 2.832 | 52.992 | 52.647 |
| **1K + 420.09** | **DREN - 09** | 362.89 | 12.35 | 4.584 | **4.584** | 224.504 | 0.784 | 0.50 | 174.85 | **1.893** | **1.0** | 8.089 | **36** | 0.0200 | 4.07 | **2.671** | 70.86 | 62.20 | 108.56 | 4.415 | 45.486 | 45.325 |
| **1K + 570.95** | **DREN - 10** | 1,351.77 | 511.63 | 32.743 | **32.743** | 224.504 | 0.784 | 0.50 | 174.85 | **13.517** | **1.0** | 13.170 | **72** | 0.0250 | 7.22 | **18.961** | 71.29 | 62.41 | 108.67 | **7.844** | 44.761 | 44.432 |
| **1K + 689.39** | **DREN - 11** | 432.59 | 84.00 | 4.493 | **4.493** | 224.504 | 0.784 | 0.50 | 174.85 | **1.855** | **1.0** | 7.673 | **36** | 0.0200 | 4.07 | **2.671** | 69.45 | 61.35 | 108.09 | 4.396 | 46.175 | 46.022 |
| **1K + 807.16** | **DREN - 12** | 507.41 | 115.80 | 5.465 | **5.465** | 224.504 | 0.784 | 0.50 | 174.85 | **2.256** | **1.0** | 8.216 | **36** | 0.0275 | 4.77 | **3.132** | 72.04 | 62.94 | 108.90 | **5.194** | 49.738 | 79.512 |
| **2K + 041.77** | **DREN - 13** | 546.78 | 113.84 | 7.218 | **7.218** | 224.504 | 0.784 | 0.50 | 174.85 | **2.980** | **1.0** | 9.533 | **48** | 0.0250 | 5.51 | **6.431** | 46.33 | 47.93 | 98.28 | **5.414** | 50.726 | 50.488 |
| **2K + 174.64** | **DREN - 14A** | 1,713.04 | 503.98 | 38.825 | **38.825** | 224.504 | 0.784 | 0.50 | 174.85 | **16.028** | **2.0** | 16.373 | **60** | 0.0200 | 5.72 | **20.858** | 76.84 | 65.76 | 110.33 | **6.308** | 53.130 | 52.802 |
| **2K + 589.43** | **DREN - 19** | 128.37 | 86.88 | 0.996 | **0.996** | 224.504 | 0.784 | 0.50 | 174.85 | **0.411** | **1.0** | 12.662 | **48** | 0.0200 | 4.93 | **5.752** | 7.15 | 18.11 | 58.12 | 2.864 | 65.750 | 65.497 |
| **2K + 756.56** | **DREN - 20A** | 1,236.83 | 563.65 | 40.204 | **40.204** | 224.504 | 0.784 | 0.50 | 174.85 | **16.598** | **2.0** | 16.685 | **72** | 0.0300 | 7.91 | **41.541** | **39.96** | 44.01 | 94.57 | **7.478** | 70.459 | 69.959 |
| **CAMINO DE ACCESO A TANQUE DE ALMACENAMIENTO EN LAS TABLAS - C5** | | | | | | | | | | | | | | | | | | | | | | |
| **0K + 572.76** | **DREN - 01** | 209.88 | 605.00 | 14.997 | **14.997** | 224.504 | 0.784 | 0.50 | 174.85 | **6.191** | **1.0** | 11.764 | **60** | 0.0150 | 4.95 | **9.032** | **68.55** | 60.82 | 107.73 | **5.334** | 75.120 | 74.944 |
| **0K + 129.54** | **DREN - 02** | 209.88 | 605.00 | 5.075 | **5.075** | 224.504 | 0.784 | 0.50 | 174.85 | **2.095** | **1.0** | 10.168 | **36** | 0.0250 | 4.55 | **2.986** | **70.16** | 61.78 | 108.33 | **4.926** | 40.350 | 40.096 |

**NOTA GENERAL** LAS ESTRUCTURAS DE DRENAJE CORRESPONDIENTES A LAS ESTACIONES **0K+226.54**, **0K+374.43**, **2K+224.43**, **2K+2364.43**, **2+304.43**; PERTENECIENTES AL CAMINO DE ACCESO A LA OBRA DE TOMA C3, SU FUNCIONALIDAD ES DE TIPO ALIVIADERO O VASO COMUNICANTE, PERMITIENDO EL PASO DEL AGUA DE UN LADO A OTRO.

**ALCANTARILLAS DE CAJON TIPICO** 1008

**Hoja de Cálculos Hidráulicos del Alcantarillado Pluvial**

IDAAN — INSTITUTO DE ACUEDUCTOS Y ALCANTARILLADOS NACIONALES

n= 0.013
C= 85.00 %

Proyecto: SISTEMA DE AGUA POTABLE PARA LAS TABLAS - GUABITO
Localización: Provincia de Bocas del Toro
Diseñado por: Ing. Franklin Achú T.
Revisado por: Ing. Jaime Gutierrez

CONSORCIO PTAP LAS TABLAS

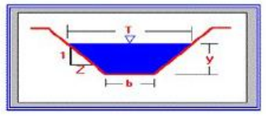
$i\ 50_{años} = a / (d + b)$ ( CUENCA CHANGUINOLA)

| Estacion | ID | Dimensionamiento Cajones 1,008 Ancho | | Alto | Tiempo de Concentr. Min Al Ext. Sup | En el Tubo | Area Ha | Area Acum Ha | Calculo Intensidad - Relación IDF T= 50 Años a mm | b Hr | d Hr | I 50 años mm/Hr | q $m^3/s$ | Datos del Cajon Yc m | Sh m2 | Pm m | L m | N c.u | S m/m | Tubo lleno V m/s | Q $m^3/s$ | Diseño q/Q % | d/D % | v/V % | v m/s | Datos de Elevaciones Cota Invertida Inicial | Final |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CAMINO DE ACCESO A PLANTA DE TRATAMIENTO DE AGUA POTABLE - SINOSTRE - SIBUBE - C1** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0K + 801.73 | DREN - 01 | CAJON 2.44 | x | 1.83 | 5.00 | 0.070 | 24.400 | 24.400 | 266.991 | 0.750 | 1.000 | 152.57 | 8.790 | 0.855 | 4.465 | 6.100 | 11.376 | 1 | 0.0075 | 2.705 | 24.160 | 36.38 | 46.72% | 155.73 | 4.213 | 31.596 | 31.510 |
| 0K + 914.13 | DREN - 2A | CAJON 3.05 | x | 2.44 | 5.00 | 0.045 | 125.200 | 125.200 | 266.991 | 0.750 | 1.000 | 152.57 | 45.100 | 1.602 | 7.442 | 7.930 | 13.932 | 2 | 0.0050 | 5.214 | 77.602 | 58.12 | 65.66% | 88.52 | 4.615 | 31.298 | 31.228 |
| **CAMINO DE ACCESO A LOS TANQUES DE ALMACENAMIENTO EN SIBUBE - C2** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0K + 441.83 | DREN - 005 | CAJON 2.44 | x | 1.83 | 5.00 | 0.117 | 43.607 | 43.607 | 266.991 | 0.750 | 1.000 | 152.57 | 15.708 | 1.428 | 4.465 | 6.100 | 17.029 | 1 | 0.0060 | 2.420 | 21.610 | 72.69 | 78.03% | 186.31 | 4.508 | 35.500 | 35.415 |
| **CAMINO DE ACCESO A TOMA DE AGUA - SIBUBE - C3** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0K + 819.08 | DREN - 04 | CAJON 2.44 | x | 2.44 | 5.00 | 0.029 | 278.565 | 278.565 | VER ANEXO No. 1A | | | | 59.450 | 1.887 | 5.954 | 7.320 | 12.089 | 2 | 0.0105 | 6.868 | 81.779 | 72.70 | 77.34% | 94.00 | 6.456 | 45.783 | 45.656 |
| 2K + 548.66 | DREN - 18 | CAJON 1.83 | x | 1.83 | 5.00 | 0.038 | 79.820 | 79.820 | 266.991 | 0.750 | 1.000 | 152.57 | 28.753 | 1.364 | 3.349 | 5.490 | 14.152 | 1 | 0.0500 | 6.186 | 41.431 | 69.40 | 74.54% | 186.22 | 11.519 | 65.131 | 64.420 |
| **CAMINO DE ACCESO A TANQUE DE LA MESA - C5** | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0K + 831.53 | DREN - 07 | CAJON 2.44 | x | 1.83 | 5.00 | 0.045 | 93.435 | 93.435 | 266.991 | 0.750 | 1.000 | 152.57 | 33.658 | 1.460 | 4.465 | 6.100 | 13.628 | 1 | 0.0260 | 5.037 | 44.984 | 74.82 | 79.78% | 187.57 | 9.448 | 14.200 | 14.064 |

*Nota: Se le aplicará aditivo para evitar el desgaste en el piso del cajon para velocidades mayores a 5.0 m/s

ANEXO No 1A

**CALCULO HIDRAULICO**




**ALCANTARILLA 0K+820.76**
**PROYECTO: ESTUDIO, DISEÑO, CONSTRUCCION, ACUED. DE CHANGUINOLA**
**PROV DE BOCAS DEL TORO**

*Fecha: 30 de ago de 2024*
*Cal por: Ing. Franklin Achú*
*Rev por: Ing. Jaime Gutierrez*

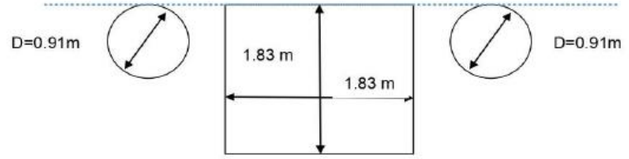
| | para AD < 250 racional (50anos) | para AD > 250, analisis Regional de Crecidas max.(100anos) |
|---|---|---|

**DATOS DE LA CUENCA :**

- AREA DE DRENAJE ..... AD= 278.57 Ha 2.78565
- Factor para zona 6 con Tr= 50 AÑOS ..... F = 2.32 P. RETORNO: 50 AÑOS km2
- CAUDAL MAX. PROMEDIO ..... Qmax =14*A^(0.59)= 25.62 m3/seg
- CAUDAL REQUERIDO (50 anos)..... $Q_R$= 59.45 m3/seg




VER ANEXO 2A

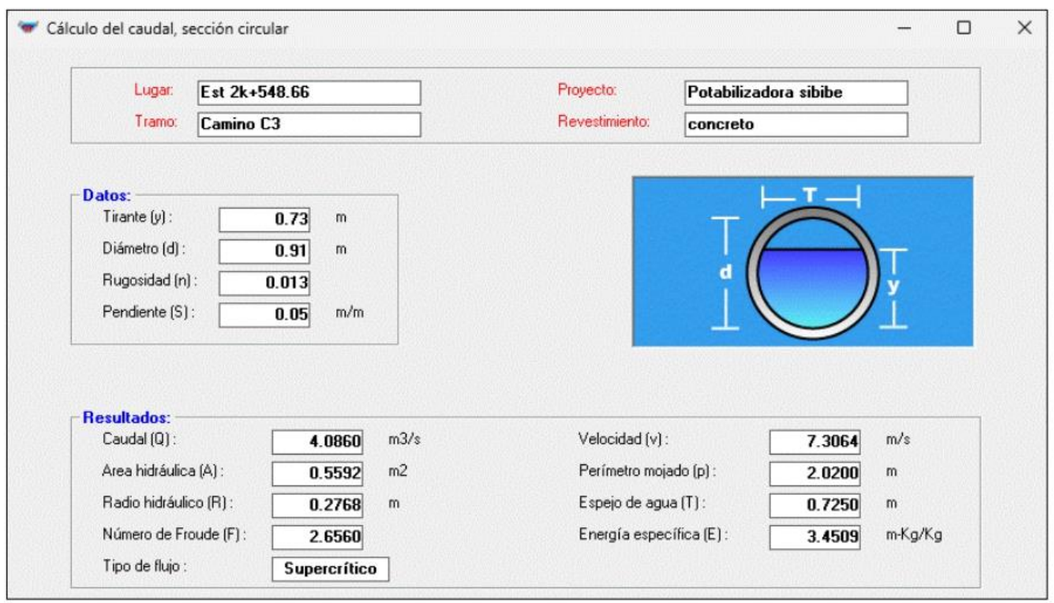



**CONCLUSION:**

LA CAPACIDAD DE LOS DOS (2) TUBOS DE 0.90 m DIAMETRO H.R ADICIONALES AL CAJON DE 1.83 X 183 m; REDUCE LA CAPACIDAD REQUERIDA POR EL CAJON Y CUMPLE LA RELACION DE d/D ≤ 80%

# CALCULO HIDRAULICO
# TUBOS COMPLEMENTARIOS A CAJON 2K+548.66

**ANEXO 2A**




**DATOS:**

- CAUDAL PARA (2) TUBOS .....q =8.172 m3/s
- AREA DE DRENAJE .....AD=22.68 HECTAREAS

En donde:

Q= CIA /360

A= (360*Q) / C*I

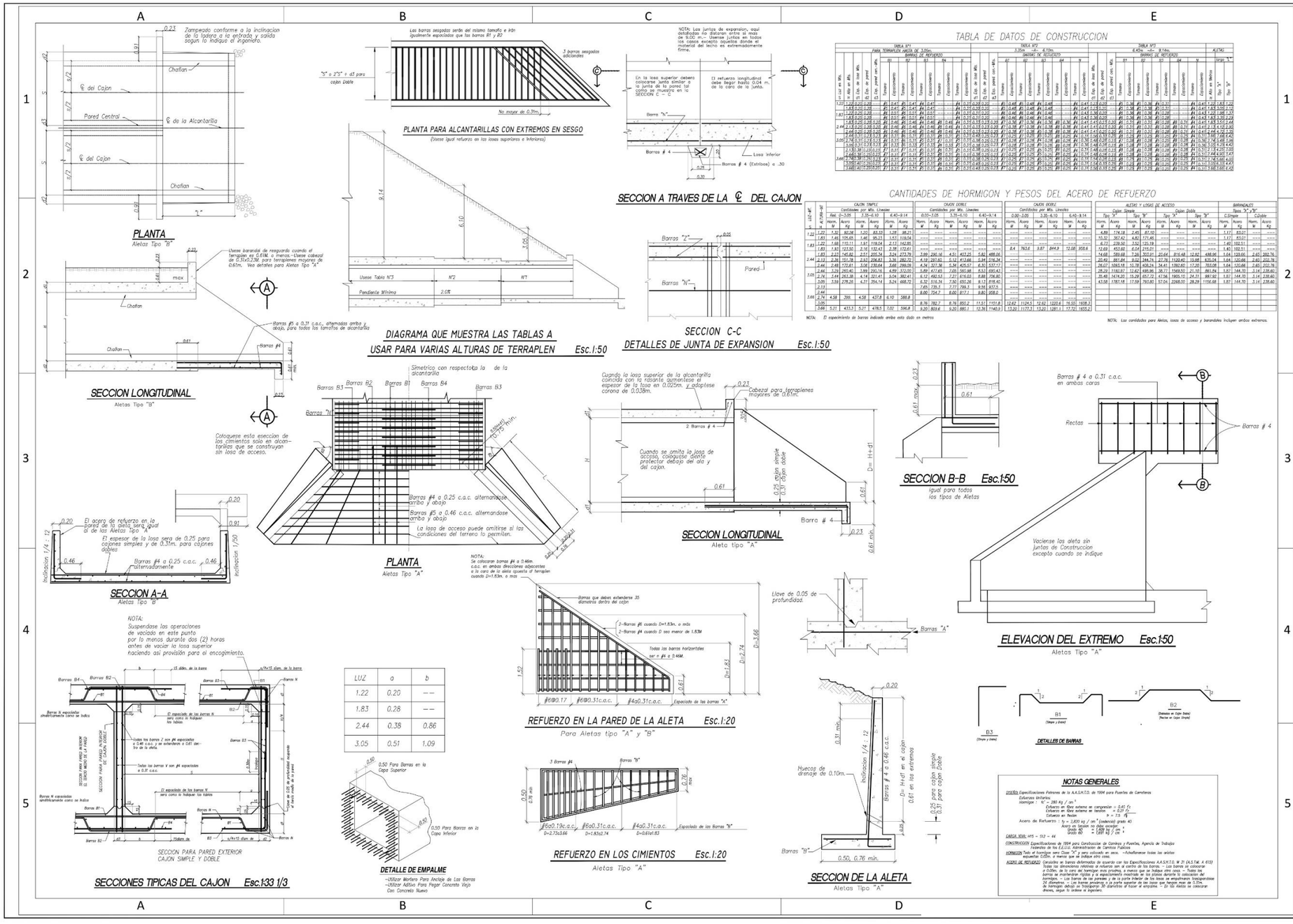
= (360*8.172 m3/s) / (0.85*152.57 mm/HR)

= 22.68 Ha

SE UTILIZARON LOS PARAMETROS DEL NUEVOMANUAL DEL MOP, SEGÚN LA RESOLUCION 067 DE 12 DE ABRIL DE 2021. Ver página 186 y 187 del nuevo manual del MOP

a= 266.991; b=0.75; d=1.0

# DETALLE TIPICO DE CAJON 1008 _ MOP




| LUZ | a | b |
|---|---|---|
| 1.22 | 0.20 | -- |
| 1.83 | 0.28 | -- |
| 2.44 | 0.38 | 0.86 |
| 3.05 | 0.51 | 1.09 |

REPÚBLICA DE PANAMÁ
— GOBIERNO NACIONAL —

INSTITUTO DE ACUEDUCTOS Y ALCANTARILLADOS NACIONALES

REPÚBLICA DE PANAMÁ
INSTITUTO DE ACUEDUCTOS Y ALCANTARILLADOS NACIONALES

"ESTUDIO, DISEÑO Y CONSTRUCCIÓN, OPERACIÓN - MANTENIMIENTO Y FINANCIAMIENTO DEL NUEVO SISTEMA DE AGUA POTABLE PARA LAS COMUNIDADES DE LAS TABLAS, LA MESA, GUABITO, DISTRITO DE CHANGUINOLA"

PROVINCIA DE BOCAS DEL TORO
CONTRATO
**N°2-2023**

IDAAN

APROBADO

DIRECTOR DE INGENIERÍA

DIRECTOR DE EJECUTIVO

CONSORCIO LAS TABLAS

| No. REV. | DESCRIPCIÓN | FECHA | POR |
|---|---|---|---|
| | | | |

| | |
|---|---|
| ESCALA: INDICADA | FECHA: 5-abr.-24 |
| DISEÑO: CONSORCIO LAS TABLAS | DIBUJO: CONSORCIO LAS TABLAS |
| REVISADO: CONSORCIO LAS TABLAS | APROBADO: |
| PREPARADO: CONSORCIO LAS TABLAS | |

SEGÚN LEY 15 DE 1994, ESTE PLANO ES PROPIEDAD INTELECTUAL DE CONSORCIO LAS TABLAS Y SE PROHIBE SU REPRODUCCIÓN TOTAL O PARCIAL ASÍ COMO EL USO DE CONTENIDOS SIN PREVIO CONSENTIMIENTO POR ESCRITO DE SU AUTOR.

TÍTULO: SISTEMA DE AGUA POTABLE LAS TABLAS - GUABITO
CAMINOS DE ACCESO
**DETALLE DE CAJON PLUVIAL - 1008**
DIMENSIONES Y DETALLES ESTRUCTURALES

**749 - 800 - 880 - DT - 001** | HOJA: 001 DE:

# 3 CONCLUSIONES.

El sistema pluvial para los caminos del proyecto de la nueva Potabilizadora de Sibube cumple con el caudal requerido para una intensidad de 20 años, para tubos y 50 años para cajones pluviales estos drenajes se encuentran ubicada en la cuenca Atlántica, para lo cual utilizamos lo indicado en el manual de aprobación de planos del Ministerio de Obras Pública.

# 4 REFERENCIAS

Manual de Aprobaciones de planos del MOP 2021

Chow, Ven Te, David R. Maidment, and Larry W. Mays. 1988. Applied Hydrology. McGraw-Hill.

Lineamientos Técnicos para Factibilidades, SIAPA, capitulo 3, Alcantarillado Pluvial.

**BIBLIOGRAFIA**

**INTRODUCCION A LA HIDROLOGIA URBANA**

DANIEL FRANCISCO CAMPOS ARANDA

Profesor Jubilado de la UASLP

**LOS SISTEMAS URBANOS DE DRENAJE SOSTENIBLE: UNA ALTERNATIVA A LA GESTIÓN DEL AGUA DE LLUVIA.**

SARA PERALES MOMPARLER

PMEnginyeria, Valencia, España.

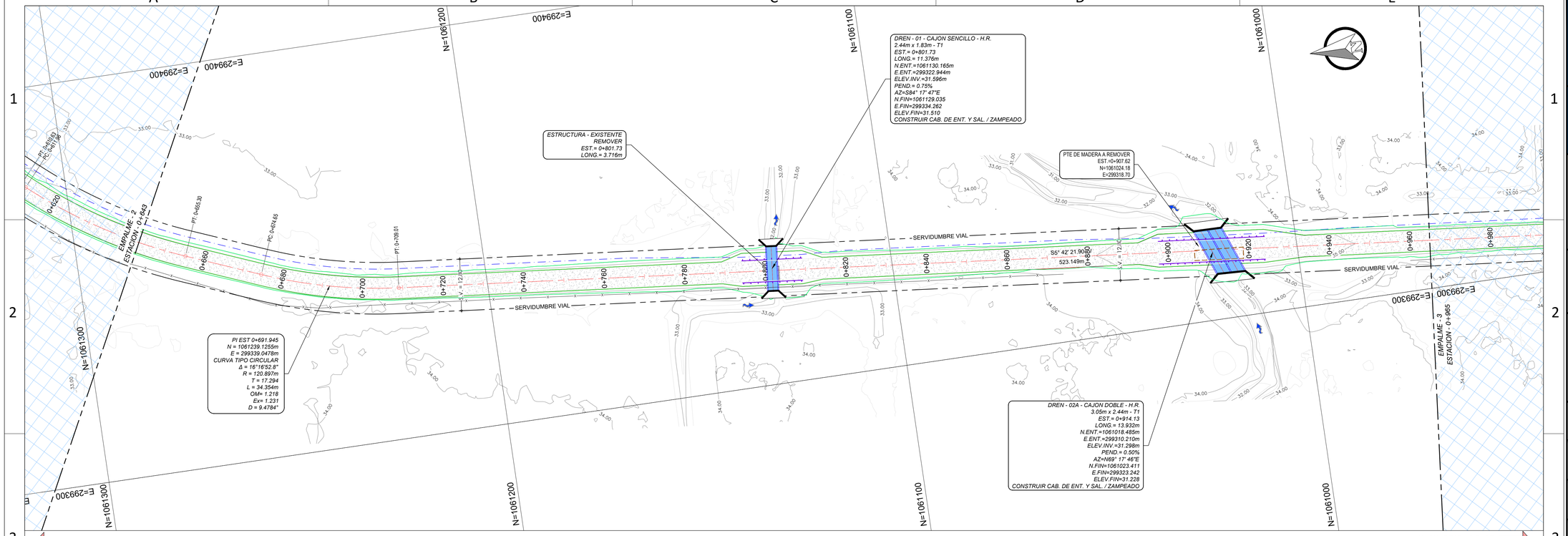
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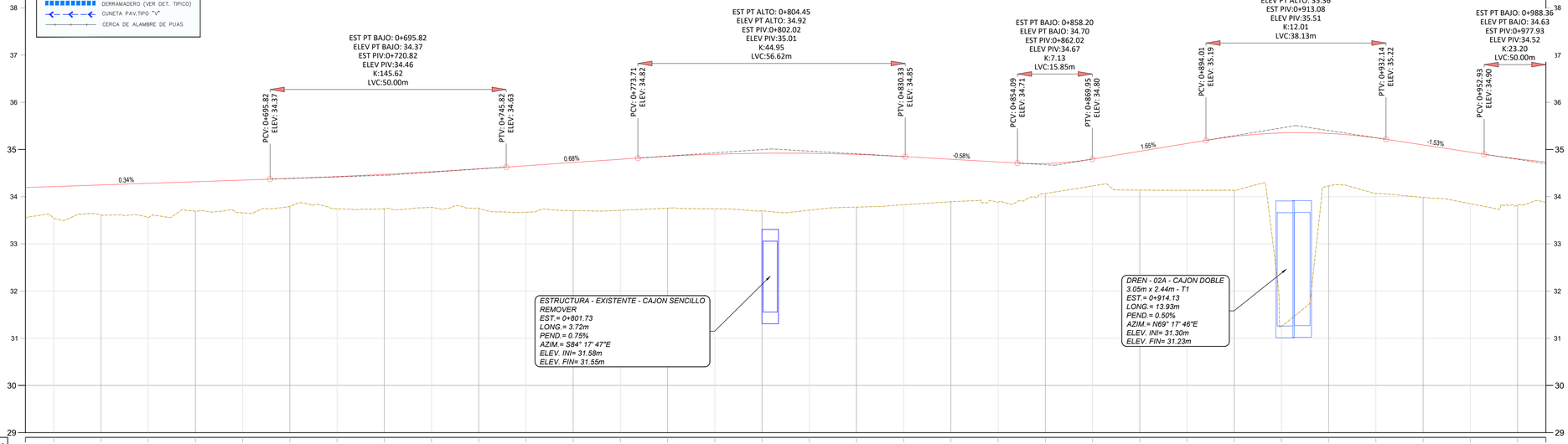
Dep. Ing. Hidráulica y Medio Ambiente. Universidad Politécnica de Valencia, España.

**Manual de Alcantarillado Pluvial CNA**

Subdirección general Técnica Gerencia de Ingeniería Básica y Normas Técnicas

**Ver Anexo N°6. Ubicación de los cajones pluviales.**

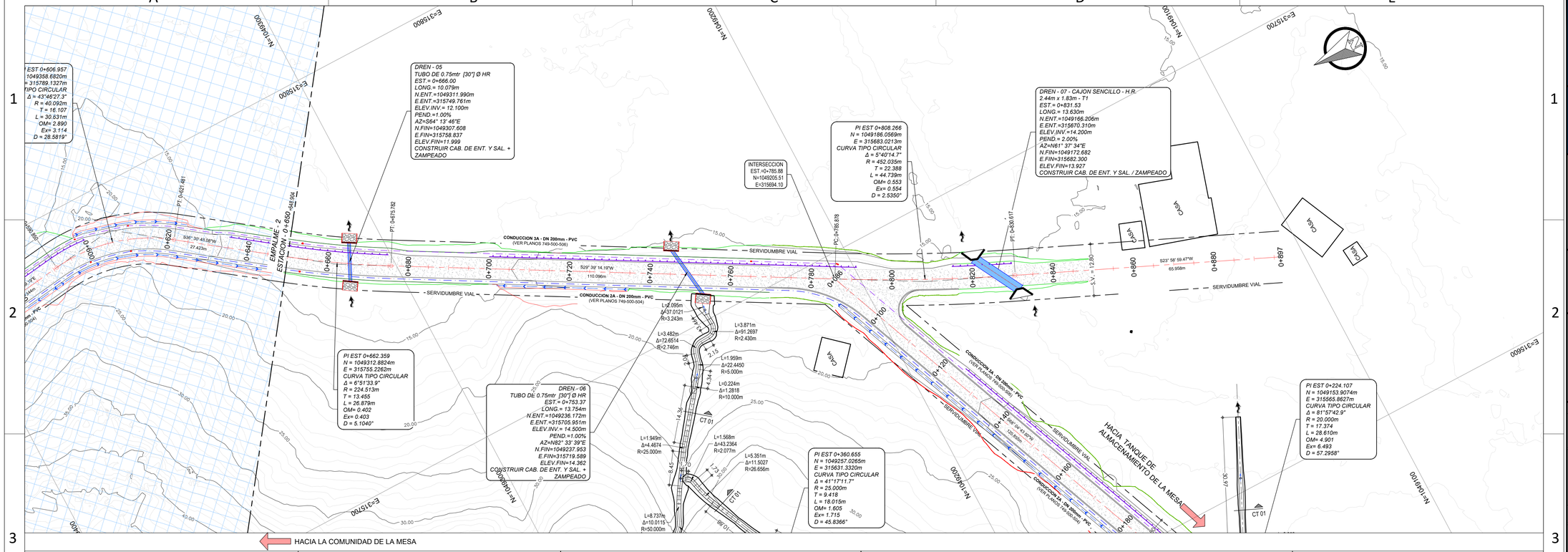



SIMBOLOGIA

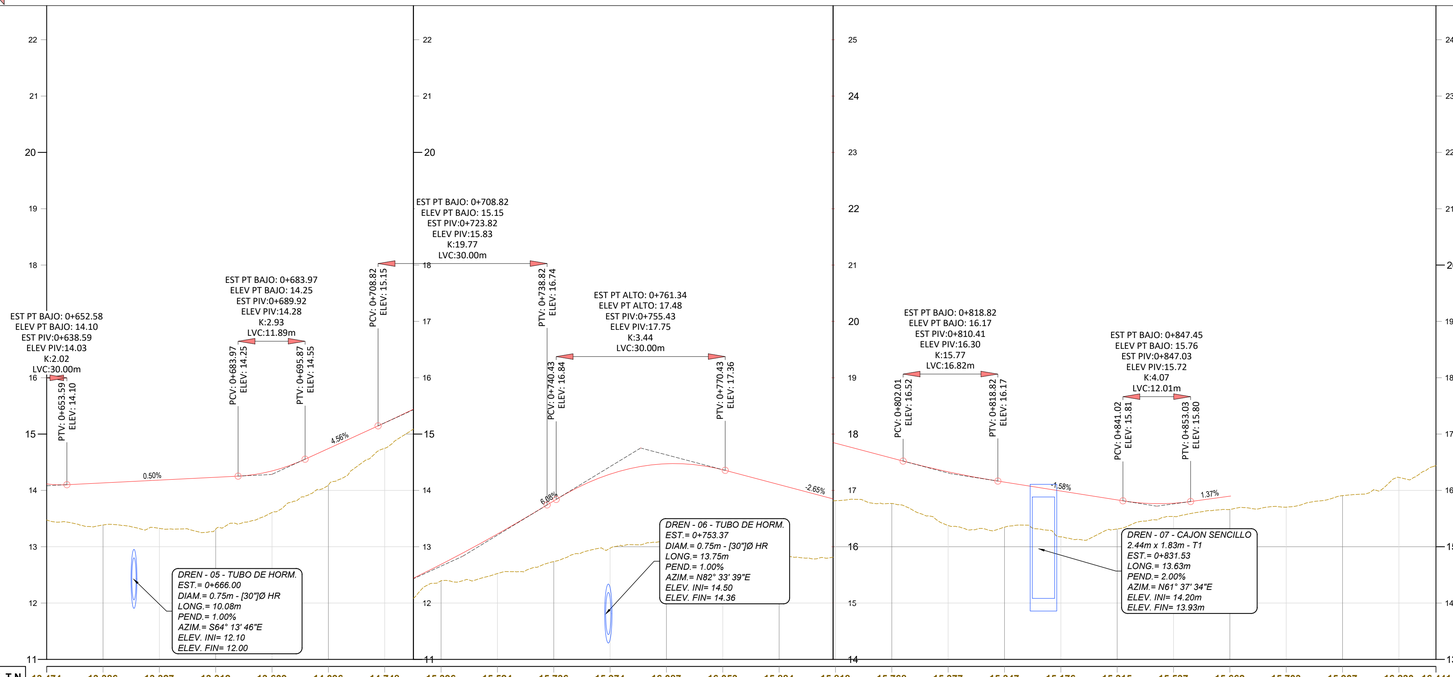
- PROYECCION DE CALLE
- CONTRACUNETA
- SERVIDUMBRE VIA – L=12.80m
- ADUCCION DN 400mm – PEAD
- SENTIDO DEL FLUJO
- BANQUETA
- BARRERA GUARDA VIAS TL–4
- PROYECCION DE TALUD EN CORTE
- PROYECCION DE TALUD EN RELLENO
- DERRAMADERO (VER DET. TIPICO)
- CUNETA PAV.TIPO "V"
- CERCA DE ALAMBRE DE PUAS

| | | |




SIMBOLOGIA

- PROYECCION DE CALLE
- CONTRACUNETA
- SERVIDUMBRE VIA – L=12.80m
- CONDUCCION 2A DN 200mm – PVC
- CONDUCCION 3A DN 200mm – PVC
- SENTIDO DEL FLUJO
- BANQUETA
- BARRERA GUARDA VIAS TL – 4
- PROYECCION DE TALUD EN CORTE
- PROYECCION DE TALUD EN RELLENO
- DERRAMADERO (VER DET. TIPICO)
- CUNETA PAV.TIPO "V"




| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ELEV. T.N. | 13.474 | 13.386 | 13.327 | 13.312 | 13.609 | 14.096 | 14.748 | 15.396 | 15.524 | 15.736 | 15.974 | 16.087 | 16.053 | 15.884 | 15.818 | 15.768 | 15.377 | 15.347 | 15.176 | 15.315 | 15.537 | 15.662 | 15.703 | 15.907 | 16.230 | 16.441 | | |
| RAS. CALLE | 14.115 | 14.133 | 14.183 | 14.233 | 14.345 | 14.743 | 15.199 | 15.687 | 16.226 | 16.814 | 17.289 | 17.473 | 17.367 | 17.102 | 16.838 | 16.573 | 16.329 | 16.147 | 15.989 | 15.831 | 15.772 | 15.898 | | | | | | |
| ESTACION | 0+650 | 0+660 | 0+670 | 0+680 | 0+690 | 0+700 | 0+710 | 0+720 | 0+730 | 0+740 | 0+750 | 0+760 | 0+770 | 0+780 | 0+790 | 0+800 | 0+810 | 0+820 | 0+830 | 0+840 | 0+850 | 0+860 | 0+870 | 0+880 | 0+890 | 0+896.57 | | |

ESCALA
HOR.: 1/500
VER.: 1/50

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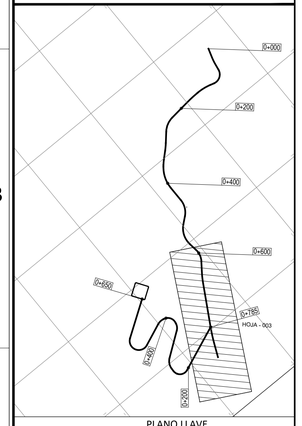
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CONTRATO
**N°2-2023**

IDAAN

APROBADO

DIRECTOR NACIONAL DE INGENIERÍA

JEFE DE ESTUDIO Y DISEÑO




PLANO LLAVE

**NOTAS GENERALES**
1. TODAS LAS DIMENSIONES SON EN METROS
2. DATUM ESTABLECIDO UTM-WGS 1984 datum, Zone 17 North, Meter; Cent. Meridian 81d W
3. EN TODOS LOS TALUDES EXPUESTOS POR LOS TRABAJOS, SE DEBERAN IMPLEMENTAR TECNICAS PARA EL CONTROL DE EROSIÓN Y ESTABILIDAD

CONSORCIO LAS TABLAS

| No. REV | DESCRIPCIÓN | FECHA | POR |
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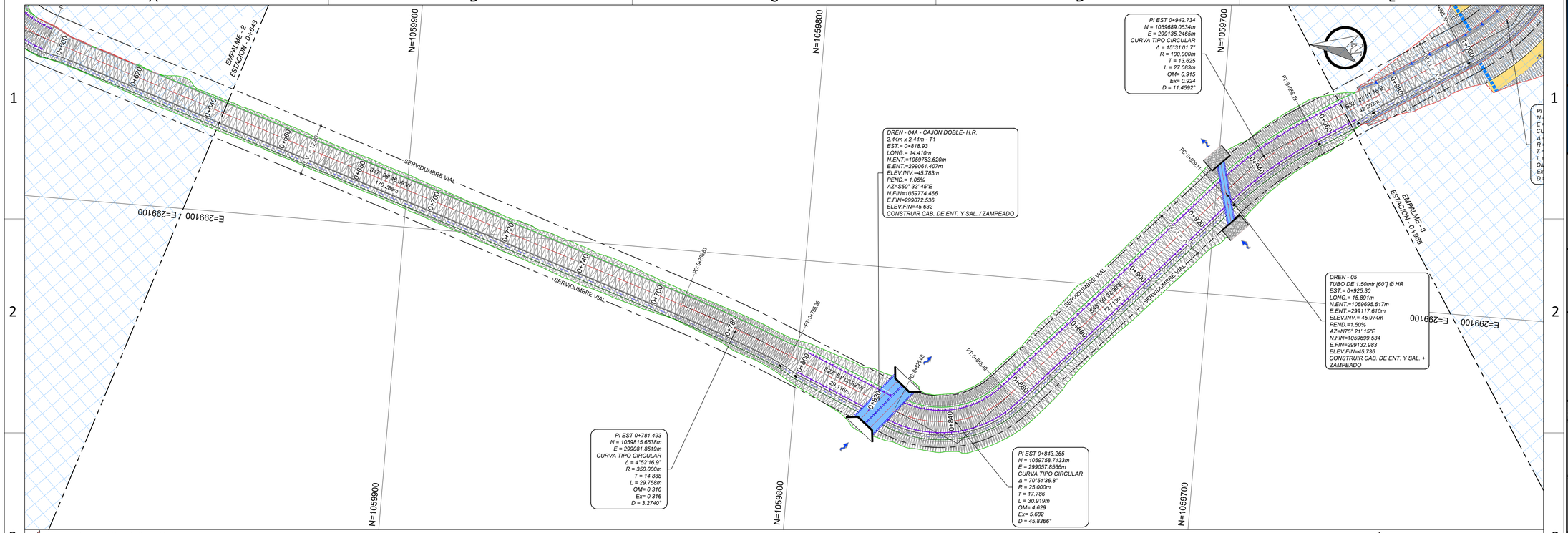
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|---|---|
| ESCALA: INDICADA | FECHA: 14-nov.-24 |
| DISEÑO: CONSORCIO LAS TABLAS | DIBUJO: CONSORCIO LAS TABLAS |
| REVISADO: CONSORCIO LAS TABLAS | APROBADO: |
| PREPARADO: CONSORCIO LAS TABLAS | |

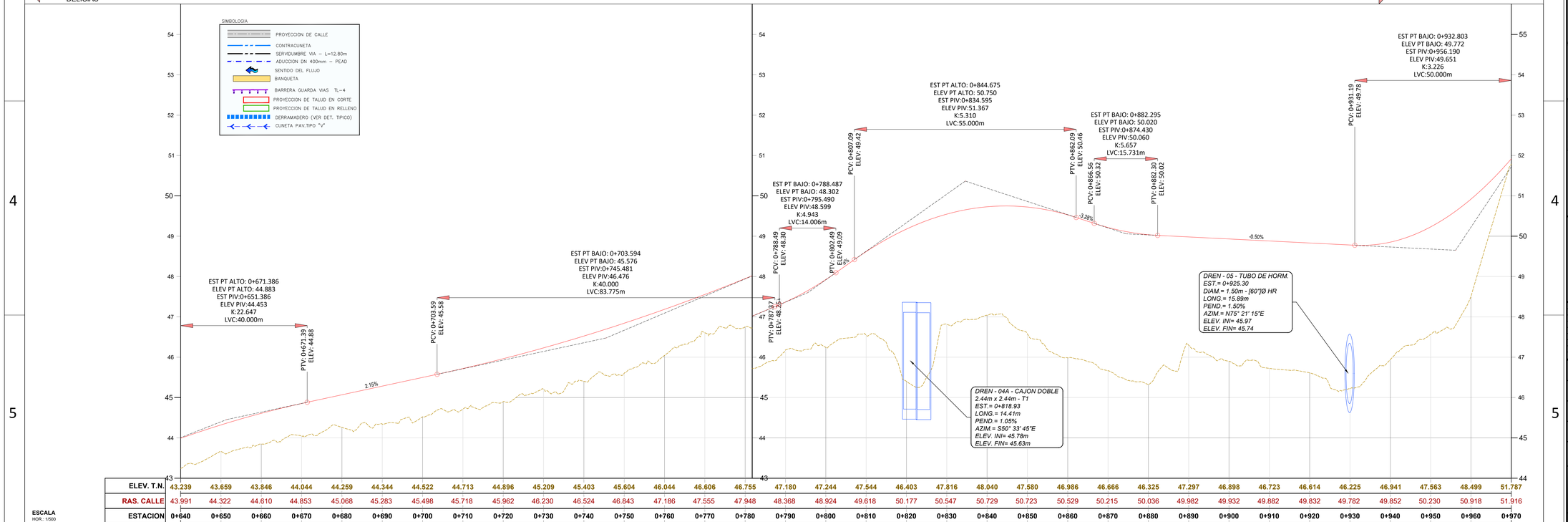
SEGÚN LEY 15 DE 1994, ESTE PLANO ES PROPIEDAD INTELECTUAL DE CONSORCIO LAS TABLAS Y SE PROHIBE SU REPRODUCCIÓN TOTAL O PARCIAL ASÍ COMO EL USO DE CONTENIDO SIN PREVIO CONSENTIMIENTO POR ESCRITO DE SU AUTOR.

TÍTULO: SISTEMA DE AGUA POTABLE LAS TABLAS - GUABITO
OBRAS COMPLEMENTARIAS
**C5 - ACCESO VIA LA MESA**

0+650.00 @ 0+896.57

| | | |
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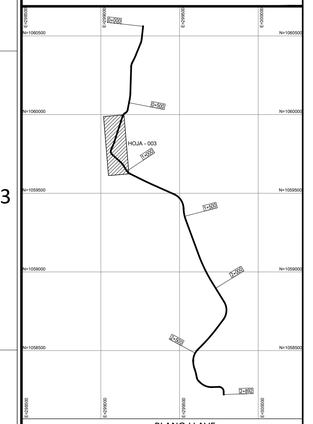
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**N°2-2023**

IDAAN

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DIRECTOR NACIONAL DE INGENIERÍA

JEFE DE ESTUDIO Y DISEÑO




PLANO LLAVE

**NOTAS GENERALES**

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2. DATUM ESTABLECIDO UTM-WGS 1984 datum, Zone 17 North, Meter; Cent. Meridian 81d W
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CONSORCIO LAS TABLAS

| No. REV. | DESCRIPCIÓN | FECHA | POR |
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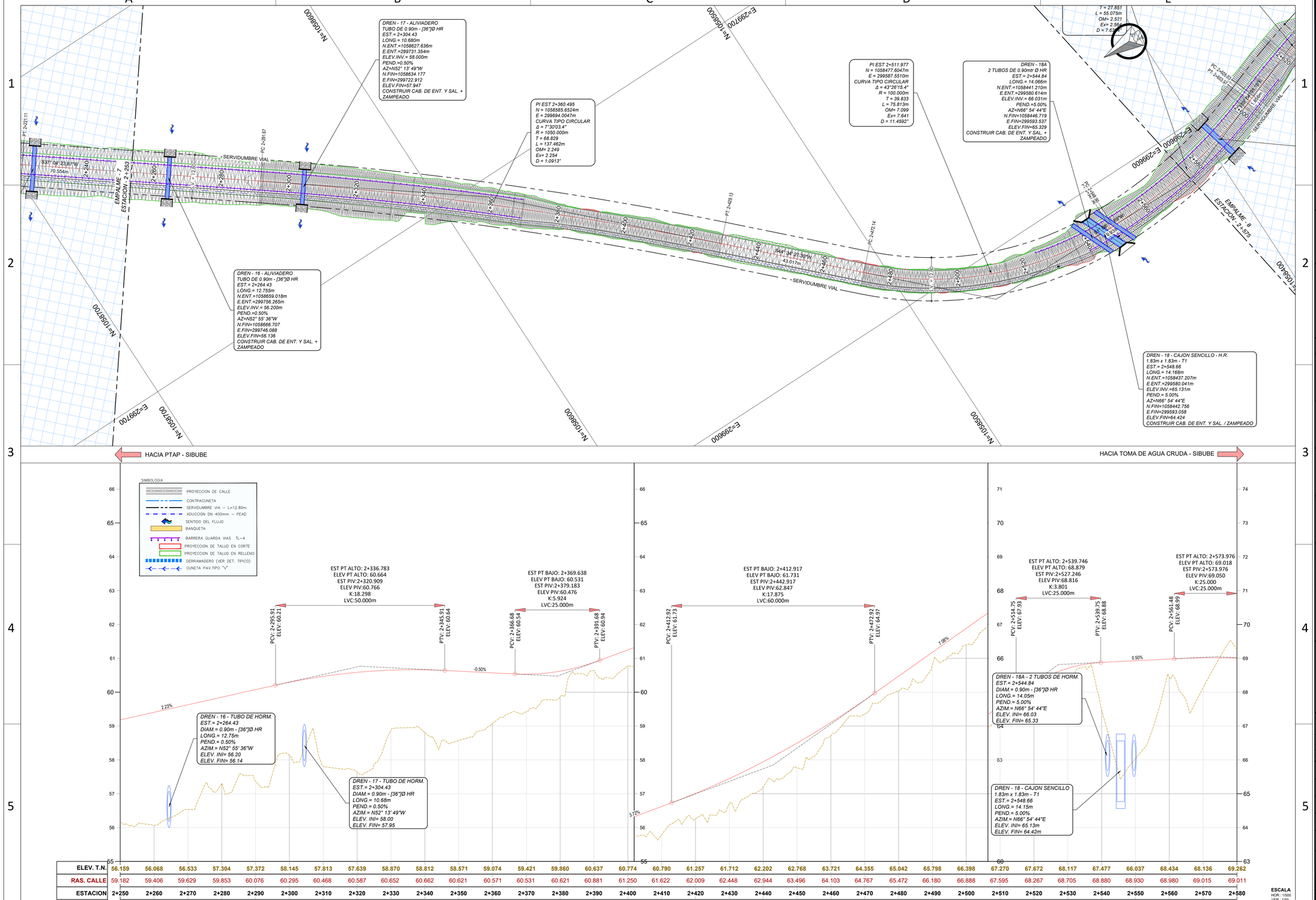
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|---|---|
| ESCALA: INDICADA | FECHA: 14-nov.-24 |
| DISEÑO: CONSORCIO LAS TABLAS | DIBUJO: CONSORCIO LAS TABLAS |
| REVISADO: CONSORCIO LAS TABLAS | APROBADO: |
| PREPARADO: CONSORCIO LAS TABLAS | |

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TÍTULO: SISTEMA DE AGUA POTABLE LAS TABLAS - GUABITO
CAMINOS DE ACCESO
**C3 - ACCESO A TOMA DE AGUA CRUDA SIBUBE**

0+644.00 @ 0+966.00

| | |
|---|---|
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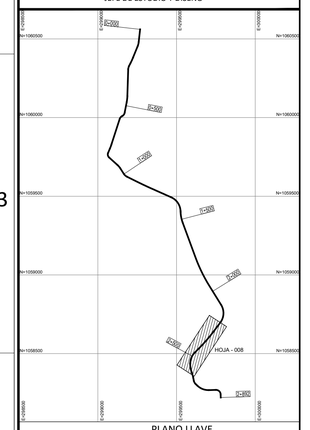
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APROBADO

DIRECTOR NACIONAL DE INGENIERÍA

JEFE DE ESTUDIO Y DISEÑO




PLANO LLAVE

**NOTAS GENERALES**
1. TODAS LAS DIMENSIONES SON EN METROS
2. DATUM ESTABLECIDO UTM-WGS 1984 datum, Zone 17 North, Meter, Cent. Meridian 81d W
3. EN TODOS LOS TALUDES EXPUESTOS POR LOS TRABAJOS, SE DEBERAN IMPLEMENTAR TÉCNICAS PARA EL CONTROL DE EROSIÓN Y ESTABILIDAD

CONSORCIO LAS TABLAS

| No. REV | DESCRIPCIÓN | FECHA | POR |
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| ESCALA: INDICADA | FECHA: 14-nov.-24 |
| DISEÑO: CONSORCIO LAS TABLAS | DIBUJO: CONSORCIO LAS TABLAS |
| REVISADO: CONSORCIO LAS TABLAS | APROBADO: |
| PREPARADO: CONSORCIO LAS TABLAS | |

SEGÚN LEY 15 DE 1994, ESTE PLANO ES PROPIEDAD INTELECTUAL DE CONSORCIO LAS TABLAS Y SE PROHIBE SU REPRODUCCIÓN TOTAL O PARCIAL ASÍ COMO EL USO DE CONTENIDO SIN PREVIO CONSENTIMIENTO POR ESCRITO DE SU AUTOR.

TÍTULO: SISTEMA DE AGUA POTABLE LAS TABLAS - GUABITO
CAMINOS DE ACCESO
**C3 - ACCESO A TOMA DE AGUA CRUDA SIBUBE**

2+254.00 @ 2+576.00

| | | |
|---|---|---|
| **749 - 800 - 830 - PP - 008** | HOJA: 008 | DE: |

## Anexo N°7. Resultados de Monitoreo de Calidad de Aire.

EnvirLAB *Laboratorio Ambiental y de Higiene Ocupacional*

Urbanización Chanis, Local 145, Edificio J3
Teléfono: 323-7520
admnistracion@envirolabonline.com
www.envirolabonline.com

# Informe de Ensayo de Calidad de Aire Ambiental
## (24 Horas)

# Estudio, Diseño, Construcción, Operación, Mantenimiento y Financiamiento del Nuevo Sistema de Agua Potable para las Comunidades de las Tablas, La Mesa, Guabito, Distrito de Changuinola, Provincia de Bocas del Toro

| | |
|---|---|
| **FECHA DE LA MEDICIÓN:** | 05 al 06 de noviembre de 2024 |
| **TIPO DE ESTUDIO:** | Ambiental |
| **CLASIFICACIÓN:** | Línea Base |
| **NÚMERO DE INFORME:** | 2024-CH-018-B054 |
| **NÚMERO DE PROPUESTA:** | 2024-B054-CH-014 |
| **REDACTADO POR:** | Ing. Fátima Guerra |
| **REVISADO POR:** | Ing. Juan Icaza |





Derechos Reservados -2024

## Contenido

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| Sección 2: Método de medición | 3 |
| Sección 3: Resultado de la medición | 4 |
| Sección 4: Conclusión | 5 |
| Sección 5: Equipo técnico | 5 |
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| ANEXO 2: Certificado de calibración | 7 |
| ANEXO 3: Fotografía de la medición | 8 |



Editado e Impreso por: EnviroLab, S.A
Derechos Reservados -2024

| **Sección 1: Datos generales de la empresa** | | | | |
|---|---|---|---|---|
| **Nombre** | Instituto De Acueductos y Alcantarillados Nacionales | | | |
| **Actividad principal** | Construcción | | | |
| **Ubicación** | Distrito de Changuinola, Provincia de Bocas del Toro | | | |
| **País** | Panamá | | | |
| **Contraparte técnica** | Carlos Montenegro | | | |
| **Sección 2: Método de medición** | | | | |
| **Norma aplicable** | Resolución No. 021 de 24 de enero del 2023 por la cual se adoptan como valores de referencia de calidad de aire para todo el territorio nacional, los niveles recomendados en las Guías Global de Calidad del Aire (GCA) 2021 de la Organización Mundial de la Salud y se establece los métodos de muestreo para la vigilancia del cumplimiento de esta norma. | | | |
| **Método** | Medición con instrumento de lectura directa por sensores electroquímicos. | | | |
| **Horario de la medición** | 24 horas para $SO_2$, $NO_2$, PM-10, $CO_2$ y CO (ver sección de resultados) | | | |
| **Instrumentos utilizados** | Medidor de emisiones de gases en tiempo real a través de sensores electroquímicos: EPAS, número de serie 919228. | | | |
| **Resolución del instrumento** | $NO_2$= 0,1 ppb (0,2 µg /$m^3$)<br>$SO_2$= <0,2 ppb (0,5 µg /$m^3$)<br>PM-10= ±3 µg /$m^3$<br>CO= <1,5 ppm (1 717,79 µg/$m^3$)<br>$CO_2$= 0 – 2 500 ppm (0 – 4 498 977,51 µg /$m^3$) | | | |
| **Rango de medición** | $NO_2$= 0 – 5 000 ppb (0 – 9 409 µg/$m^3$)<br>$SO_2$= 0 – 5 000 ppb (0 – 13 102,2 µg/$m^3$)<br>PM-10= 0,1 – 20 000 µg/$m^3$<br>CO= 0 – 100 ppm (0 – 114 519,43 µg/$m^3$)<br>$CO_2$= 0 – 5 000 ppm (0 – 8 997 955,01 µg/$m^3$) | | | |
| **Vigencia de calibración** | Ver anexo 2 | | | |
| **Límites máximos (Resolución No. 021 del 24 de enero del 2023)** | **Dióxido de nitrógeno ($NO_2$),** µg/$m^3$N | 1 hora- 200 | 24 horas- 25 | Anual-10 |
| | **Dióxido de azufre ($SO_2$),** µg/$m^3$N | 10 minutos- 500 | 24 horas- 40 | |
| | **Material Particulado (PM-10),** µg/$m^3$N | 24 horas – 75 | Anual – 30 | |
| | **Monóxido de Carbono (CO)** µg/$m^3$N | 1 hora-35 000 | 24 horas - 4 000 | |
| | **Dióxido de carbono ($CO_2$)** | No tiene límite de referencia (Parte ambiental). | | |
| **Procedimiento técnico** | PT-08 Muestreo y Registro de Datos | | | |


Derechos Reservados -2024

## Sección 3: Resultado de la medición

| Monitoreo de emisiones ambientales | | |
|---|---|---|
| **Punto 1: Planta Potabilizadora de Sibube** | **Coordenadas: UTM (WGS 84) Zona 17 P** | **299257 m E 1060626 m N** |

| **Parámetros muestreados** | **Temperatura ambiental** (°C) | **Humedad relativa** (%) |
|---|---|---|
| | 26,8 | 84,0 |
| **Observaciones:** | Ninguna. | |

| **Horario de monitoreo (24 horas)** | **Concentraciones para parámetros muestreados, promediado a 24 horas** | | | | |
|---|---|---|---|---|---|
| **Hora de inicio:** | **$NO_2$ ($\mu g/m^3$)** | **$SO_2$ ($\mu g/m^3$)** | **PM-10 ($\mu g/m^3$)** | **CO ($\mu g/m^3$)** | **$CO_2$ (ppm)** |
| 12:00 p. m. - 1:00 p. m. | 3,8 | <2,6 | 2,0 | <1,1 | 382,0 |
| 1:00 p. m. - 2:00 p. m. | 3,8 | <2,6 | 42,0 | <1,1 | 384,0 |
| 2:00 p. m. - 3:00 p. m. | 3,8 | <2,6 | 4,0 | <1,1 | 400,0 |
| 3:00 p. m. - 4:00 p. m. | 3,8 | <2,6 | 7,0 | <1,1 | 390,0 |
| 4:00 p. m. - 5:00 p. m. | 13,2 | <2,6 | 5,0 | <1,1 | 385,0 |
| 5:00 p. m. - 6:00 p. m. | 20,7 | <2,6 | 25,0 | <1,1 | 393,0 |
| 6:00 p. m. - 7:00 p. m. | 16,9 | <2,6 | 38,0 | <1,1 | 396,0 |
| 7:00 p. m. - 8:00 p. m. | 26,3 | <2,6 | 13,0 | <1,1 | 394,0 |
| 8:00 p. m. - 9:00 p. m. | 26,3 | <2,6 | 12,0 | <1,1 | 382,0 |
| 9:00 p. m. - 10:00 p. m. | 22,6 | <2,6 | 11,0 | <1,1 | 405,0 |
| 10:00 p. m. - 11:00 p. m. | 26,3 | <2,6 | 11,0 | <1,1 | 393,0 |
| 11:00 p. m. - 12:00 a. m. | 22,6 | <2,6 | 41,0 | <1,1 | 414,0 |
| 12:00 a. m. - 1:00 a. m. | 24,5 | <2,6 | 2,0 | <1,1 | 517,0 |
| 1:00 a. m. - 2:00 a. m. | 13,2 | <2,6 | 2,0 | <1,1 | 392,0 |
| 2:00 a. m. - 3:00 a. m. | 24,5 | <2,6 | 14,0 | <1,1 | 367,0 |
| 3:00 a. m. - 4:00 a. m. | 30,1 | <2,6 | 14,0 | <1,1 | 527,0 |
| 4:00 a. m. - 5:00 a. m. | 30,1 | <2,6 | 15,0 | <1,1 | 382,0 |
| 5:00 a. m. - 6:00 a. m. | 3,8 | <2,6 | 2,0 | <1,1 | 390,0 |
| 6:00 a. m. - 7:00 a. m. | 3,8 | <2,6 | 2,0 | <1,1 | 393,0 |
| 7:00 a. m. - 8:00 a. m. | 26,3 | <2,6 | 7,0 | <1,1 | 401,0 |
| 8:00 a. m. - 9:00 a. m. | 13,2 | <2,6 | 12,0 | <1,1 | 362,0 |
| 9:00 a. m. - 10:00 a. m. | 20,7 | <2,6 | 15,0 | <1,1 | 382,0 |
| 10:00 a. m. - 11:00 a. m. | 3,8 | <2,6 | 14,0 | <1,1 | 394,0 |
| 11:00 a. m. - 12:00 p. m. | 3,8 | <2,6 | 15,0 | <1,1 | 412,0 |
| **Promedio en 24 horas** | 16,1 | <2,6 | 13,5 | <1,1 | 401,5 |


Derechos Reservados -2024

## Sección 4: Conclusión

1. Se realizaron monitoreos de calidad de aire para identificar los niveles existentes en una (1) área: Planta Potabilizadora de Sibube

2. Los parámetros monitoreados son: Dióxido de azufre ($SO_2$), dióxido de nitrógeno (NO2), monóxido de carbono (CO), material particulado (PM-10) y Dióxido de carbono ($CO_2$)Los límites se detallan en la página 3, sección 2 (límites máximos).

    1. Los resultados obtenidos para dióxido de azufre ($SO_2$), se encuentran por debajo del promedio 24 horas de los límites establecidos en la Resolución No. 021 del 24 de enero de 2024. Comparando los resultados obtenidos de este parámetro, se encuentra por debajo del promedio permitido por la norma en 10 minutos, durante el periodo de lectura del instrumento y bajo las condiciones ambientales en la fecha de medición (ver anexo 1).

    2. Los resultados obtenidos para dióxido de nitrógeno ($NO_2$), se encuentran por debajo del promedio anual de los límites establecidos en la Resolución No. 021 del 24 de enero de 2024. Comparando los resultados obtenidos de este parámetro, se encuentra por debajo del promedio permitido por la norma en una hora, durante el periodo de lectura del instrumento y bajo las condiciones ambientales en la fecha de medición (ver anexo 1).

    3. Los resultados obtenidos para monóxido de carbono (CO), se encuentran por debajo del promedio en 8 horas, de los límites establecidos en la Resolución No. 021 del 24 de enero de 2024. Comparando los resultados obtenidos de este parámetro, se encuentra por debajo del promedio permitido por la norma en 1 hora, durante el periodo de lectura del instrumento y bajo las condiciones ambientales en la fecha de medición (ver anexo 1).

    4. Los resultados obtenidos para el material particulado (PM-10), se encuentran por debajo del promedio anual, de los límites establecidos en la Resolución No. 021 del 24 de enero de 2024. Comparando los resultados obtenidos de este parámetro, se encuentran por debajo del promedio permitido por la norma en 24 horas, durante el periodo de lectura del instrumento y bajo las condiciones ambientales en la fecha de medición (ver anexo 1).

    5. Los resultados obtenidos para dióxido de carbono ($CO_2$) en el punto es de 401.5 ppm, sin embargo, en la Resolución No. 021 de 24 de enero de 2024 no existe un límite de referencia para este parámetro.

## Sección 5: Equipo técnico

| Nombre | Cargo | Identificación |
|---|---|---|
| Silverio Guerra | Técnico de Campo | 4-801-565 |


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# ANEXO 1: Condiciones meteorológicas de la medición

| 05 al 06 de noviembre de 2024 | | |
|---|---|---|
| **Punto 1: Planta Potabilizadora de Sibube** | | |
| **Horario** <br> **Hora de inicio:** 12:00 p.m. | **Temperatura (°C)** | **Humedad Relativa (%)** |
| 12:00 p. m. - 1:00 p. m. | 28.2 | 66.5 |
| 1:00 p. m. - 2:00 p. m. | 30.9 | 74.1 |
| 2:00 p. m. - 3:00 p. m. | 31.0 | 79.0 |
| 3:00 p. m. - 4:00 p. m. | 29.2 | 85.0 |
| 4:00 p. m. - 5:00 p. m. | 27.8 | 95.0 |
| 5:00 p. m. - 6:00 p. m. | 26.7 | 93.0 |
| 6:00 p. m. - 7:00 p. m. | 26.5 | 89.0 |
| 7:00 p. m. - 8:00 p. m. | 26.1 | 88.9 |
| 8:00 p. m. - 9:00 p. m. | 25.8 | 91.3 |
| 9:00 p. m. - 10:00 p. m. | 25.8 | 92.1 |
| 10:00 p. m. - 11:00 p. m. | 25.5 | 90.8 |
| 11:00 p. m. - 12:00 a. m. | 25.3 | 92.7 |
| 12:00 a. m. - 1:00 a. m. | 24.9 | 92.8 |
| 1:00 a. m. - 2:00 a. m. | 24.8 | 93.4 |
| 2:00 a. m. - 3:00 a. m. | 24.6 | 94.1 |
| 3:00 a. m. - 4:00 a. m. | 24.1 | 93.1 |
| 4:00 a. m. - 5:00 a. m. | 24.4 | 91.0 |
| 5:00 a. m. - 6:00 a. m. | 25.0 | 83.5 |
| 6:00 a. m. - 7:00 a. m. | 25.6 | 81.0 |
| 7:00 a. m. - 8:00 a. m. | 26.7 | 78.7 |
| 8:00 a. m. - 9:00 a. m. | 27.8 | 73.6 |
| 9:00 a. m. - 10:00 a. m. | 28.2 | 69.0 |
| 10:00 a. m. - 11:00 a. m. | 29.3 | 66.3 |
| 11:00 a. m. - 12:00 p. m. | 29.6 | 63.1 |


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# ANEXO 2: Certificado de calibración



Certificate of Calibration

*Certificate Number: EDCQP200-4.11.5*

**Environmental Devices Corporation** certifies the Haz-Scanner model EPAS is calibrated to published specifications and NIST traceable.

Calibration Dust Specifications are NIST traceable using Coulter Mutisizer II e. ISO12103 –1 A2 Fine Test Dust and is designed to agree with EPA Class I and Class III FRM and FEM particulate samplers and monitors and EN 12341 and EN 14907 standards.

Gas sensors are Calibrated against NIST/EPA traceable Calibration Gas using NIST primary Flow Standard: LFE774300 to ISO 17025 and EPA Instrumental Test Methods as defined by 40 CFR Part 60.

Quality system standard to meet the requirements of ANSI/ASQC standard Q9000-1994 (ISO 9001), MIL-STD 45662A, and customer's specification if required.

**Temperature = 22°C**
**Relative Humidity = 30%**
**Atmospheric Pressure = 760 mmHg**
**Measurement Uncertainty Estimated @ 95% Confidence Level (k=2) using ISO 17025 guidelines.**

| Model | Serial Number | Calibration Date | Next Calibration Due |
|---|---|---|---|
| EPAS | 919228 | June 17, 2024 | June 2025 |

| Calibration Span Accessory if purchased | Sensor A K= | Sensor B K= | Model : |
|---|---|---|---|

**Technician** Dan Okuniewicz

**Supervisor** Mark Sullivan

Environmental Devices Corporation
4 Wilder Drive Building #15
Plaistow, NH 03865
ISO-9001 Certified


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# ANEXO 3: Fotografía de la medición




Planta Potabilizadora de Sibube

**--- FIN DEL DOCUMENTO ---**

****EnviroLab S.A., sólo se hace responsable por los resultados de los puntos monitoreados y descritos en este Informe.**


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