Ground Control Survey Report for the U.S. Geological Survey

Contractor: Woolpert

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Project Name: WY South Central 2020 D20



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# Survey Report

## Introduction

This report contains a comprehensive outline of the Ground Control Survey that supported the lidar data collected for the task order. All survey activity was performed to achieve ground control accuracies that meet or exceed the National Mapping Accuracy Standards.

## Project Area

The project area consists of approximately 15,307 square miles across South Central Wyoming.

Figure 1.2.1 – Defined Project Area

![Defined project area
]()

## Purpose

The purpose of this survey was to establish three-dimensional coordinates for 242 lidar control points, 294 non-vegetated check points, and 204 vegetated check points. The points were collected per the flight layout and were uniformly dispersed over the project area.

## Date of Survey

Ground control field operations were conducted from June 24, 2020 to June 26, 2021.

## Monumentation

Prior to aerial imagery acquisition, Woolpert field crews performed a field reconnaissance to verify the existence and suitability of pre-selected existing National Geodetic Survey (NGS) control stations. Existing NSRS control stations were utilized as checks to ensure that quality x, y, z coordinate values were computed for each of the newly established photogrammetric control stations. Recovery information sheets for the existing NGS control stations can be found in [Section 3](#_Ground/Geodetic_Control_Logs). A control diagram can be found in Section 4. of this report.

## Accuracy Standards

The relative vertical accuracy of the LiDAR data will be 10 cm RMSEz with swath overlap (between adjacent swaths) and an absolute vertical accuracy of 15cm RMSE.

## GPS Equipment

Woolpert survey crews used the following GPS equipment:

* Eight (8) Trimble Navigation R8 model GNSS dual-frequency GPS receivers
* Four (4) R10 Model GNSS dual- frequency GPS receivers
* Two (2) TSC3 data collectors
* Two (2) TSC7 data collectors

## Methodology

### Static GPS

The field crew utilized Static GPS surveying throughout the ground control data collection process. The survey was conducted using a 5-second epoch rate with each observation lasting at least 30 minutes. Each station was occupied twice to ensure the required horizontal and vertical accuracies were met.

### Real-time Kinematic (RTK) GPS

The field crew utilized Real-Time Kinematic (RTK) GPS surveying throughout the ground control data collection process. The survey was conducted using a 1-second epoch rate, in a fixed solution RTK mode, with each observation lasting between 60 and 180 seconds. Each station was occupied twice to insure the required horizontal and vertical accuracies were met.

### GPS Data Analysis and Processing

The field crew chief processed all session baselines each day using Trimble Navigation’s Trimble Business Center (TBC) software, version 5.50 baseline processor, with the accompanying broadcast ephemeris. Daily processing ensured the integrity of the network as it was constructed and allowing the field crews to immediately reschedule observations of any poor baselines.

### Datum Reference and Final Coordinates

The spatial reference system for the project is NAD83 2011 (2010.00 epoch). Orthometric heights are based on NAVD88 vertical datum, Geoid18 was used to determine the orthometric heights from the ellipsoid heights. The projected coordinates are displayed in Universal Transverse Mercator, Zone 13 North (UTM13N). Units for both the horizontal and vertical datums will be expressed in Meters to three (3) decimal places.

### Quality Assurance

Existing NGS published benchmarks were surveyed to assure that there were no discrepancies in the field observation data. Close examinations of the residuals showed no distortions in orientation or scale.

# Ground Control/Geodetic Control Coordinates

## Ground Control – Worldwide UTM

* Horizontal Datum: NAD 1983 (2011)
* Horizontal Projection: UTM 13 North
* Vertical Datum: NAVD88
* Geoid Model: Geoid18
* Units: Meters

Table 2.1 Ground Control -Worldwide UTM

| **Point Number** | **UTM 13N Northing (M)** | **UTM 13N Easting (M)** | **Orthometric Height (M)** | **Description** |
| --- | --- | --- | --- | --- |
| 1000\_2020\_WY | 4604625.170 | 365156.384 | 2231.199 | LCP |
| 1001\_2020\_WY | 4595644.057 | 385096.646 | 2688.809 | LCP |
| 1002\_2020\_WY | 4594417.601 | 387918.122 | 2757.469 | LCP |
| 1003\_2020\_WY | 4596033.224 | 416214.217 | 2261.600 | LCP |
| 1004\_2020\_WY | 4560092.007 | 449819.790 | 2222.569 | LCP |
| 1005\_2020\_WY | 4563422.610 | 430611.161 | 2209.472 | LCP |
| 1006\_2020\_WY | 4541161.019 | 415752.489 | 2436.246 | LCP |
| 1007\_2020\_WY | 4592742.944 | 377468.497 | 2607.459 | LCP |
| 1008\_2020\_WY | 4568035.719 | 451451.733 | 2206.617 | LCP |
| 1009\_2020\_WY | 4573621.833 | 433113.757 | 2266.112 | LCP |
| 1010\_2020\_WY | 4557597.022 | 309888.551 | 2455.863 | LCP |
| 1011\_2020\_WY | 4572025.409 | 416915.066 | 2298.163 | LCP |
| 1012\_2020\_WY | 4570885.730 | 327623.584 | 2703.243 | LCP |
| 1013\_2020\_WY | 4605077.754 | 443905.924 | 2146.142 | LCP |
| 1014\_2020\_WY | 4614767.846 | 272761.579 | 2162.177 | LCP |
| 1015\_2020\_WY | 4594252.694 | 388617.443 | 2728.098 | LCP |
| 1016\_2020\_WY | 4582298.657 | 291039.204 | 2371.152 | LCP |
| 1017\_2020\_WY | 4582421.886 | 314015.781 | 2386.568 | LCP |
| 1018\_2020\_WY | 4632980.239 | 481757.266 | 1630.636 | LCP |
| 1019\_2020\_WY | 4595611.797 | 275053.048 | 2056.909 | LCP |
| 1020\_2020\_WY | 4560165.524 | 341742.713 | 2621.742 | LCP |
| 1021\_2020\_WY | 4597694.468 | 408828.520 | 2391.606 | LCP |
| 1022\_2020\_WY | 4611557.088 | 434704.281 | 2161.567 | LCP |
| 1023\_2020\_WY | 4584511.927 | 451577.208 | 2190.258 | LCP |
| 1024\_2020\_WY | 4543778.010 | 338582.581 | 2816.310 | LCP |
| 1025\_2020\_WY | 4584086.772 | 327660.195 | 2255.820 | LCP |
| 1026\_2020\_WY | 4590399.720 | 409784.227 | 2497.498 | LCP |
| 1027\_2020\_WY | 4557661.286 | 336935.586 | 2856.218 | LCP |
| 1028\_2020\_WY | 4576123.101 | 372263.661 | 2760.648 | LCP |
| 1029\_2020\_WY | 4586315.613 | 427017.547 | 2202.716 | LCP |
| 1030\_2020\_WY | 4609320.073 | 436159.144 | 2147.045 | LCP |
| 1031\_2020\_WY | 4563860.787 | 284310.005 | 2065.920 | LCP |
| 1032\_2020\_WY | 4540726.702 | 395028.219 | 2620.346 | LCP |
| 1033\_2020\_WY | 4546174.778 | 459615.285 | 2393.903 | LCP |
| 1034\_2020\_WY | 4541892.849 | 348766.353 | 2600.389 | LCP |
| 1035\_2020\_WY | 4544759.578 | 381735.272 | 2399.426 | LCP |
| 1036\_2020\_WY | 4556607.861 | 322486.631 | 2572.063 | LCP |
| 1037\_2020\_WY | 4551928.955 | 287796.053 | 2140.139 | LCP |
| 1038\_2020\_WY | 4608673.314 | 271506.452 | 2197.438 | LCP |
| 1039\_2020\_WY | 4565434.159 | 438700.145 | 2197.759 | LCP |
| 1040\_2020\_WY | 4558813.872 | 409637.314 | 2498.695 | LCP |
| 1041\_2020\_WY | 4592260.654 | 255097.711 | 2017.378 | LCP |
| 1042\_2020\_WY | 4551103.615 | 446281.527 | 2291.248 | LCP |
| 1043\_2020\_WY | 4549397.010 | 312365.191 | 2380.193 | LCP |
| 1044\_2020\_WY | 4563261.091 | 445980.059 | 2221.661 | LCP |
| 1045\_2020\_WY | 4599071.190 | 287943.443 | 2145.685 | LCP |
| 1046\_2020\_WY | 4553560.934 | 365371.191 | 2427.901 | LCP |
| 1047\_2020\_WY | 4547953.111 | 306237.272 | 2190.533 | LCP |
| 1048\_2020\_WY | 4611435.288 | 378412.005 | 2271.647 | LCP |
| 1049\_2020\_WY | 4546781.601 | 336201.945 | 2706.184 | LCP |
| 1050\_2020\_WY | 4586007.622 | 377863.206 | 2719.097 | LCP |
| 1051\_2020\_WY | 4583241.337 | 367453.263 | 2360.650 | LCP |
| 1052\_2020\_WY | 4592222.286 | 312930.020 | 2273.630 | LCP |
| 1053\_2020\_WY | 4608149.235 | 312106.526 | 2148.082 | LCP |
| 1054\_2020\_WY | 4627610.434 | 294988.143 | 2033.386 | LCP |
| 1055\_2020\_WY | 4656998.386 | 436772.905 | 2179.465 | LCP |
| 1056\_2020\_WY | 4686550.720 | 421914.713 | 2265.385 | LCP |
| 1057\_2020\_WY | 4650901.501 | 435393.251 | 2190.643 | LCP |
| 1058\_2020\_WY | 4697462.500 | 425801.626 | 2497.139 | LCP |
| 1059\_2020\_WY | 4654685.648 | 433765.306 | 2228.978 | LCP |
| 1060\_2020\_WY | 4620213.090 | 419567.566 | 2086.040 | LCP |
| 1061\_2020\_WY | 4674312.516 | 471338.345 | 2126.800 | LCP |
| 1062\_2020\_WY | 4638292.254 | 450123.046 | 2136.284 | LCP |
| 1063\_2020\_WY | 4698771.633 | 427419.077 | 2540.212 | LCP |
| 1064\_2020\_WY | 4673762.618 | 473227.427 | 1912.070 | LCP |
| 1065\_2020\_WY | 4638997.994 | 475404.117 | 1822.592 | LCP |
| 1066\_2020\_WY | 4698761.621 | 442492.710 | 2298.006 | LCP |
| 1067\_2020\_WY | 4674890.844 | 466737.491 | 2013.061 | LCP |
| 1068\_2020\_WY | 4666321.232 | 451947.048 | 2152.773 | LCP |
| 1069\_2020\_WY | 4643853.549 | 442866.746 | 2161.561 | LCP |
| 1070\_2020\_WY | 4633161.800 | 439588.069 | 2123.997 | LCP |
| 1071\_2020\_WY | 4674648.839 | 448142.203 | 2413.210 | LCP |
| 1072\_2020\_WY | 4632925.855 | 467555.849 | 1932.279 | LCP |
| 1073\_2020\_WY | 4624803.570 | 474596.994 | 1827.308 | LCP |
| 1074\_2020\_WY | 4681584.812 | 441373.927 | 2291.730 | LCP |
| 1075\_2020\_WY | 4659500.134 | 463011.875 | 2163.745 | LCP |
| 1076\_2020\_WY | 4647016.405 | 464077.333 | 2107.604 | LCP |
| 1077\_2020\_WY | 4674334.821 | 476549.773 | 1777.229 | LCP |
| 1078\_2020\_WY | 4637564.608 | 312161.295 | 2139.939 | LCP |
| 1079\_2020\_WY | 4672532.997 | 304380.856 | 2071.689 | LCP |
| 1080\_2020\_WY | 4653893.169 | 294879.033 | 2015.633 | LCP |
| 1081\_2020\_WY | 4640078.247 | 330546.316 | 1987.320 | LCP |
| 1082\_2020\_WY | 4670939.805 | 338418.736 | 2199.741 | LCP |
| 1083\_2020\_WY | 4735029.859 | 406382.032 | 1650.878 | LCP |
| 1084\_2020\_WY | 4665243.437 | 406439.683 | 2099.925 | LCP |
| 1085\_2020\_WY | 4693231.259 | 399275.344 | 2172.025 | LCP |
| 1086\_2020\_WY | 4703520.271 | 411531.890 | 2294.823 | LCP |
| 1087\_2020\_WY | 4651565.315 | 401118.068 | 2083.338 | LCP |
| 1088\_2020\_WY | 4678152.773 | 395765.142 | 2131.747 | LCP |
| 1089\_2020\_WY | 4721501.967 | 392402.973 | 2315.487 | LCP |
| 1090\_2020\_WY | 4692260.281 | 361903.450 | 2122.920 | LCP |
| 1091\_2020\_WY | 4662889.412 | 389918.460 | 2207.444 | LCP |
| 1092\_2020\_WY | 4717195.568 | 375774.117 | 1731.168 | LCP |
| 1093\_2020\_WY | 4688347.391 | 377559.963 | 2259.253 | LCP |
| 1094\_2020\_WY | 4665927.057 | 376667.962 | 2578.063 | LCP |
| 1095\_2020\_WY | 4720274.647 | 354497.899 | 2015.377 | LCP |
| 1096\_2020\_WY | 4692920.641 | 384045.438 | 2011.056 | LCP |
| 1097\_2020\_WY | 4670000.394 | 369852.244 | 2732.136 | LCP |
| 1098\_2020\_WY | 4726752.113 | 385909.145 | 1916.634 | LCP |
| 1099\_2020\_WY | 4708782.494 | 370576.109 | 1802.375 | LCP |
| 1100\_2020\_WY | 4687682.635 | 356394.930 | 2092.074 | LCP |
| 1101\_2020\_WY | 4669095.684 | 354003.065 | 2138.747 | LCP |
| 1102\_2020\_WY | 4732250.136 | 353567.963 | 1837.331 | LCP |
| 1103\_2020\_WY | 4732533.644 | 348924.763 | 1915.382 | LCP |
| 1104\_2020\_WY | 4668331.182 | 299301.218 | 1991.065 | LCP |
| 1105\_2020\_WY | 4680766.123 | 297864.895 | 2047.495 | LCP |
| 1106\_2020\_WY | 4691591.583 | 297430.226 | 1924.904 | LCP |
| 1107\_2020\_WY | 4697964.955 | 303553.452 | 1861.563 | LCP |
| 1108\_2020\_WY | 4714208.575 | 311021.783 | 1940.394 | LCP |
| 1109\_2020\_WY | 4727201.262 | 309400.773 | 2069.501 | LCP |
| 1110\_2020\_WY | 4727416.957 | 313346.272 | 2028.736 | LCP |
| 1111\_2020\_WY | 4695535.568 | 314419.064 | 1897.580 | LCP |
| 1112\_2020\_WY | 4694630.099 | 319492.245 | 1939.671 | LCP |
| 1113\_2020\_WY | 4709942.330 | 322372.865 | 1810.691 | LCP |
| 1114\_2020\_WY | 4723941.114 | 332848.685 | 1904.564 | LCP |
| 1115\_2020\_WY | 4738630.637 | 337970.668 | 1896.625 | LCP |
| 1116\_2020\_WY | 4685119.268 | 326379.755 | 2020.098 | LCP |
| 1117\_2020\_WY | 4702476.384 | 339339.762 | 1803.723 | LCP |
| 1118\_2020\_WY | 4722900.386 | 343183.001 | 1955.306 | LCP |
| 1119\_2020\_WY | 4746854.109 | 411684.054 | 1540.941 | LCP |
| 1120\_2020\_WY | 4811632.410 | 369660.274 | 1612.156 | LCP |
| 1121\_2020\_WY | 4777437.875 | 371980.454 | 1695.222 | LCP |
| 1122\_2020\_WY | 4735748.271 | 410288.252 | 1633.352 | LCP |
| 1123\_2020\_WY | 4790702.779 | 363617.315 | 1631.358 | LCP |
| 1124\_2020\_WY | 4756389.384 | 362457.527 | 1681.370 | LCP |
| 1125\_2020\_WY | 4804288.598 | 357150.038 | 1700.569 | LCP |
| 1126\_2020\_WY | 4773650.869 | 408831.952 | 1810.868 | LCP |
| 1127\_2020\_WY | 4738082.113 | 349874.425 | 1857.026 | LCP |
| 1128\_2020\_WY | 4788219.342 | 358023.055 | 1618.747 | LCP |
| 1129\_2020\_WY | 4754685.210 | 337966.392 | 1862.558 | LCP |
| 1130\_2020\_WY | 4804014.831 | 322918.329 | 2284.529 | LCP |
| 1131\_2020\_WY | 4768823.093 | 322571.954 | 1808.982 | LCP |
| 1132\_2020\_WY | 4817516.745 | 329168.743 | 2488.391 | LCP |
| 1133\_2020\_WY | 4784181.055 | 325006.768 | 1800.065 | LCP |
| 1134\_2020\_WY | 4748497.548 | 315318.966 | 1908.388 | LCP |
| 1135\_2020\_WY | 4798288.990 | 328747.809 | 1970.880 | LCP |
| 1136\_2020\_WY | 4760198.927 | 317626.650 | 1898.146 | LCP |
| 1137\_2020\_WY | 4807259.403 | 318979.105 | 2537.441 | LCP |
| 1138\_2020\_WY | 4772730.493 | 312604.349 | 1883.277 | LCP |
| 1139\_2020\_WY | 4815900.551 | 320345.724 | 2573.123 | LCP |
| 1140\_2020\_WY | 4783988.400 | 307804.920 | 1795.693 | LCP |
| 1141\_2020\_WY | 4747782.028 | 307035.809 | 2030.419 | LCP |
| 1142\_2020\_WY | 4793184.281 | 298390.687 | 1820.525 | LCP |
| 1143\_2020\_WY | 4763773.143 | 296560.730 | 1899.476 | LCP |
| 1144\_2020\_WY | 4812380.988 | 378136.917 | 1683.766 | LCP |
| 1145\_2020\_WY | 4784930.258 | 392976.911 | 1619.210 | LCP |
| 1146\_2020\_WY | 4807303.107 | 380494.863 | 1567.437 | LCP |
| 1147\_2020\_WY | 4773404.120 | 400214.184 | 1751.411 | LCP |
| 1148\_2020\_WY | 4799116.229 | 397709.484 | 1562.008 | LCP |
| 1149\_2021\_WY | 4598209.212 | 392105.838 | 2859.653 | LCP |
| 1150\_2021\_WY | 4591821.921 | 397569.492 | 3041.446 | LCP |
| 1152\_2021\_WY | 4578435.443 | 402556.823 | 2769.967 | LCP |
| 1153\_2021\_WY | 4554564.889 | 402264.220 | 2728.579 | LCP |
| 1154\_2021\_WY | 4590254.734 | 394122.774 | 3076.061 | LCP |
| 1155\_2021\_WY | 4551662.434 | 412692.284 | 2385.026 | LCP |
| 1156\_2021\_WY | 4572401.269 | 404583.155 | 2449.548 | LCP |
| 1157\_2021\_WY | 4546043.399 | 388437.692 | 2701.929 | LCP |
| 1159\_2021\_WY | 4548049.317 | 414966.923 | 2296.442 | LCP |
| 1160\_2021\_WY | 4540224.605 | 395766.590 | 2615.488 | LCP |
| 1161\_2021\_WY | 4563868.479 | 396205.615 | 2890.773 | LCP |
| 1162\_2021\_WY | 4596115.607 | 386588.092 | 2667.354 | LCP |
| 1163\_2021\_WY | 4560615.033 | 407554.211 | 2444.891 | LCP |
| 1164\_2021\_WY | 4548584.221 | 399359.604 | 2769.504 | LCP |
| 1165\_2021\_WY | 4606324.464 | 395703.855 | 2395.777 | LCP |
| 1166\_2021\_WY | 4572331.141 | 409043.002 | 2409.432 | LCP |
| 1167\_2021\_WY | 4563465.347 | 382561.943 | 2722.204 | LCP |
| 1168\_2020\_WY | 4541306.753 | 319589.954 | 2129.355 | LCP |
| 1168A\_2020\_WY | 4541416.204 | 319543.003 | 2140.863 | LCP |
| 1169\_2020\_WY | 4540547.634 | 347634.528 | 2563.039 | LCP |
| 1169A\_2020\_WY | 4542628.141 | 344426.583 | 2545.537 | LCP |
| 1170\_2021\_WY | 4545116.324 | 390355.243 | 2664.251 | LCP |
| 1171A\_2021\_WY | 4565004.968 | 389678.228 | 3027.723 | LCP |
| 1172\_2021\_WY | 4581474.147 | 400613.313 | 2966.302 | LCP |
| 1173\_2021\_WY | 4605479.682 | 390223.996 | 2401.944 | LCP |
| 1174\_2021\_WY | 4565095.907 | 397384.109 | 2932.149 | LCP |
| 1175\_2021\_WY | 4600768.574 | 391859.523 | 2692.228 | LCP |
| 1176\_2021\_WY | 4586039.734 | 381430.576 | 2875.002 | LCP |
| 1177\_2021\_WY | 4582246.530 | 400137.198 | 3056.124 | LCP |
| 1178\_2021\_WY | 4572978.596 | 401960.904 | 2765.083 | LCP |
| 1179\_2021\_WY | 4597940.263 | 384270.582 | 2541.212 | LCP |
| 1180\_2021\_WY | 4567805.971 | 384383.915 | 2860.788 | LCP |
| 1181A\_2021\_WY | 4569899.531 | 393378.894 | 3069.087 | LCP |
| 1182A\_2021\_WY | 4586375.541 | 380459.749 | 2854.263 | LCP |
| 1184\_2020\_WY | 4540220.196 | 347760.918 | 2581.400 | LCP |
| 1185\_2020\_WY | 4541049.342 | 358271.787 | 2988.119 | LCP |
| 1186\_2020\_WY | 4542127.307 | 360993.555 | 2832.161 | LCP |
| 1187\_2020\_WY | 4542591.206 | 361503.794 | 2840.688 | LCP |
| 1188\_2021\_WY | 4542788.010 | 364340.637 | 2649.782 | LCP |
| 1189\_2020\_WY | 4544459.272 | 312634.089 | 2077.215 | LCP |
| 1190\_2021\_WY | 4543563.313 | 366115.075 | 2602.798 | LCP |
| 1191A\_2021\_WY | 4541929.838 | 371390.130 | 2445.495 | LCP |
| 1192\_2021\_WY | 4544184.726 | 363790.010 | 2637.733 | LCP |
| 1193\_2021\_WY | 4544452.032 | 363892.614 | 2626.585 | LCP |
| 1194A\_2020\_WY | 4545629.584 | 356116.811 | 3056.788 | LCP |
| 1194B\_2020\_WY | 4546317.051 | 355844.002 | 2996.824 | LCP |
| 1195\_2020\_WY | 4545822.388 | 345439.318 | 2686.937 | LCP |
| 1196A\_2021\_WY | 4546779.540 | 336195.565 | 2706.123 | LCP |
| 1197\_2020\_WY | 4546682.893 | 322880.130 | 2428.027 | LCP |
| 1198\_2020\_WY | 4547290.672 | 311205.968 | 2238.676 | LCP |
| 1200\_2020\_WY | 4549100.309 | 352980.085 | 2862.474 | LCP |
| 1201\_2020\_WY | 4547887.663 | 322202.514 | 2445.949 | LCP |
| 1201A\_2020\_WY | 4548999.666 | 318871.452 | 2340.844 | LCP |
| 1202A\_2021\_WY | 4550504.998 | 369929.251 | 2356.675 | LCP |
| 1203\_2020\_WY | 4550490.240 | 342800.946 | 2881.558 | LCP |
| 1204\_2020\_WY | 4550869.954 | 311521.519 | 2420.136 | LCP |
| 1205\_2020\_WY | 4550280.984 | 355973.678 | 2768.921 | LCP |
| 1206A\_2021\_WY | 4558931.366 | 331807.011 | 2896.139 | LCP |
| 1207\_2021\_WY | 4571907.234 | 414010.406 | 2322.387 | LCP |
| 1208\_2021\_WY | 4571368.178 | 378028.831 | 2654.916 | LCP |
| 1209\_2021\_WY | 4596893.372 | 377423.554 | 2469.055 | LCP |
| 1210\_2021\_WY | 4554697.849 | 349135.916 | 2289.494 | LCP |
| 1211\_2020\_WY | 4554427.718 | 319272.860 | 2544.752 | LCP |
| 1212\_2020\_WY | 4554144.211 | 338603.325 | 3027.364 | LCP |
| 1212A\_2020\_WY | 4552777.653 | 339644.123 | 3049.562 | LCP |
| 1213\_2020\_WY | 4555027.381 | 341730.959 | 2725.086 | LCP |
| 1214\_2020\_WY | 4555600.493 | 316731.550 | 2442.161 | LCP |
| 1215\_2020\_WY | 4556955.689 | 307391.428 | 2432.315 | LCP |
| 1216\_2020\_WY | 4557787.955 | 309044.890 | 2461.046 | LCP |
| 1216A\_2020\_WY | 4557846.586 | 311808.368 | 2472.993 | LCP |
| 1217\_2020\_WY | 4557435.021 | 327705.055 | 2750.111 | LCP |
| 1218\_2021\_WY | 4593004.316 | 376147.292 | 2672.061 | LCP |
| 1219\_2021\_WY | 4571883.234 | 415089.415 | 2312.210 | LCP |
| 1220\_2020\_WY | 4561819.320 | 336784.602 | 2818.763 | LCP |
| 1221A\_2021\_WY | 4565136.717 | 373194.766 | 2464.646 | LCP |
| 1222\_2020\_WY | 4562181.179 | 307183.185 | 2531.072 | LCP |
| 1222A\_2020\_WY | 4562579.952 | 307800.684 | 2539.701 | LCP |
| 1223A\_2020\_WY | 4564334.305 | 327841.503 | 2998.657 | LCP |
| 1224\_2020\_WY | 4564023.880 | 311285.021 | 2388.171 | LCP |
| 1225\_2021\_WY | 4565712.133 | 371993.052 | 2401.345 | LCP |
| 1226\_2021\_WY | 4576046.049 | 371104.337 | 2655.539 | LCP |
| 1227A\_2020\_WY | 4568360.030 | 321287.445 | 2743.892 | LCP |
| 1227B\_2020\_WY | 4567581.793 | 319737.240 | 2973.987 | LCP |
| 1228\_2020\_WY | 4569536.937 | 335198.046 | 2431.594 | LCP |
| 1229\_2020\_WY | 4576860.797 | 370245.947 | 2532.846 | LCP |
| 1230\_2020\_WY | 4572288.396 | 330215.934 | 2684.312 | LCP |
| 1231\_2020\_WY | 4574861.322 | 325271.519 | 2667.747 | LCP |
| 1232\_2021\_WY | 4592769.740 | 373469.103 | 2651.103 | LCP |
| 1233\_2020\_WY | 4553575.624 | 304025.921 | 2357.939 | LCP |
| 1234\_2020\_WY | 4553284.203 | 306536.496 | 2414.481 | LCP |
| 1235\_2021\_WY | 4580143.848 | 370536.286 | 2393.406 | LCP |
| 1236\_2021\_WY | 4579069.173 | 371605.579 | 2432.460 | LCP |
| 1237\_2021\_WY | 4599500.451 | 384277.648 | 2490.266 | LCP |
| 1221A\_2021\_WY | 4565136.717 | 373194.766 | 2464.646 | LCP |
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| 1223A\_2020\_WY | 4564334.305 | 327841.503 | 2998.657 | LCP |
| 1224\_2020\_WY | 4564023.880 | 311285.021 | 2388.171 | LCP |
| 1225\_2021\_WY | 4565712.133 | 371993.052 | 2401.345 | LCP |
| 1226\_2021\_WY | 4576046.049 | 371104.337 | 2655.539 | LCP |
| 1227A\_2020\_WY | 4568360.030 | 321287.445 | 2743.892 | LCP |
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| 1231\_2020\_WY | 4574861.322 | 325271.519 | 2667.747 | LCP |
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| 1233\_2020\_WY | 4553575.624 | 304025.921 | 2357.939 | LCP |
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| 1236\_2021\_WY | 4579069.173 | 371605.579 | 2432.460 | LCP |
| 1237\_2021\_WY | 4599500.451 | 384277.648 | 2490.266 | LCP |
| 2001\_2020\_WY | 4650000.392 | 333652.913 | 2046.540 | NVA |
| 2002\_2020\_WY | 4642713.958 | 309250.600 | 2194.697 | NVA |
| 2003\_2020\_WY | 4636716.579 | 329025.884 | 1964.750 | NVA |
| 2004\_2020\_WY | 4611296.578 | 354467.236 | 2089.070 | NVA |
| 2005\_2020\_WY | 4564399.664 | 383880.303 | 2923.783 | NVA |
| 2006\_2020\_WY | 4558933.516 | 364018.111 | 2251.782 | NVA |
| 2007\_2020\_WY | 4605117.747 | 376960.059 | 2376.963 | NVA |
| 2008\_2020\_WY | 4560951.049 | 362657.895 | 2243.565 | NVA |
| 2009\_2020\_WY | 4551331.646 | 371488.411 | 2361.566 | NVA |
| 2010\_2020\_WY | 4595463.109 | 384809.260 | 2687.928 | NVA |
| 2011\_2020\_WY | 4632981.506 | 316299.450 | 2113.745 | NVA |
| 2012\_2020\_WY | 4576386.034 | 389082.285 | 3196.569 | NVA |
| 2013\_2020\_WY | 4690678.348 | 325970.256 | 1952.780 | NVA |
| 2014\_2020\_WY | 4650328.042 | 304051.206 | 1994.795 | NVA |
| 2015\_2020\_WY | 4590703.589 | 383431.778 | 2816.794 | NVA |
| 2016\_2020\_WY | 4566750.752 | 392195.793 | 2996.558 | NVA |
| 2017\_2020\_WY | 4605795.205 | 367300.786 | 2225.826 | NVA |
| 2018\_2020\_WY | 4654517.942 | 299196.254 | 1990.143 | NVA |
| 2019\_2020\_WY | 4673324.078 | 370875.495 | 2545.656 | NVA |
| 2020\_2020\_WY | 4639600.555 | 319555.694 | 2004.152 | NVA |
| 2021\_2020\_WY | 4549701.565 | 356397.569 | 2747.940 | NVA |
| 2022\_2020\_WY | 4582620.154 | 377474.872 | 2858.894 | NVA |
| 2023\_2020\_WY | 4575860.830 | 375865.290 | 2626.345 | NVA |
| 2024\_2020\_WY | 4563518.084 | 372913.757 | 2330.093 | NVA |
| 2025\_2020\_WY | 4590558.994 | 360511.213 | 2213.289 | NVA |
| 2026\_2020\_WY | 4591786.806 | 359278.842 | 2175.871 | NVA |
| 2027\_2020\_WY | 4590198.627 | 393700.976 | 3073.271 | NVA |
| 2028\_2020\_WY | 4565839.042 | 371908.385 | 2399.905 | NVA |
| 2029\_2020\_WY | 4651680.344 | 329036.021 | 2054.269 | NVA |
| 2030\_2020\_WY | 4605051.969 | 354336.873 | 2138.911 | NVA |
| 2031\_2020\_WY | 4687279.678 | 399252.983 | 2144.205 | NVA |
| 2032\_2020\_WY | 4681153.620 | 395046.608 | 2190.817 | NVA |
| 2033\_2020\_WY | 4785138.787 | 389108.253 | 1652.331 | NVA |
| 2034\_2020\_WY | 4732658.966 | 389040.091 | 2419.724 | NVA |
| 2035\_2020\_WY | 4812236.226 | 397232.881 | 1505.116 | NVA |
| 2036\_2020\_WY | 4775204.902 | 398209.737 | 1776.674 | NVA |
| 2037\_2020\_WY | 4690900.766 | 442673.853 | 2256.299 | NVA |
| 2038\_2020\_WY | 4815841.198 | 403441.346 | 1564.217 | NVA |
| 2039\_2020\_WY | 4688288.930 | 432873.383 | 2319.337 | NVA |
| 2040\_2020\_WY | 4801736.517 | 386891.395 | 1615.535 | NVA |
| 2041\_2020\_WY | 4727531.587 | 386628.863 | 1977.956 | NVA |
| 2042\_2020\_WY | 4808061.239 | 381400.370 | 1535.628 | NVA |
| 2043\_2020\_WY | 4770234.893 | 398983.377 | 1702.497 | NVA |
| 2044\_2020\_WY | 4780744.379 | 391488.048 | 1643.704 | NVA |
| 2045\_2020\_WY | 4722164.855 | 383869.186 | 1745.394 | NVA |
| 2046\_2020\_WY | 4805832.551 | 402532.921 | 1529.102 | NVA |
| 2047\_2020\_WY | 4734318.096 | 377263.133 | 1670.320 | NVA |
| 2048\_2020\_WY | 4775138.131 | 409167.906 | 1824.848 | NVA |
| 2049\_2020\_WY | 4724010.802 | 383203.737 | 1754.413 | NVA |
| 2050\_2020\_WY | 4758006.510 | 376525.671 | 1649.288 | NVA |
| 2051\_2020\_WY | 4686797.910 | 471848.812 | 1918.569 | NVA |
| 2052\_2020\_WY | 4689718.975 | 474000.424 | 1885.754 | NVA |
| 2053\_2020\_WY | 4726052.338 | 396516.707 | 2524.289 | NVA |
| 2054\_2020\_WY | 4671326.407 | 433303.765 | 2175.690 | NVA |
| 2055\_2020\_WY | 4813690.479 | 381433.661 | 1539.612 | NVA |
| 2056\_2020\_WY | 4693433.669 | 392958.158 | 2200.658 | NVA |
| 2057\_2020\_WY | 4752049.019 | 376437.845 | 1622.032 | NVA |
| 2058\_2020\_WY | 4675706.863 | 298138.092 | 2010.667 | NVA |
| 2059\_2020\_WY | 4691790.320 | 319370.285 | 2016.404 | NVA |
| 2060\_2020\_WY | 4693607.102 | 314470.770 | 1933.236 | NVA |
| 2061\_2020\_WY | 4718614.486 | 325635.607 | 1897.987 | NVA |
| 2062\_2020\_WY | 4736525.550 | 305994.401 | 2185.251 | NVA |
| 2063\_2020\_WY | 4698307.365 | 294513.066 | 1979.792 | NVA |
| 2064\_2020\_WY | 4742367.309 | 318346.863 | 1978.584 | NVA |
| 2065\_2020\_WY | 4708146.234 | 330310.666 | 1785.893 | NVA |
| 2066\_2020\_WY | 4700283.736 | 335861.799 | 1851.925 | NVA |
| 2067\_2020\_WY | 4745530.249 | 301862.834 | 2207.304 | NVA |
| 2068\_2020\_WY | 4684419.936 | 324101.619 | 2067.057 | NVA |
| 2069\_2020\_WY | 4738031.629 | 298313.014 | 2209.909 | NVA |
| 2070\_2020\_WY | 4743071.834 | 304765.847 | 2271.084 | NVA |
| 2071\_2020\_WY | 4693365.376 | 332750.372 | 1848.430 | NVA |
| 2072\_2020\_WY | 4700232.261 | 308810.751 | 1854.235 | NVA |
| 2073\_2020\_WY | 4672796.200 | 305975.076 | 2079.072 | NVA |
| 2074\_2020\_WY | 4740458.467 | 348778.187 | 1781.916 | NVA |
| 2075\_2020\_WY | 4713601.466 | 346939.749 | 1918.745 | NVA |
| 2076\_2020\_WY | 4724629.321 | 378703.620 | 1694.876 | NVA |
| 2077\_2020\_WY | 4697505.058 | 376191.622 | 2019.401 | NVA |
| 2078\_2020\_WY | 4679536.753 | 381903.236 | 2211.687 | NVA |
| 2079\_2020\_WY | 4690849.728 | 327856.487 | 1996.561 | NVA |
| 2080\_2020\_WY | 4719795.453 | 347119.749 | 1893.103 | NVA |
| 2081\_2020\_WY | 4743273.269 | 372420.614 | 1651.556 | NVA |
| 2082\_2020\_WY | 4745329.955 | 339325.482 | 1825.434 | NVA |
| 2083\_2020\_WY | 4724686.221 | 366436.404 | 1604.468 | NVA |
| 2084\_2020\_WY | 4711459.002 | 349342.894 | 1921.815 | NVA |
| 2085\_2020\_WY | 4720553.978 | 369849.605 | 1647.746 | NVA |
| 2086\_2020\_WY | 4725968.663 | 369831.084 | 1633.888 | NVA |
| 2087\_2020\_WY | 4742289.032 | 363229.903 | 1693.265 | NVA |
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| 2091\_2020\_WY | 4718771.546 | 338930.933 | 1827.627 | NVA |
| 2092\_2020\_WY | 4705010.470 | 374829.723 | 1932.804 | NVA |
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| 2095\_2020\_WY | 4767102.132 | 298173.129 | 1872.553 | NVA |
| 2096\_2020\_WY | 4765263.276 | 321884.332 | 1801.460 | NVA |
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| 2098\_2020\_WY | 4753350.843 | 305434.478 | 1962.493 | NVA |
| 2099\_2020\_WY | 4800750.239 | 326340.582 | 2015.758 | NVA |
| 2100\_2020\_WY | 4763010.058 | 304095.441 | 1974.278 | NVA |
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| 2102\_2020\_WY | 4763490.277 | 326607.906 | 1797.638 | NVA |
| 2103\_2020\_WY | 4778506.976 | 305127.738 | 1804.276 | NVA |
| 2104\_2020\_WY | 4782710.819 | 326942.162 | 1800.203 | NVA |
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| 2106\_2020\_WY | 4778019.663 | 360939.547 | 1725.755 | NVA |
| 2107\_2020\_WY | 4782710.944 | 341204.322 | 1668.036 | NVA |
| 2108\_2020\_WY | 4781040.817 | 341094.739 | 1722.073 | NVA |
| 2109\_2020\_WY | 4766065.098 | 334257.424 | 1725.602 | NVA |
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| 2111\_2020\_WY | 4760119.556 | 330044.880 | 1822.040 | NVA |
| 2112\_2020\_WY | 4804262.884 | 351345.723 | 1802.263 | NVA |
| 2113\_2020\_WY | 4760164.096 | 352515.376 | 1763.906 | NVA |
| 2114\_2020\_WY | 4799587.739 | 360782.436 | 1585.926 | NVA |
| 2115\_2020\_WY | 4803994.547 | 332490.507 | 1885.955 | NVA |
| 2116\_2020\_WY | 4809629.455 | 339575.927 | 1830.255 | NVA |
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| 2120\_2020\_WY | 4773332.849 | 371357.739 | 1674.230 | NVA |
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| 2124\_2020\_WY | 4572481.946 | 419859.774 | 2322.935 | NVA |
| 2125\_2020\_WY | 4547953.336 | 407907.229 | 2719.782 | NVA |
| 2126\_2020\_WY | 4563194.737 | 398361.639 | 2910.956 | NVA |
| 2127\_2020\_WY | 4601111.525 | 408234.887 | 2313.977 | NVA |
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| 2130\_2020\_WY | 4606394.282 | 410111.588 | 2266.361 | NVA |
| 2131\_2020\_WY | 4579173.420 | 437332.604 | 2198.054 | NVA |
| 2132\_2020\_WY | 4574075.072 | 435183.491 | 2253.338 | NVA |
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| 2134\_2020\_WY | 4590026.122 | 415671.081 | 2301.592 | NVA |
| 2135\_2020\_WY | 4579524.106 | 419737.582 | 2233.389 | NVA |
| 2136\_2020\_WY | 4550230.414 | 399404.769 | 2806.349 | NVA |
| 2137\_2020\_WY | 4600767.756 | 391860.536 | 2692.298 | NVA |
| 2138\_2020\_WY | 4546429.516 | 410619.518 | 2635.206 | NVA |
| 2139\_2020\_WY | 4585251.934 | 421155.331 | 2255.252 | NVA |
| 2140\_2020\_WY | 4575990.657 | 440260.203 | 2220.996 | NVA |
| 2141\_2020\_WY | 4553707.487 | 435659.600 | 2227.595 | NVA |
| 2142\_2020\_WY | 4574432.879 | 443801.526 | 2215.527 | NVA |
| 2143\_2020\_WY | 4614572.106 | 472070.882 | 2075.710 | NVA |
| 2144\_2020\_WY | 4553618.445 | 454187.978 | 2295.431 | NVA |
| 2145\_2020\_WY | 4572110.162 | 462131.378 | 2594.911 | NVA |
| 2146\_2020\_WY | 4590977.558 | 447350.893 | 2181.559 | NVA |
| 2147\_2020\_WY | 4571553.810 | 450666.429 | 2187.551 | NVA |
| 2148\_2020\_WY | 4570782.434 | 471698.001 | 2417.761 | NVA |
| 2149\_2020\_WY | 4582905.541 | 468747.823 | 2344.095 | NVA |
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| 2152\_2020\_WY | 4582776.529 | 475892.420 | 2271.677 | NVA |
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| 2158\_2020\_WY | 4572922.682 | 453199.340 | 2203.183 | NVA |
| 2159\_2020\_WY | 4560953.459 | 449812.096 | 2217.967 | NVA |
| 2160\_2020\_WY | 4550286.850 | 442158.261 | 2270.971 | NVA |
| 2161\_2020\_WY | 4561573.107 | 471497.469 | 2453.493 | NVA |
| 2162\_2020\_WY | 4565390.005 | 463466.499 | 2641.833 | NVA |
| 2163\_2020\_WY | 4653555.399 | 433784.150 | 2224.177 | NVA |
| 2164\_2020\_WY | 4675414.703 | 396299.704 | 2118.277 | NVA |
| 2165\_2020\_WY | 4631062.551 | 430417.406 | 2089.747 | NVA |
| 2166\_2020\_WY | 4613318.782 | 433457.014 | 2167.347 | NVA |
| 2167\_2020\_WY | 4621665.235 | 418883.748 | 2102.030 | NVA |
| 2168\_2020\_WY | 4672288.687 | 405129.978 | 2121.502 | NVA |
| 2169\_2020\_WY | 4680281.198 | 429345.381 | 2212.551 | NVA |
| 2170\_2020\_WY | 4610738.193 | 413944.575 | 2188.571 | NVA |
| 2171\_2020\_WY | 4669583.389 | 419096.199 | 2105.762 | NVA |
| 2172\_2020\_WY | 4607385.253 | 391369.294 | 2346.035 | NVA |
| 2173\_2020\_WY | 4669446.333 | 433385.425 | 2166.665 | NVA |
| 2174\_2020\_WY | 4646548.261 | 435671.125 | 2134.981 | NVA |
| 2175\_2020\_WY | 4631090.369 | 428419.743 | 2061.468 | NVA |
| 2176\_2020\_WY | 4633124.521 | 439418.431 | 2122.364 | NVA |
| 2177\_2020\_WY | 4628930.273 | 476800.948 | 1775.359 | NVA |
| 2178\_2020\_WY | 4657437.226 | 467355.062 | 2165.629 | NVA |
| 2179\_2020\_WY | 4665057.368 | 436448.621 | 2163.870 | NVA |
| 2180\_2020\_WY | 4663055.471 | 464562.462 | 2157.478 | NVA |
| 2181\_2020\_WY | 4619000.187 | 443530.056 | 2132.100 | NVA |
| 2182\_2020\_WY | 4610287.208 | 454241.531 | 2227.024 | NVA |
| 2183\_2020\_WY | 4661952.090 | 437631.177 | 2159.338 | NVA |
| 2184\_2020\_WY | 4620454.624 | 463674.249 | 1960.281 | NVA |
| 2185\_2020\_WY | 4635294.593 | 437572.275 | 2127.168 | NVA |
| 2186\_2020\_WY | 4618767.881 | 426107.460 | 2155.435 | NVA |
| 2187\_2020\_WY | 4621303.452 | 451417.947 | 2219.866 | NVA |
| 2188\_2020\_WY | 4616701.427 | 442609.764 | 2153.254 | NVA |
| 2189\_2020\_WY | 4675174.219 | 469853.316 | 2197.887 | NVA |
| 2190\_2020\_WY | 4716939.460 | 308980.126 | 1962.559 | NVA |
| 2191\_2020\_WY | 4747728.463 | 406411.361 | 1600.598 | NVA |
| 2192\_2020\_WY | 4565995.067 | 261568.726 | 2359.827 | NVA |
| 2193\_2020\_WY | 4566349.773 | 336220.734 | 2621.376 | NVA |
| 2194\_2020\_WY | 4598847.497 | 287857.166 | 2141.643 | NVA |
| 2195\_2020\_WY | 4745349.382 | 411445.489 | 1537.039 | NVA |
| 2196\_2020\_WY | 4595750.207 | 316100.276 | 2162.933 | NVA |
| 2197\_2020\_WY | 4610266.798 | 309498.725 | 2183.064 | NVA |
| 2198\_2020\_WY | 4548974.828 | 345017.025 | 2833.552 | NVA |
| 2199\_2020\_WY | 4732668.172 | 363915.341 | 1689.099 | NVA |
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| 2202\_2020\_WY | 4605663.955 | 301187.622 | 2226.563 | NVA |
| 2203\_2020\_WY | 4599577.373 | 294046.768 | 2266.030 | NVA |
| 2204\_2020\_WY | 4547456.477 | 273223.362 | 1914.088 | NVA |
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| 2206\_2020\_WY | 4560321.773 | 292432.302 | 2392.658 | NVA |
| 2207\_2020\_WY | 4552779.558 | 342955.062 | 2811.875 | NVA |
| 2208\_2020\_WY | 4548984.826 | 309266.989 | 2297.558 | NVA |
| 2209\_2020\_WY | 4606761.306 | 257661.834 | 2044.859 | NVA |
| 2210\_2020\_WY | 4757712.332 | 408427.146 | 1684.122 | NVA |
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| 2212\_2020\_WY | 4553426.154 | 259800.793 | 2060.188 | NVA |
| 2213\_2020\_WY | 4594114.195 | 255716.925 | 2016.237 | NVA |
| 2214\_2020\_WY | 4609330.818 | 257088.693 | 2042.984 | NVA |
| 2215\_2020\_WY | 4723605.197 | 335587.390 | 1869.739 | NVA |
| 2216\_2020\_WY | 4614772.064 | 258791.711 | 2115.352 | NVA |
| 2217\_2020\_WY | 4556370.232 | 342159.279 | 2633.860 | NVA |
| 2218\_2020\_WY | 4571306.795 | 324495.804 | 2678.109 | NVA |
| 2219\_2020\_WY | 4580484.351 | 256021.001 | 2016.788 | NVA |
| 2220\_2020\_WY | 4596753.266 | 330931.162 | 2338.530 | NVA |
| 2221\_2020\_WY | 4597411.468 | 258604.391 | 2048.463 | NVA |
| 2222\_2020\_WY | 4573591.067 | 331395.695 | 2642.337 | NVA |
| 2223\_2020\_WY | 4575887.413 | 451704.931 | 2192.669 | NVA |
| 2224\_2020\_WY | 4575056.817 | 448166.656 | 2180.897 | NVA |
| 2225\_2020\_WY | 4573664.222 | 450518.756 | 2183.122 | NVA |
| 2226\_2020\_WY | 4628770.363 | 313228.077 | 2072.930 | NVA |
| 2227\_2020\_WY | 4629259.081 | 316123.832 | 2040.047 | NVA |
| 2228\_2020\_WY | 4631828.994 | 315249.573 | 2085.567 | NVA |
| 2229\_2020\_WY | 4609580.886 | 392933.006 | 2366.721 | NVA |
| 2230\_2020\_WY | 4582916.442 | 431344.761 | 2183.511 | NVA |
| 2231\_2020\_WY | 4552760.662 | 474399.571 | 2403.620 | NVA |
| 2232\_2020\_WY | 4551598.426 | 414976.367 | 2279.854 | NVA |
| 2233\_2020\_WY | 4573036.877 | 447007.852 | 2185.685 | NVA |
| 2234\_2020\_WY | 4575143.444 | 453594.388 | 2217.603 | NVA |
| 2235\_2020\_WY | 4571119.412 | 455235.355 | 2247.946 | NVA |
| 2236\_2020\_WY | 4577743.353 | 450760.153 | 2182.503 | NVA |
| 2237\_2020\_WY | 4600269.763 | 443157.363 | 2147.837 | NVA |
| 2238\_2020\_WY | 4630687.342 | 416547.957 | 2120.545 | NVA |
| 2239\_2020\_WY | 4696802.462 | 386446.956 | 1976.494 | NVA |
| 2240\_2020\_WY | 4713420.712 | 358492.733 | 1636.876 | NVA |
| 2241\_2020\_WY | 4712953.699 | 349367.307 | 1921.111 | NVA |
| 2242\_2020\_WY | 4706743.303 | 324414.016 | 1796.724 | NVA |
| 2243\_2020\_WY | 4692885.573 | 298795.283 | 1913.359 | NVA |
| 2244\_2020\_WY | 4545333.149 | 289692.879 | 1973.599 | NVA |
| 2245\_2020\_WY | 4545566.369 | 286950.041 | 1939.883 | NVA |
| 2246\_2020\_WY | 4556306.209 | 466107.933 | 2550.644 | NVA |
| 2267\_2020\_WY | 4619514.732 | 422569.582 | 2122.092 | NVA |
| 2268\_2020\_WY | 4710220.844 | 353964.553 | 1681.409 | NVA |
| 2269\_2020\_WY | 4627358.789 | 315091.180 | 2065.625 | NVA |
| 2270\_2020\_WY | 4630183.871 | 314377.977 | 2082.933 | NVA |
| 2271\_2020\_WY | 4599646.102 | 409725.093 | 2338.858 | NVA |
| 2272\_2020\_WY | 4602719.214 | 442127.097 | 2158.887 | NVA |
| 2273\_2020\_WY | 4766312.091 | 338015.338 | 1743.094 | NVA |
| 2274\_2020\_WY | 4570711.229 | 444114.823 | 2194.372 | NVA |
| 2275\_2020\_WY | 4670913.823 | 395798.165 | 2108.583 | NVA |
| 2276\_2020\_WY | 4574096.532 | 403525.766 | 2581.058 | NVA |
| 2277\_2020\_WY | 4808321.299 | 387960.026 | 1572.239 | NVA |
| 2278\_2020\_WY | 4808759.231 | 392185.667 | 1494.666 | NVA |
| 2279\_2020\_WY | 4807021.096 | 396880.724 | 1482.006 | NVA |
| 2280\_2020\_WY | 4807654.753 | 398930.824 | 1497.057 | NVA |
| 2281\_2020\_WY | 4780432.503 | 391272.211 | 1637.090 | NVA |
| 2282\_2020\_WY | 4592872.263 | 414470.055 | 2329.634 | NVA |
| 2283\_2020\_WY | 4765695.756 | 352613.996 | 1710.188 | NVA |
| 2284\_2020\_WY | 4790486.829 | 311452.422 | 1879.259 | NVA |
| 2285\_2020\_WY | 4584697.327 | 268561.406 | 2018.704 | NVA |
| 2286\_2020\_WY | 4609032.830 | 277805.768 | 2127.153 | NVA |
| 2287\_2020\_WY | 4568787.052 | 292308.582 | 2316.159 | NVA |
| 2288\_2020\_WY | 4807232.811 | 363754.502 | 1589.626 | NVA |
| 2289\_2020\_WY | 4699741.915 | 357136.774 | 2055.344 | NVA |
| 2290\_2020\_WY | 4590783.980 | 269736.803 | 2031.198 | NVA |
| 2300\_2020\_WY | 4796818.696 | 398417.863 | 1541.951 | NVA |
| 2301\_2020\_WY | 4788605.666 | 393259.366 | 1580.256 | NVA |
| 2302\_2020\_WY | 4780524.637 | 317490.246 | 1870.866 | NVA |
| 2303\_2020\_WY | 4696176.265 | 303686.570 | 1878.353 | NVA |
| 2304\_2020\_WY | 4698446.465 | 311156.327 | 1854.757 | NVA |
| 2305\_2020\_WY | 4771103.089 | 321290.511 | 1847.262 | NVA |
| 2306\_2020\_WY | 4688621.248 | 441682.500 | 2296.732 | NVA |
| 2307\_2020\_WY | 4688918.101 | 473326.070 | 1918.300 | NVA |
| 2307\_2020\_WY | 4688918.108 | 473326.068 | 1918.292 | NVA |
| 2308\_2020\_WY | 4686801.109 | 475986.908 | 1863.158 | NVA |
| 2308\_2020\_WY | 4686801.101 | 475986.902 | 1863.163 | NVA |
| 2309\_2020\_WY | 4676890.592 | 440520.843 | 2261.244 | NVA |
| 2310\_2020\_WY | 4691955.288 | 409198.252 | 2154.211 | NVA |
| 2311\_2020\_WY | 4685528.821 | 410071.138 | 2207.042 | NVA |
| 2312\_2020\_WY | 4692112.963 | 414800.433 | 2204.345 | NVA |
| 2313\_2020\_WY | 4673857.789 | 475252.909 | 1811.982 | NVA |
| 2314\_2020\_WY | 4667327.891 | 465994.997 | 1993.682 | NVA |
| 2315\_2020\_WY | 4723043.023 | 315432.645 | 1954.710 | NVA |
| 2316\_2020\_WY | 4714534.674 | 337486.528 | 1808.726 | NVA |
| 2317\_2020\_WY | 4712709.116 | 328288.056 | 1816.145 | NVA |
| 2318\_2020\_WY | 4755784.694 | 368372.853 | 1658.999 | NVA |
| 2319\_2020\_WY | 4763020.575 | 367974.905 | 1674.611 | NVA |
| 2320\_2020\_WY | 4810020.548 | 339908.234 | 1823.015 | NVA |
| 2321\_2020\_WY | 4803998.656 | 348904.779 | 1789.544 | NVA |
| 3001\_2020\_WY | 4763825.791 | 316718.007 | 1882.800 | VVA |
| 3002\_2020\_WY | 4721641.236 | 385649.649 | 1778.322 | VVA |
| 3003\_2020\_WY | 4666066.255 | 392327.657 | 2247.940 | VVA |
| 3004\_2020\_WY | 4604146.548 | 298826.530 | 2253.984 | VVA |
| 3005\_2020\_WY | 4748584.750 | 351560.799 | 1790.405 | VVA |
| 3006\_2020\_WY | 4563898.138 | 393433.339 | 2939.832 | VVA |
| 3007\_2020\_WY | 4739141.828 | 322822.575 | 1997.397 | VVA |
| 3008\_2020\_WY | 4552307.711 | 473743.376 | 2404.674 | VVA |
| 3009\_2020\_WY | 4738139.013 | 306079.198 | 2187.459 | VVA |
| 3010\_2020\_WY | 4696656.802 | 312346.713 | 1894.546 | VVA |
| 3011\_2020\_WY | 4725568.752 | 392767.998 | 2374.408 | VVA |
| 3012\_2020\_WY | 4732186.819 | 366590.713 | 1647.762 | VVA |
| 3013\_2020\_WY | 4556794.956 | 366578.496 | 2374.003 | VVA |
| 3014\_2020\_WY | 4610319.868 | 293437.949 | 2178.490 | VVA |
| 3015\_2020\_WY | 4747756.129 | 334900.252 | 1850.344 | VVA |
| 3016\_2020\_WY | 4665754.078 | 296620.646 | 1993.435 | VVA |
| 3017\_2020\_WY | 4618998.394 | 446022.732 | 2134.517 | VVA |
| 3018\_2020\_WY | 4576266.494 | 281865.536 | 2103.566 | VVA |
| 3019\_2020\_WY | 4687269.525 | 399366.669 | 2144.216 | VVA |
| 3020\_2020\_WY | 4553212.595 | 288257.279 | 2251.443 | VVA |
| 3021\_2020\_WY | 4688936.100 | 441742.629 | 2291.334 | VVA |
| 3022\_2020\_WY | 4567804.074 | 438695.634 | 2196.852 | VVA |
| 3023\_2020\_WY | 4737487.806 | 346919.862 | 1843.400 | VVA |
| 3024\_2020\_WY | 4800649.305 | 326394.971 | 2016.509 | VVA |
| 3025\_2020\_WY | 4551580.206 | 445275.382 | 2291.892 | VVA |
| 3026\_2020\_WY | 4563102.058 | 292817.972 | 2362.663 | VVA |
| 3027\_2020\_WY | 4721852.875 | 351080.210 | 1966.262 | VVA |
| 3028\_2020\_WY | 4615123.731 | 431064.252 | 2192.759 | VVA |
| 3029\_2020\_WY | 4734213.209 | 343385.249 | 1915.369 | VVA |
| 3030\_2020\_WY | 4745380.784 | 314704.101 | 1936.630 | VVA |
| 3031\_2020\_WY | 4775128.851 | 409108.991 | 1825.471 | VVA |
| 3032\_2020\_WY | 4603015.141 | 372408.508 | 2308.902 | VVA |
| 3033\_2020\_WY | 4677659.240 | 450864.628 | 2361.859 | VVA |
| 3034\_2020\_WY | 4563142.961 | 462785.844 | 2667.352 | VVA |
| 3035\_2020\_WY | 4697536.964 | 308316.515 | 1882.987 | VVA |
| 3036\_2020\_WY | 4673233.625 | 305306.248 | 2078.510 | VVA |
| 3037\_2020\_WY | 4603272.097 | 359120.883 | 2169.625 | VVA |
| 3038\_2020\_WY | 4792897.834 | 395950.868 | 1564.456 | VVA |
| 3039\_2020\_WY | 4676383.806 | 344558.230 | 1801.078 | VVA |
| 3040\_2020\_WY | 4660560.342 | 464069.283 | 2213.029 | VVA |
| 3041\_2020\_WY | 4547409.731 | 273134.588 | 1913.162 | VVA |
| 3042\_2020\_WY | 4803967.697 | 332498.705 | 1886.593 | VVA |
| 3043\_2020\_WY | 4542630.041 | 283298.524 | 2022.211 | VVA |
| 3044\_2020\_WY | 4614804.417 | 451877.285 | 2170.691 | VVA |
| 3045\_2020\_WY | 4743796.956 | 372656.626 | 1660.056 | VVA |
| 3046\_2020\_WY | 4780287.886 | 324830.135 | 1785.930 | VVA |
| 3047\_2020\_WY | 4675097.025 | 432787.461 | 2207.718 | VVA |
| 3048\_2020\_WY | 4616901.429 | 428557.017 | 2154.560 | VVA |
| 3049\_2020\_WY | 4661250.995 | 467807.398 | 2184.416 | VVA |
| 3050\_2020\_WY | 4654535.673 | 310287.501 | 1973.177 | VVA |
| 3051\_2020\_WY | 4638386.988 | 429211.990 | 2100.462 | VVA |
| 3052\_2020\_WY | 4708106.921 | 392999.668 | 2045.654 | VVA |
| 3053\_2020\_WY | 4592139.014 | 258676.002 | 2018.041 | VVA |
| 3054\_2020\_WY | 4627194.096 | 293139.241 | 2034.362 | VVA |
| 3055\_2020\_WY | 4586311.375 | 419604.597 | 2247.840 | VVA |
| 3056\_2020\_WY | 4731226.796 | 366580.022 | 1652.253 | VVA |
| 3057\_2020\_WY | 4553545.586 | 259937.742 | 2042.433 | VVA |
| 3058\_2020\_WY | 4588217.914 | 421144.754 | 2226.669 | VVA |
| 3059\_2020\_WY | 4569068.043 | 427561.920 | 2213.957 | VVA |
| 3060\_2020\_WY | 4785021.481 | 316515.640 | 1856.362 | VVA |
| 3061\_2020\_WY | 4590955.671 | 454083.882 | 2226.876 | VVA |
| 3063\_2020\_WY | 4576374.853 | 449865.750 | 2173.818 | VVA |
| 3064\_2020\_WY | 4580978.071 | 369496.717 | 2392.555 | VVA |
| 3065\_2020\_WY | 4615537.520 | 472794.907 | 2030.525 | VVA |
| 3066\_2020\_WY | 4685587.136 | 357133.049 | 2099.508 | VVA |
| 3067\_2020\_WY | 4550815.214 | 371646.652 | 2354.106 | VVA |
| 3068\_2020\_WY | 4678860.980 | 362537.610 | 2143.823 | VVA |
| 3069\_2020\_WY | 4740875.493 | 299008.052 | 2279.948 | VVA |
| 3070\_2020\_WY | 4707097.369 | 384861.995 | 2026.433 | VVA |
| 3071\_2020\_WY | 4547096.810 | 402055.654 | 2770.951 | VVA |
| 3072\_2020\_WY | 4639063.850 | 437615.102 | 2121.556 | VVA |
| 3073\_2020\_WY | 4603421.476 | 278688.556 | 2178.328 | VVA |
| 3074\_2020\_WY | 4756870.688 | 328475.655 | 1824.098 | VVA |
| 3075\_2020\_WY | 4582220.547 | 256981.629 | 2008.056 | VVA |
| 3076\_2020\_WY | 4724384.529 | 319340.833 | 2053.222 | VVA |
| 3077\_2020\_WY | 4579380.650 | 365515.259 | 2357.720 | VVA |
| 3078\_2020\_WY | 4730964.739 | 389066.212 | 2452.065 | VVA |
| 3079\_2020\_WY | 4692179.634 | 319031.481 | 1982.638 | VVA |
| 3080\_2020\_WY | 4574371.380 | 256473.932 | 2041.375 | VVA |
| 3081\_2020\_WY | 4730524.241 | 297501.666 | 2099.296 | VVA |
| 3082\_2020\_WY | 4673467.153 | 414627.727 | 2121.802 | VVA |
| 3083\_2020\_WY | 4554595.112 | 367017.543 | 2478.150 | VVA |
| 3084\_2020\_WY | 4578799.278 | 267672.618 | 1988.878 | VVA |
| 3085\_2020\_WY | 4571156.631 | 412890.360 | 2338.530 | VVA |
| 3086\_2020\_WY | 4546618.547 | 468641.480 | 2356.915 | VVA |
| 3087\_2020\_WY | 4688363.710 | 324372.635 | 1998.244 | VVA |
| 3088\_2020\_WY | 4666351.550 | 451927.373 | 2153.947 | VVA |
| 3089\_2020\_WY | 4600155.559 | 354291.826 | 2092.570 | VVA |
| 3090\_2020\_WY | 4687838.440 | 326416.902 | 2002.774 | VVA |
| 3091\_2020\_WY | 4581115.752 | 420495.028 | 2225.880 | VVA |
| 3092\_2020\_WY | 4671342.437 | 433312.373 | 2175.631 | VVA |
| 3093\_2020\_WY | 4556677.721 | 440860.896 | 2215.042 | VVA |
| 3094\_2020\_WY | 4578949.335 | 286935.132 | 2226.120 | VVA |
| 3095\_2020\_WY | 4582971.299 | 271415.242 | 2124.707 | VVA |
| 3096\_2020\_WY | 4643823.030 | 435839.075 | 2120.238 | VVA |
| 3097\_2020\_WY | 4667781.002 | 380789.971 | 2294.047 | VVA |
| 3098\_2020\_WY | 4677286.841 | 295434.391 | 2020.820 | VVA |
| 3099\_2020\_WY | 4596445.060 | 379103.757 | 2574.058 | VVA |
| 3100\_2020\_WY | 4633330.624 | 434789.808 | 2103.181 | VVA |
| 3101\_2020\_WY | 4640655.467 | 440210.466 | 2127.749 | VVA |
| 3102\_2020\_WY | 4553186.326 | 415224.764 | 2283.425 | VVA |
| 3103\_2020\_WY | 4608429.789 | 465322.161 | 2330.851 | VVA |
| 3104\_2020\_WY | 4553938.869 | 270186.090 | 1974.053 | VVA |
| 3105\_2020\_WY | 4659835.666 | 341150.608 | 1988.087 | VVA |
| 3106\_2020\_WY | 4569687.459 | 265493.370 | 2048.226 | VVA |
| 3107\_2020\_WY | 4600892.027 | 413882.379 | 2261.639 | VVA |
| 3108\_2020\_WY | 4630302.715 | 293021.223 | 2032.856 | VVA |
| 3109\_2020\_WY | 4691402.258 | 369117.955 | 2283.602 | VVA |
| 3110\_2020\_WY | 4652813.268 | 297061.523 | 1992.735 | VVA |
| 3111\_2020\_WY | 4647818.572 | 409494.440 | 2069.697 | VVA |
| 3112\_2020\_WY | 4688511.130 | 325661.370 | 1999.737 | VVA |
| 3113\_2020\_WY | 4701087.024 | 331147.785 | 1843.748 | VVA |
| 3114\_2020\_WY | 4678610.479 | 293771.406 | 2036.341 | VVA |
| 3115\_2020\_WY | 4664025.896 | 299070.783 | 1983.135 | VVA |
| 3116\_2020\_WY | 4678511.278 | 468689.759 | 1967.186 | VVA |
| 3117\_2020\_WY | 4587964.551 | 417102.088 | 2295.785 | VVA |
| 3118\_2020\_WY | 4552661.507 | 455842.723 | 2320.968 | VVA |
| 3119\_2020\_WY | 4653577.976 | 298073.767 | 1990.840 | VVA |
| 3120\_2020\_WY | 4730085.076 | 295847.859 | 2122.188 | VVA |
| 3121\_2020\_WY | 4650893.832 | 334140.473 | 2034.344 | VVA |
| 3122\_2020\_WY | 4697526.707 | 376183.084 | 2018.581 | VVA |
| 3123\_2020\_WY | 4567121.318 | 300877.468 | 2249.619 | VVA |
| 3124\_2020\_WY | 4675174.132 | 442094.389 | 2250.527 | VVA |
| 3125\_2020\_WY | 4689791.818 | 376515.079 | 2300.221 | VVA |
| 3126\_2020\_WY | 4772657.440 | 309564.474 | 1859.680 | VVA |
| 3127\_2020\_WY | 4602858.611 | 275095.074 | 2218.665 | VVA |
| 3128\_2020\_WY | 4662967.391 | 416775.949 | 2101.024 | VVA |
| 3129\_2020\_WY | 4733737.801 | 335872.021 | 2060.555 | VVA |
| 3130\_2020\_WY | 4596780.022 | 417387.701 | 2250.342 | VVA |
| 3131\_2020\_WY | 4771685.273 | 301115.617 | 1863.928 | VVA |
| 3132\_2020\_WY | 4612229.137 | 411518.481 | 2213.530 | VVA |
| 3133\_2020\_WY | 4587640.678 | 434042.890 | 2170.480 | VVA |
| 3134\_2020\_WY | 4657395.435 | 337078.098 | 1965.838 | VVA |
| 3135\_2020\_WY | 4688616.541 | 321095.586 | 2028.733 | VVA |
| 3136\_2020\_WY | 4774197.142 | 349817.824 | 1787.982 | VVA |
| 3137\_2020\_WY | 4543203.231 | 392194.389 | 2630.302 | VVA |
| 3138\_2020\_WY | 4578112.162 | 374531.878 | 2547.183 | VVA |
| 3139\_2020\_WY | 4558719.535 | 393875.925 | 2728.144 | VVA |
| 3140\_2020\_WY | 4585235.504 | 385285.585 | 2975.027 | VVA |
| 3141\_2020\_WY | 4676937.435 | 368606.612 | 2475.033 | VVA |
| 3141A\_2020\_WY | 4671142.496 | 360793.038 | 2411.243 | VVA |
| 3142\_2020\_WY | 4552564.465 | 397386.346 | 2641.525 | VVA |
| 3143\_2020\_WY | 4545767.040 | 360517.140 | 2846.211 | VVA |
| 3144\_2020\_WY | 4543263.661 | 361110.028 | 2893.407 | VVA |
| 3145\_2020\_WY | 4593164.987 | 390361.313 | 2836.599 | VVA |
| 3146\_2020\_WY | 4679589.220 | 452866.127 | 2354.561 | VVA |
| 3147\_2020\_WY | 4541456.695 | 359268.329 | 2857.770 | VVA |
| 3148\_2020\_WY | 4594492.879 | 392608.638 | 2959.455 | VVA |
| 3149\_2020\_WY | 4731619.982 | 392508.053 | 2409.239 | VVA |
| 3150\_2020\_WY | 4674768.966 | 470701.443 | 2164.633 | VVA |
| 3151\_2020\_WY | 4541205.720 | 447408.455 | 2672.709 | VVA |
| 3152\_2020\_WY | 4548025.417 | 356227.922 | 2898.355 | VVA |
| 3153\_2020\_WY | 4801795.904 | 387161.043 | 1604.606 | VVA |
| 3154\_2020\_WY | 4560588.521 | 393614.656 | 2859.995 | VVA |
| 3155\_2020\_WY | 4747829.074 | 408226.081 | 1597.795 | VVA |
| 3156\_2020\_WY | 4762893.147 | 369897.487 | 1660.324 | VVA |
| 3157\_2020\_WY | 4773219.198 | 335951.643 | 1731.215 | VVA |
| 3158\_2020\_WY | 4684841.612 | 419626.839 | 2257.985 | VVA |
| 3159\_2020\_WY | 4577212.056 | 447585.219 | 2184.919 | VVA |
| 3160\_2020\_WY | 4714299.816 | 326014.583 | 1826.212 | VVA |
| 3161\_2020\_WY | 4714480.642 | 334587.711 | 1800.750 | VVA |
| 3162\_2020\_WY | 4717242.032 | 308861.468 | 1967.138 | VVA |
| 3163\_2020\_WY | 4685016.361 | 327828.272 | 1921.384 | VVA |
| 3164\_2020\_WY | 4799083.621 | 397692.244 | 1560.530 | VVA |
| 3165\_2020\_WY | 4681573.216 | 441357.635 | 2291.428 | VVA |
| 3166\_2020\_WY | 4640687.453 | 472662.956 | 1858.083 | VVA |
| 3167\_2020\_WY | 4745654.073 | 356756.435 | 1760.874 | VVA |
| 3168\_2020\_WY | 4756379.637 | 376472.792 | 1632.613 | VVA |
| 3169\_2020\_WY | 4702944.947 | 347736.542 | 1777.258 | VVA |
| 3170\_2020\_WY | 4673905.109 | 475439.214 | 1805.756 | VVA |
| 3171\_2020\_WY | 4777524.410 | 326739.727 | 1769.569 | VVA |
| 3172\_2020\_WY | 4683630.872 | 390470.507 | 2209.178 | VVA |
| 3173\_2020\_WY | 4770908.362 | 373535.503 | 1657.127 | VVA |
| 3175\_2020\_WY | 4748345.530 | 311770.696 | 1915.722 | VVA |
| 3176\_2020\_WY | 4733847.705 | 367022.389 | 1669.585 | VVA |
| 3177\_2020\_WY | 4808948.727 | 346212.627 | 1819.372 | VVA |
| 3178\_2020\_WY | 4703881.289 | 388859.645 | 2248.779 | VVA |
| 3179\_2020\_WY | 4586949.148 | 407873.709 | 2659.015 | VVA |
| 3180\_2020\_WY | 4742547.223 | 333054.123 | 1870.536 | VVA |
| 3181\_2020\_WY | 4752405.530 | 408759.109 | 1693.825 | VVA |
| 3182\_2020\_WY | 4664765.891 | 341508.989 | 2018.302 | VVA |
| 3183\_2020\_WY | 4752070.891 | 376461.978 | 1621.615 | VVA |
| 3184\_2020\_WY | 4808879.303 | 319466.611 | 2535.094 | VVA |
| 3185\_2020\_WY | 4692261.419 | 397740.276 | 2200.485 | VVA |
| 3186\_2020\_WY | 4565473.156 | 461300.024 | 2654.751 | VVA |
| 3187\_2020\_WY | 4717935.078 | 320880.279 | 1918.434 | VVA |
| 3188\_2020\_WY | 4691572.856 | 333415.327 | 1848.348 | VVA |
| 3189\_2020\_WY | 4767797.436 | 402248.924 | 1679.671 | VVA |
| 3190\_2020\_WY | 4543748.874 | 451573.445 | 2521.508 | VVA |
| 3191\_2020\_WY | 4633509.825 | 470479.617 | 1895.749 | VVA |
| 3192\_2020\_WY | 4713435.802 | 331084.239 | 1794.657 | VVA |
| 3193\_2020\_WY | 4704052.532 | 293416.455 | 1905.750 | VVA |
| 3194\_2020\_WY | 4711771.432 | 379366.401 | 1837.199 | VVA |
| 3195\_2020\_WY | 4669914.297 | 396822.968 | 2114.693 | VVA |
| 3196\_2020\_WY | 4585872.751 | 434060.125 | 2171.509 | VVA |
| 3197\_2020\_WY | 4556346.991 | 420393.851 | 2255.145 | VVA |
| 3198\_2020\_WY | 4576002.993 | 380130.500 | 2893.035 | VVA |
| 3199\_2020\_WY | 4609019.116 | 310643.780 | 2164.469 | VVA |
| 3200\_2020\_WY | 4636986.477 | 438121.609 | 2123.389 | VVA |
| 3201\_2020\_WY | 4789180.435 | 387332.723 | 1659.050 | VVA |
| 3202\_2020\_WY | 4603746.877 | 441742.127 | 2157.419 | VVA |
| 3203\_2020\_WY | 4620326.386 | 462957.862 | 1968.155 | VVA |
| 3204\_2020\_WY | 4649830.410 | 304732.081 | 2016.048 | VVA |
| 3205\_2020\_WY | 4788573.277 | 360558.102 | 1673.911 | VVA |

## Ground Control-Geodetic Coordinate System

* Horizontal Datum: NAD 1983 (2011)
* Vertical Datum: NAVD88
* Units: Meters

Table 2.2 Ground Control -Geodetic Coordinate System

| **Point Number** | **NAD1983 (2011)**  **Latitude (N)** | **NAD1983 (2011) Longitude (W)** | **Ellipsoid Height (M)** | **Description** |
| --- | --- | --- | --- | --- |
| 1000\_2020\_WY | 41°34'54.99853" | -106°37'03.46354" | 2218.832 | LCP |
| 1001\_2020\_WY | 41°30'15.07540" | -106°22'36.38708" | 2677.949 | LCP |
| 1002\_2020\_WY | 41°29'36.75509" | -106°20'33.89306" | 2746.769 | LCP |
| 1003\_2020\_WY | 41°30'41.58473" | -106°00'14.55204" | 2249.958 | LCP |
| 1004\_2020\_WY | 41°11'26.27718" | -105°35'54.19756" | 2210.948 | LCP |
| 1005\_2020\_WY | 41°13'09.16831" | -105°49'40.09892" | 2198.203 | LCP |
| 1006\_2020\_WY | 41°01'02.28008" | -106°00'07.16618" | 2425.258 | LCP |
| 1007\_2020\_WY | 41°28'36.96321" | -106°28'03.20556" | 2596.420 | LCP |
| 1008\_2020\_WY | 41°15'44.22380" | -105°34'46.41627" | 2195.062 | LCP |
| 1009\_2020\_WY | 41°18'40.63684" | -105°47'56.65714" | 2254.736 | LCP |
| 1010\_2020\_WY | 41°08'50.74276" | -107°15'55.70873" | 2443.471 | LCP |
| 1011\_2020\_WY | 41°17'43.45439" | -105°59'32.45847" | 2287.039 | LCP |
| 1012\_2020\_WY | 41°16'15.66010" | -107°03'28.86378" | 2691.719 | LCP |
| 1013\_2020\_WY | 41°35'43.55288" | -105°40'23.05982" | 2134.418 | LCP |
| 1014\_2020\_WY | 41°39'08.18906" | -107°43'44.08456" | 2147.473 | LCP |
| 1015\_2020\_WY | 41°29'31.76011" | -106°20'03.63074" | 2717.420 | LCP |
| 1016\_2020\_WY | 41°21'54.32693" | -107°29'54.09933" | 2357.617 | LCP |
| 1017\_2020\_WY | 41°22'18.60624" | -107°13'26.03530" | 2374.398 | LCP |
| 1018\_2020\_WY | 41°50'54.64288" | -105°13'11.11975" | 1617.865 | LCP |
| 1019\_2020\_WY | 41°28'50.05546" | -107°41'39.29473" | 2042.300 | LCP |
| 1020\_2020\_WY | 41°10'38.61253" | -106°53'12.34528" | 2610.516 | LCP |
| 1021\_2020\_WY | 41°31'32.53970" | -106°05'34.02651" | 2380.057 | LCP |
| 1022\_2020\_WY | 41°39'11.11526" | -105°47'03.04842" | 2149.708 | LCP |
| 1023\_2020\_WY | 41°24'38.51012" | -105°34'45.75319" | 2178.684 | LCP |
| 1024\_2020\_WY | 41°01'45.23666" | -106°55'12.41141" | 2805.280 | LCP |
| 1025\_2020\_WY | 41°23'23.49178" | -107°03'40.76942" | 2243.910 | LCP |
| 1026\_2020\_WY | 41°27'36.42574" | -106°04'48.86348" | 2486.239 | LCP |
| 1027\_2020\_WY | 41°09'14.01964" | -106°56'36.15426" | 2845.060 | LCP |
| 1028\_2020\_WY | 41°19'35.29343" | -106°31'34.92430" | 2749.802 | LCP |
| 1029\_2020\_WY | 41°25'30.31467" | -105°52'24.31622" | 2191.172 | LCP |
| 1030\_2020\_WY | 41°37'59.00859" | -105°45'59.29346" | 2135.197 | LCP |
| 1031\_2020\_WY | 41°11'50.64049" | -107°34'19.96316" | 2051.871 | LCP |
| 1032\_2020\_WY | 41°00'39.53735" | -106°14'54.05545" | 2609.460 | LCP |
| 1033\_2020\_WY | 41°03'56.94378" | -105°28'50.40369" | 2381.944 | LCP |
| 1034\_2020\_WY | 41°00'51.16705" | -106°47'54.85880" | 2589.474 | LCP |
| 1035\_2020\_WY | 41°02'43.72924" | -106°24'25.78209" | 2388.500 | LCP |
| 1036\_2020\_WY | 41°08'28.96232" | -107°06'54.59024" | 2560.493 | LCP |
| 1037\_2020\_WY | 41°05'27.39723" | -107°31'35.58311" | 2126.227 | LCP |
| 1038\_2020\_WY | 41°35'49.50248" | -107°44'29.91526" | 2182.720 | LCP |
| 1039\_2020\_WY | 41°14'16.74594" | -105°43'53.45056" | 2186.379 | LCP |
| 1040\_2020\_WY | 41°10'32.28686" | -106°04'38.29382" | 2487.854 | LCP |
| 1041\_2020\_WY | 41°26'40.49223" | -107°55'53.80035" | 2002.155 | LCP |
| 1042\_2020\_WY | 41°06'33.99556" | -105°38'23.24840" | 2279.732 | LCP |
| 1043\_2020\_WY | 41°04'27.10241" | -107°14'00.52514" | 2367.776 | LCP |
| 1044\_2020\_WY | 41°13'08.15018" | -105°38'40.03260" | 2210.160 | LCP |
| 1045\_2020\_WY | 41°30'54.76478" | -107°32'28.40811" | 2131.740 | LCP |
| 1046\_2020\_WY | 41°07'19.88922" | -106°36'13.41289" | 2416.884 | LCP |
| 1047\_2020\_WY | 41°03'35.14441" | -107°18'21.28304" | 2177.701 | LCP |
| 1048\_2020\_WY | 41°38'43.41056" | -106°27'36.16093" | 2259.215 | LCP |
| 1049\_2020\_WY | 41°03'20.87436" | -106°56'57.17471" | 2695.091 | LCP |
| 1050\_2020\_WY | 41°24'58.84401" | -106°27'41.28941" | 2708.413 | LCP |
| 1051\_2020\_WY | 41°23'23.23712" | -106°35'07.38001" | 2349.395 | LCP |
| 1052\_2020\_WY | 41°27'35.25819" | -107°14'23.64756" | 2261.043 | LCP |
| 1053\_2020\_WY | 41°36'10.62359" | -107°15'17.02680" | 2134.890 | LCP |
| 1054\_2020\_WY | 41°46'25.92495" | -107°27'59.97822" | 2019.120 | LCP |
| 1055\_2020\_WY | 42°03'45.01065" | -105°45'51.10457" | 2167.854 | LCP |
| 1056\_2020\_WY | 42°19'38.24206" | -105°56'51.81436" | 2254.066 | LCP |
| 1057\_2020\_WY | 42°00'26.94074" | -105°46'48.71129" | 2178.973 | LCP |
| 1058\_2020\_WY | 42°25'33.34713" | -105°54'07.06123" | 2486.030 | LCP |
| 1059\_2020\_WY | 42°02'29.13837" | -105°48'01.01617" | 2217.276 | LCP |
| 1060\_2020\_WY | 41°43'46.77078" | -105°58'01.60157" | 2073.795 | LCP |
| 1061\_2020\_WY | 42°13'13.65689" | -105°20'50.21768" | 2114.572 | LCP |
| 1062\_2020\_WY | 41°53'41.97377" | -105°36'04.54243" | 2124.751 | LCP |
| 1063\_2020\_WY | 42°26'16.33707" | -105°52'56.88208" | 2529.108 | LCP |
| 1064\_2020\_WY | 42°12'56.06921" | -105°19'27.72623" | 1899.704 | LCP |
| 1065\_2020\_WY | 41°54'09.14532" | -105°17'47.53076" | 1810.406 | LCP |
| 1066\_2020\_WY | 42°26'20.56421" | -105°41'57.15643" | 2286.565 | LCP |
| 1067\_2020\_WY | 42°13'31.75105" | -105°24'11.02109" | 2001.065 | LCP |
| 1068\_2020\_WY | 42°08'51.14219" | -105°34'53.65388" | 2141.319 | LCP |
| 1069\_2020\_WY | 41°56'40.51406" | -105°41'21.36786" | 2149.994 | LCP |
| 1070\_2020\_WY | 41°50'52.98720" | -105°43'39.81561" | 2112.247 | LCP |
| 1071\_2020\_WY | 42°13'20.25807" | -105°37'42.09272" | 2401.868 | LCP |
| 1072\_2020\_WY | 41°50'51.24262" | -105°23'26.96104" | 1920.506 | LCP |
| 1073\_2020\_WY | 41°46'28.80689" | -105°18'20.36945" | 1814.953 | LCP |
| 1074\_2020\_WY | 42°17'03.40001" | -105°42'39.83613" | 2280.484 | LCP |
| 1075\_2020\_WY | 42°05'12.14844" | -105°26'50.02302" | 2152.078 | LCP |
| 1076\_2020\_WY | 41°58'27.56791" | -105°26'00.89386" | 2096.027 | LCP |
| 1077\_2020\_WY | 42°13'15.00572" | -105°17'02.90212" | 1764.614 | LCP |
| 1078\_2020\_WY | 41°52'03.73565" | -107°15'48.07145" | 2126.228 | LCP |
| 1079\_2020\_WY | 42°10'49.79331" | -107°22'07.26884" | 2058.214 | LCP |
| 1080\_2020\_WY | 42°00'37.23603" | -107°28'37.55532" | 2001.390 | LCP |
| 1081\_2020\_WY | 41°53'40.13297" | -107°02'33.67579" | 1973.445 | LCP |
| 1082\_2020\_WY | 42°10'26.13495" | -106°57'22.85173" | 2186.669 | LCP |
| 1083\_2020\_WY | 42°45'43.50193" | -106°08'38.97014" | 1638.069 | LCP |
| 1084\_2020\_WY | 42°08'01.39634" | -106°07'55.49115" | 2087.398 | LCP |
| 1085\_2020\_WY | 42°23'05.42927" | -106°13'25.01159" | 2160.052 | LCP |
| 1086\_2020\_WY | 42°28'44.32863" | -106°04'34.79472" | 2283.389 | LCP |
| 1087\_2020\_WY | 42°00'35.64714" | -106°11'38.93320" | 2070.382 | LCP |
| 1088\_2020\_WY | 42°14'55.00403" | -106°15'48.69876" | 2119.290 | LCP |
| 1089\_2020\_WY | 42°38'18.44007" | -106°18'44.62365" | 2303.491 | LCP |
| 1090\_2020\_WY | 42°22'13.28672" | -106°40'37.97844" | 2110.476 | LCP |
| 1091\_2020\_WY | 42°06'37.36520" | -106°19'53.38411" | 2194.462 | LCP |
| 1092\_2020\_WY | 42°35'49.86361" | -106°30'51.18744" | 1718.569 | LCP |
| 1093\_2020\_WY | 42°20'15.91147" | -106°29'10.67893" | 2246.809 | LCP |
| 1094\_2020\_WY | 42°08'08.72535" | -106°29'32.49437" | 2565.023 | LCP |
| 1095\_2020\_WY | 42°37'16.24860" | -106°46'27.24287" | 2002.714 | LCP |
| 1096\_2020\_WY | 42°22'47.71644" | -106°24'30.65645" | 1998.688 | LCP |
| 1097\_2020\_WY | 42°10'16.77792" | -106°34'32.56413" | 2719.276 | LCP |
| 1098\_2020\_WY | 42°41'05.23605" | -106°23'33.48721" | 1904.282 | LCP |
| 1099\_2020\_WY | 42°31'14.13107" | -106°34'32.33446" | 1789.802 | LCP |
| 1100\_2020\_WY | 42°19'41.34605" | -106°44'34.61968" | 2079.577 | LCP |
| 1101\_2020\_WY | 42°09'37.39491" | -106°46'02.24227" | 2125.545 | LCP |
| 1102\_2020\_WY | 42°43'43.67273" | -106°47'19.16840" | 1824.299 | LCP |
| 1103\_2020\_WY | 42°43'49.62067" | -106°50'43.51818" | 1902.405 | LCP |
| 1104\_2020\_WY | 42°08'29.05037" | -107°25'43.29603" | 1977.279 | LCP |
| 1105\_2020\_WY | 42°15'10.52945" | -107°27'01.37045" | 2034.195 | LCP |
| 1106\_2020\_WY | 42°21'00.78666" | -107°27'33.96778" | 1911.819 | LCP |
| 1107\_2020\_WY | 42°24'32.89612" | -107°23'14.38286" | 1848.820 | LCP |
| 1108\_2020\_WY | 42°33'25.78315" | -107°18'07.18865" | 1928.296 | LCP |
| 1109\_2020\_WY | 42°40'25.23179" | -107°19'33.87500" | 2057.508 | LCP |
| 1110\_2020\_WY | 42°40'35.70175" | -107°16'40.92184" | 2016.685 | LCP |
| 1111\_2020\_WY | 42°23'23.81581" | -107°15'16.56933" | 1884.999 | LCP |
| 1112\_2020\_WY | 42°22'58.78328" | -107°11'33.82719" | 1927.152 | LCP |
| 1113\_2020\_WY | 42°31'17.26392" | -107°09'44.99711" | 1798.470 | LCP |
| 1114\_2020\_WY | 42°38'59.23337" | -107°02'20.93005" | 1892.254 | LCP |
| 1115\_2020\_WY | 42°46'59.12418" | -106°58'51.24417" | 1883.621 | LCP |
| 1116\_2020\_WY | 42°17'56.28120" | -107°06'22.53330" | 2007.356 | LCP |
| 1117\_2020\_WY | 42°27'28.71003" | -106°57'14.28301" | 1791.358 | LCP |
| 1118\_2020\_WY | 42°38'33.33923" | -106°54'46.28975" | 1942.809 | LCP |
| 1119\_2020\_WY | 42°52'09.03285" | -106°04'52.40731" | 1527.403 | LCP |
| 1120\_2020\_WY | 43°26'46.50878" | -106°36'38.84727" | 1599.220 | LCP |
| 1121\_2020\_WY | 43°08'19.89830" | -106°34'27.00251" | 1681.953 | LCP |
| 1122\_2020\_WY | 42°46'08.46939" | -106°05'47.54774" | 1620.427 | LCP |
| 1123\_2020\_WY | 43°15'24.46585" | -106°40'48.84576" | 1618.276 | LCP |
| 1124\_2020\_WY | 42°56'51.82923" | -106°41'09.66643" | 1668.179 | LCP |
| 1125\_2020\_WY | 43°22'40.35010" | -106°45'48.27314" | 1687.986 | LCP |
| 1126\_2020\_WY | 43°06'36.36861" | -106°07'13.83489" | 1796.960 | LCP |
| 1127\_2020\_WY | 42°46'50.07873" | -106°50'07.08277" | 1843.889 | LCP |
| 1128\_2020\_WY | 43°14'00.27951" | -106°44'54.54873" | 1605.710 | LCP |
| 1129\_2020\_WY | 42°55'39.28413" | -106°59'08.08400" | 1849.183 | LCP |
| 1130\_2020\_WY | 43°22'05.22416" | -107°11'08.23438" | 2272.830 | LCP |
| 1131\_2020\_WY | 43°03'04.94499" | -107°10'42.91517" | 1795.482 | LCP |
| 1132\_2020\_WY | 43°29'27.81570" | -107°06'45.90453" | 2477.428 | LCP |
| 1133\_2020\_WY | 43°11'24.49665" | -107°09'12.80083" | 1787.000 | LCP |
| 1134\_2020\_WY | 42°52'00.30928" | -107°15'39.12743" | 1895.452 | LCP |
| 1135\_2020\_WY | 43°19'04.60706" | -107°06'42.95493" | 1958.687 | LCP |
| 1136\_2020\_WY | 42°58'21.35997" | -107°14'11.20523" | 1884.757 | LCP |
| 1137\_2020\_WY | 43°23'46.93936" | -107°14'06.99799" | 2526.036 | LCP |
| 1138\_2020\_WY | 43°05'02.89202" | -107°18'07.91597" | 1869.703 | LCP |
| 1139\_2020\_WY | 43°28'28.02155" | -107°13'16.52847" | 2562.202 | LCP |
| 1140\_2020\_WY | 43°11'03.21131" | -107°21'54.05276" | 1782.174 | LCP |
| 1141\_2020\_WY | 42°51'29.76455" | -107°21'42.99622" | 2017.746 | LCP |
| 1142\_2020\_WY | 43°15'52.20544" | -107°29'02.81134" | 1807.107 | LCP |
| 1143\_2020\_WY | 42°59'57.90757" | -107°29'45.06610" | 1885.938 | LCP |
| 1144\_2020\_WY | 43°27'15.90513" | -106°30'22.45390" | 1670.563 | LCP |
| 1145\_2020\_WY | 43°12'34.45476" | -106°19'03.04072" | 1605.572 | LCP |
| 1146\_2020\_WY | 43°24'32.72444" | -106°28'33.56750" | 1554.136 | LCP |
| 1147\_2020\_WY | 43°06'24.46153" | -106°13'34.89639" | 1737.683 | LCP |
| 1148\_2020\_WY | 43°20'16.56836" | -106°15'42.84477" | 1548.203 | LCP |
| 1149\_2021\_WY | 41°31'41.74233" | -106°17'35.77545" | 2848.706 | LCP |
| 1150\_2021\_WY | 41°28'17.25430" | -106°13'36.15499" | 3030.823 | LCP |
| 1152\_2021\_WY | 41°21'05.49367" | -106°09'53.41592" | 2759.440 | LCP |
| 1153\_2021\_WY | 41°08'11.44571" | -106°09'52.24174" | 2718.099 | LCP |
| 1154\_2021\_WY | 41°27'24.83631" | -106°16'03.73145" | 3065.645 | LCP |
| 1155\_2021\_WY | 41°06'41.61783" | -106°02'23.53299" | 2374.189 | LCP |
| 1156\_2021\_WY | 41°17'50.73070" | -106°08'22.82001" | 2438.861 | LCP |
| 1157\_2021\_WY | 41°03'28.75733" | -106°19'39.60156" | 2691.207 | LCP |
| 1159\_2021\_WY | 41°04'45.33473" | -106°00'44.21795" | 2285.541 | LCP |
| 1160\_2021\_WY | 41°00'23.59948" | -106°14'22.14625" | 2604.584 | LCP |
| 1161\_2021\_WY | 41°13'10.36996" | -106°14'17.73892" | 2880.456 | LCP |
| 1162\_2021\_WY | 41°30'31.12696" | -106°21'32.39038" | 2656.504 | LCP |
| 1163\_2021\_WY | 41°11'29.83938" | -106°06'08.66262" | 2434.088 | LCP |
| 1164\_2021\_WY | 41°04'56.26287" | -106°11'53.27865" | 2758.960 | LCP |
| 1165\_2021\_WY | 41°36'06.54518" | -106°15'05.62724" | 2384.053 | LCP |
| 1166\_2021\_WY | 41°17'50.31110" | -106°05'11.04758" | 2398.526 | LCP |
| 1167\_2021\_WY | 41°12'50.58684" | -106°24'03.26753" | 2711.776 | LCP |
| 1168\_2020\_WY | 41°00'10.80843" | -107°08'42.62078" | 2117.228 | LCP |
| 1168A\_2020\_WY | 41°00'14.31799" | -107°08'44.74435" | 2128.736 | LCP |
| 1169\_2020\_WY | 41°00'06.80528" | -106°48'42.09849" | 2552.100 | LCP |
| 1169A\_2020\_WY | 41°01'12.05953" | -106°51'01.23591" | 2534.536 | LCP |
| 1170\_2021\_WY | 41°02'59.63891" | -106°18'16.87558" | 2653.511 | LCP |
| 1171A\_2021\_WY | 41°13'44.10584" | -106°18'58.74592" | 3017.501 | LCP |
| 1172\_2021\_WY | 41°22'43.15544" | -106°11'18.82940" | 2955.871 | LCP |
| 1173\_2021\_WY | 41°35'36.51473" | -106°19'01.74329" | 2390.324 | LCP |
| 1174\_2021\_WY | 41°13'50.70550" | -106°13'27.87871" | 2921.796 | LCP |
| 1175\_2021\_WY | 41°33'04.59283" | -106°17'48.05897" | 2681.062 | LCP |
| 1176\_2021\_WY | 41°25'01.80827" | -106°25'07.68631" | 2864.501 | LCP |
| 1177\_2021\_WY | 41°23'07.98420" | -106°11'39.78122" | 3045.708 | LCP |
| 1178\_2021\_WY | 41°18'08.31679" | -106°10'15.88652" | 2754.582 | LCP |
| 1179\_2021\_WY | 41°31'29.08399" | -106°23'13.59883" | 2530.143 | LCP |
| 1180\_2021\_WY | 41°15'12.24954" | -106°22'48.00557" | 2850.476 | LCP |
| 1181A\_2021\_WY | 41°16'24.57514" | -106°16'22.90605" | 3058.887 | LCP |
| 1182A\_2021\_WY | 41°25'12.17643" | -106°25'49.73363" | 2843.704 | LCP |
| 1184\_2020\_WY | 40°59'56.27689" | -106°48'36.40041" | 2570.465 | LCP |
| 1185\_2020\_WY | 41°00'29.97418" | -106°41'07.37366" | 2977.371 | LCP |
| 1186\_2020\_WY | 41°01'06.60464" | -106°39'11.77550" | 2821.381 | LCP |
| 1187\_2020\_WY | 41°01'21.95520" | -106°38'50.31224" | 2829.896 | LCP |
| 1188\_2021\_WY | 41°01'30.05299" | -106°36'49.04282" | 2638.923 | LCP |
| 1189\_2020\_WY | 41°01'47.31933" | -107°13'43.60627" | 2064.676 | LCP |
| 1190\_2021\_WY | 41°01'56.24262" | -106°35'33.69392" | 2591.914 | LCP |
| 1191A\_2021\_WY | 41°01'06.34869" | -106°31'46.63964" | 2434.523 | LCP |
| 1192\_2021\_WY | 41°02'14.99892" | -106°37'13.72244" | 2626.886 | LCP |
| 1193\_2021\_WY | 41°02'23.72579" | -106°37'09.54215" | 2615.736 | LCP |
| 1194A\_2020\_WY | 41°02'57.08380" | -106°42'43.43464" | 3046.003 | LCP |
| 1194B\_2020\_WY | 41°03'19.19418" | -106°42'55.69474" | 2986.025 | LCP |
| 1195\_2020\_WY | 41°02'56.28755" | -106°50'20.77642" | 2675.945 | LCP |
| 1196A\_2021\_WY | 41°03'20.80294" | -106°56'57.44587" | 2695.029 | LCP |
| 1197\_2020\_WY | 41°03'07.63242" | -107°06'27.42932" | 2416.347 | LCP |
| 1198\_2020\_WY | 41°03'17.88243" | -107°14'47.83931" | 2226.132 | LCP |
| 1200\_2020\_WY | 41°04'47.56685" | -106°45'00.72428" | 2851.578 | LCP |
| 1201\_2020\_WY | 41°03'46.14384" | -107°06'57.68972" | 2434.243 | LCP |
| 1201A\_2020\_WY | 41°04'19.53519" | -107°09'21.49007" | 2328.893 | LCP |
| 1202A\_2021\_WY | 41°05'43.49908" | -106°32'55.68593" | 2345.719 | LCP |
| 1203\_2020\_WY | 41°05'25.76307" | -106°52'18.02748" | 2870.537 | LCP |
| 1204\_2020\_WY | 41°05'14.12999" | -107°14'38.27578" | 2407.715 | LCP |
| 1205\_2020\_WY | 41°05'27.76652" | -106°42'53.48072" | 2757.997 | LCP |
| 1206A\_2021\_WY | 41°09'51.41166" | -107°00'17.31962" | 2884.928 | LCP |
| 1207\_2021\_WY | 41°17'38.52748" | -106°01'37.27306" | 2311.326 | LCP |
| 1208\_2021\_WY | 41°17'04.36537" | -106°27'23.56660" | 2644.379 | LCP |
| 1209\_2021\_WY | 41°30'51.47953" | -106°28'08.18229" | 2457.732 | LCP |
| 1210\_2021\_WY | 41°07'46.46584" | -106°47'50.34115" | 2278.343 | LCP |
| 1211\_2020\_WY | 41°07'15.75906" | -107°09'10.04459" | 2532.948 | LCP |
| 1212\_2020\_WY | 41°07'21.23000" | -106°55'21.30935" | 3016.281 | LCP |
| 1212A\_2020\_WY | 41°06'37.68090" | -106°54'35.41537" | 3038.511 | LCP |
| 1213\_2020\_WY | 41°07'52.07101" | -106°53'08.07421" | 2713.961 | LCP |
| 1214\_2020\_WY | 41°07'51.71306" | -107°11'00.20759" | 2430.193 | LCP |
| 1215\_2020\_WY | 41°08'27.84169" | -107°17'42.02773" | 2419.738 | LCP |
| 1216\_2020\_WY | 41°08'56.21641" | -107°16'32.08823" | 2448.601 | LCP |
| 1216A\_2020\_WY | 41°09'00.44080" | -107°14'33.68567" | 2460.736 | LCP |
| 1217\_2020\_WY | 41°08'59.81790" | -107°03'11.71747" | 2738.780 | LCP |
| 1218\_2021\_WY | 41°28'44.70522" | -106°29'00.34712" | 2660.945 | LCP |
| 1219\_2021\_WY | 41°17'38.16059" | -106°00'50.87414" | 2301.122 | LCP |
| 1220\_2020\_WY | 41°11'28.67202" | -106°56'46.61734" | 2807.549 | LCP |
| 1221A\_2021\_WY | 41°13'39.67976" | -106°30'46.65169" | 2453.763 | LCP |
| 1222\_2020\_WY | 41°11'16.98309" | -107°17'56.87259" | 2518.623 | LCP |
| 1222A\_2020\_WY | 41°11'30.43254" | -107°17'30.83694" | 2527.299 | LCP |
| 1223A\_2020\_WY | 41°12'43.51269" | -107°03'12.85116" | 2987.272 | LCP |
| 1224\_2020\_WY | 41°12'20.16977" | -107°15'02.97447" | 2376.001 | LCP |
| 1225\_2021\_WY | 41°13'57.65160" | -106°31'38.68549" | 2390.402 | LCP |
| 1226\_2021\_WY | 41°19'32.13146" | -106°32'24.71975" | 2644.626 | LCP |
| 1227A\_2020\_WY | 41°14'48.85664" | -107°07'58.35361" | 2732.262 | LCP |
| 1227B\_2020\_WY | 41°14'22.39872" | -107°09'04.08570" | 2962.339 | LCP |
| 1228\_2020\_WY | 41°15'37.63782" | -106°58'02.18338" | 2420.164 | LCP |
| 1229\_2020\_WY | 41°19'58.04656" | -106°33'02.25859" | 2521.867 | LCP |
| 1230\_2020\_WY | 41°17'03.09373" | -107°01'38.91718" | 2672.810 | LCP |
| 1231\_2020\_WY | 41°18'22.67600" | -107°05'14.00008" | 2656.117 | LCP |
| 1232\_2021\_WY | 41°28'35.59608" | -106°30'55.61113" | 2639.875 | LCP |
| 1233\_2020\_WY | 41°06'35.42042" | -107°20'02.39527" | 2345.084 | LCP |
| 1234\_2020\_WY | 41°06'28.14369" | -107°18'14.50777" | 2401.794 | LCP |
| 1235\_2021\_WY | 41°21'44.63749" | -106°32'52.29255" | 2382.390 | LCP |
| 1236\_2021\_WY | 41°21'10.41722" | -106°32'05.46601" | 2421.524 | LCP |
| 1237\_2021\_WY | 41°32'19.66449" | -106°23'14.37472" | 2479.071 | LCP |
| 2001\_2020\_WY | 41°59'04.02996" | -107°00'29.02542" | 2032.682 | NVA |
| 2002\_2020\_WY | 41°54'48.05986" | -107°18'00.22006" | 2180.958 | NVA |
| 2003\_2020\_WY | 41°51'50.02390" | -107°03'36.11521" | 1950.947 | NVA |
| 2004\_2020\_WY | 41°38'24.47532" | -106°44'50.72919" | 2076.073 | NVA |
| 2005\_2020\_WY | 41°13'21.56119" | -106°23'07.30690" | 2913.418 | NVA |
| 2006\_2020\_WY | 41°10'13.23431" | -106°37'15.70476" | 2240.593 | NVA |
| 2007\_2020\_WY | 41°35'17.82314" | -106°28'34.23489" | 2364.987 | NVA |
| 2008\_2020\_WY | 41°11'17.80786" | -106°38'15.68541" | 2232.306 | NVA |
| 2009\_2020\_WY | 41°06'11.18987" | -106°31'49.49519" | 2350.617 | NVA |
| 2010\_2020\_WY | 41°30'09.06096" | -106°22'48.65552" | 2677.070 | NVA |
| 2011\_2020\_WY | 41°49'38.73806" | -107°12'43.57742" | 2100.103 | NVA |
| 2012\_2020\_WY | 41°19'52.77976" | -106°19'31.79818" | 3186.448 | NVA |
| 2013\_2020\_WY | 42°20'56.06712" | -107°06'46.43272" | 1940.178 | NVA |
| 2014\_2020\_WY | 41°58'50.14958" | -107°21'54.85495" | 1980.875 | NVA |
| 2015\_2020\_WY | 41°27'34.05301" | -106°23'44.74287" | 2806.181 | NVA |
| 2016\_2020\_WY | 41°14'41.92636" | -106°17'11.74307" | 2986.336 | NVA |
| 2017\_2020\_WY | 41°35'34.21624" | -106°35'31.82029" | 2213.484 | NVA |
| 2018\_2020\_WY | 42°01'01.48198" | -107°25'30.79936" | 1976.049 | NVA |
| 2019\_2020\_WY | 42°12'05.11140" | -106°33'50.63665" | 2532.887 | NVA |
| 2020\_2020\_WY | 41°53'15.89848" | -107°10'29.78200" | 1990.398 | NVA |
| 2021\_2020\_WY | 41°05'09.25481" | -106°42'34.83197" | 2737.034 | NVA |
| 2022\_2020\_WY | 41°23'08.82047" | -106°27'55.54448" | 2848.295 | NVA |
| 2023\_2020\_WY | 41°19'28.81685" | -106°28'59.84813" | 2615.700 | NVA |
| 2024\_2020\_WY | 41°12'47.04972" | -106°30'57.50573" | 2319.179 | NVA |
| 2025\_2020\_WY | 41°27'16.20233" | -106°40'12.25729" | 2201.455 | NVA |
| 2026\_2020\_WY | 41°27'55.22495" | -106°41'06.38349" | 2163.928 | NVA |
| 2027\_2020\_WY | 41°27'22.81665" | -106°16'21.87277" | 3062.867 | NVA |
| 2028\_2020\_WY | 41°14'01.71731" | -106°31'42.41707" | 2388.958 | NVA |
| 2029\_2020\_WY | 41°59'54.90795" | -107°03'51.29920" | 2040.516 | NVA |
| 2030\_2020\_WY | 41°35'01.99512" | -106°44'50.89533" | 2126.192 | NVA |
| 2031\_2020\_WY | 42°19'52.50091" | -106°13'22.24673" | 2132.108 | NVA |
| 2032\_2020\_WY | 42°16'31.92842" | -106°16'22.00357" | 2178.439 | NVA |
| 2033\_2020\_WY | 43°12'39.20279" | -106°21'54.59547" | 1638.782 | NVA |
| 2034\_2020\_WY | 42°44'18.33197" | -106°21'20.10754" | 2407.360 | NVA |
| 2035\_2020\_WY | 43°27'21.52852" | -106°16'12.88071" | 1491.225 | NVA |
| 2036\_2020\_WY | 43°07'21.86484" | -106°15'04.74927" | 1762.980 | NVA |
| 2037\_2020\_WY | 42°22'05.76901" | -105°41'46.40873" | 2244.995 | NVA |
| 2038\_2020\_WY | 43°29'21.33648" | -106°11'38.98046" | 1550.119 | NVA |
| 2039\_2020\_WY | 42°20'38.27241" | -105°48'53.77075" | 2308.200 | NVA |
| 2040\_2020\_WY | 43°21'35.90296" | -106°23'45.10174" | 1602.036 | NVA |
| 2041\_2020\_WY | 42°41'30.88255" | -106°23'02.43065" | 1965.619 | NVA |
| 2042\_2020\_WY | 43°24'57.80959" | -106°27'53.91111" | 1522.292 | NVA |
| 2043\_2020\_WY | 43°04'41.15914" | -106°14'27.26490" | 1688.806 | NVA |
| 2044\_2020\_WY | 43°10'18.03194" | -106°20'06.04842" | 1630.108 | NVA |
| 2045\_2020\_WY | 42°38'35.46220" | -106°24'59.72532" | 1733.003 | NVA |
| 2046\_2020\_WY | 43°23'56.54564" | -106°12'12.98011" | 1515.103 | NVA |
| 2047\_2020\_WY | 42°45'05.64717" | -106°29'59.19936" | 1657.521 | NVA |
| 2048\_2020\_WY | 43°07'24.71828" | -106°06'59.84949" | 1810.925 | NVA |
| 2049\_2020\_WY | 42°39'34.92748" | -106°25'30.30475" | 1741.979 | NVA |
| 2050\_2020\_WY | 42°57'52.91129" | -106°30'50.35649" | 1636.029 | NVA |
| 2051\_2020\_WY | 42°19'58.52337" | -105°20'30.13649" | 1906.041 | NVA |
| 2052\_2020\_WY | 42°21'33.49829" | -105°18'56.59168" | 1872.965 | NVA |
| 2053\_2020\_WY | 42°40'47.95799" | -106°15'47.01629" | 2512.253 | NVA |
| 2054\_2020\_WY | 42°11'28.49339" | -105°48'27.93328" | 2164.196 | NVA |
| 2055\_2020\_WY | 43°28'00.24520" | -106°27'56.83415" | 1526.263 | NVA |
| 2056\_2020\_WY | 42°23'08.94933" | -106°18'01.35070" | 2188.506 | NVA |
| 2057\_2020\_WY | 42°54'39.79358" | -106°30'49.49961" | 1608.842 | NVA |
| 2058\_2020\_WY | 42°12'26.89883" | -107°26'43.12678" | 1997.175 | NVA |
| 2059\_2020\_WY | 42°21'26.67784" | -107°11'35.95375" | 2003.782 | NVA |
| 2060\_2020\_WY | 42°22'21.38430" | -107°15'12.07419" | 1920.593 | NVA |
| 2061\_2020\_WY | 42°36'00.90176" | -107°07'31.62958" | 1885.814 | NVA |
| 2062\_2020\_WY | 42°45'24.20060" | -107°22'14.90427" | 2173.103 | NVA |
| 2063\_2020\_WY | 42°24'35.56395" | -107°29'49.97608" | 1966.899 | NVA |
| 2064\_2020\_WY | 42°48'44.33430" | -107°13'18.66099" | 1965.894 | NVA |
| 2065\_2020\_WY | 42°30'25.48734" | -107°03'55.40892" | 1773.596 | NVA |
| 2066\_2020\_WY | 42°26'15.04094" | -106°59'44.21556" | 1839.559 | NVA |
| 2067\_2020\_WY | 42°50'12.06528" | -107°25'27.89300" | 2194.825 | NVA |
| 2068\_2020\_WY | 42°17'31.78405" | -107°08'01.19483" | 2054.306 | NVA |
| 2069\_2020\_WY | 42°46'05.85029" | -107°27'54.46791" | 2197.717 | NVA |
| 2070\_2020\_WY | 42°48'55.12156" | -107°23'17.05779" | 2258.715 | NVA |
| 2071\_2020\_WY | 42°22'28.48448" | -107°01'53.07927" | 1835.925 | NVA |
| 2072\_2020\_WY | 42°25'51.06980" | -107°19'27.28007" | 1841.717 | NVA |
| 2073\_2020\_WY | 42°10'59.74856" | -107°20'58.14759" | 2065.650 | NVA |
| 2074\_2020\_WY | 42°48'06.30289" | -106°50'57.59701" | 1768.732 | NVA |
| 2075\_2020\_WY | 42°33'34.74399" | -106°51'52.41274" | 1906.334 | NVA |
| 2076\_2020\_WY | 42°39'52.46726" | -106°28'48.38603" | 1682.276 | NVA |
| 2077\_2020\_WY | 42°25'11.93821" | -106°30'17.54016" | 2006.984 | NVA |
| 2078\_2020\_WY | 42°15'32.75609" | -106°25'54.46005" | 2199.097 | NVA |
| 2079\_2020\_WY | 42°21'03.13056" | -107°05'24.22754" | 1983.973 | NVA |
| 2080\_2020\_WY | 42°36'55.57917" | -106°51'50.50229" | 1880.588 | NVA |
| 2081\_2020\_WY | 42°49'53.01747" | -106°33'39.43638" | 1638.501 | NVA |
| 2082\_2020\_WY | 42°50'37.21089" | -106°57'58.52587" | 1812.204 | NVA |
| 2083\_2020\_WY | 42°39'46.99766" | -106°37'47.11379" | 1591.582 | NVA |
| 2084\_2020\_WY | 42°32'27.02025" | -106°50'05.04222" | 1909.387 | NVA |
| 2085\_2020\_WY | 42°37'35.18602" | -106°35'13.83118" | 1634.979 | NVA |
| 2086\_2020\_WY | 42°40'30.65297" | -106°35'19.10913" | 1621.035 | NVA |
| 2087\_2020\_WY | 42°49'15.40634" | -106°40'23.23255" | 1680.157 | NVA |
| 2088\_2020\_WY | 42°14'57.04037" | -106°43'19.11788" | 1971.626 | NVA |
| 2089\_2020\_WY | 42°45'36.56461" | -106°57'47.72749" | 1907.682 | NVA |
| 2090\_2020\_WY | 42°33'13.47062" | -106°47'21.98071" | 1791.481 | NVA |
| 2091\_2020\_WY | 42°36'16.39974" | -106°57'48.69812" | 1815.292 | NVA |
| 2092\_2020\_WY | 42°29'14.40182" | -106°31'23.00522" | 1920.323 | NVA |
| 2093\_2020\_WY | 42°28'45.38624" | -106°21'08.77184" | 2236.901 | NVA |
| 2094\_2020\_WY | 43°22'22.60572" | -107°11'27.26928" | 2328.211 | NVA |
| 2095\_2020\_WY | 43°01'47.27277" | -107°28'38.25391" | 1858.923 | NVA |
| 2096\_2020\_WY | 43°01'09.04699" | -107°11'09.19276" | 1787.960 | NVA |
| 2097\_2020\_WY | 42°49'51.74547" | -107°15'40.38868" | 1982.929 | NVA |
| 2098\_2020\_WY | 42°54'28.68230" | -107°23'00.44454" | 1949.499 | NVA |
| 2099\_2020\_WY | 43°20'22.34948" | -107°08'32.55693" | 2003.756 | NVA |
| 2100\_2020\_WY | 42°59'40.31172" | -107°24'11.61727" | 1960.848 | NVA |
| 2101\_2020\_WY | 42°58'11.72309" | -107°26'47.85035" | 2019.587 | NVA |
| 2102\_2020\_WY | 43°00'15.54115" | -107°07'38.66322" | 1784.143 | NVA |
| 2103\_2020\_WY | 43°08'03.20552" | -107°23'45.60431" | 1790.594 | NVA |
| 2104\_2020\_WY | 43°10'38.47328" | -107°07'45.45838" | 1787.097 | NVA |
| 2105\_2020\_WY | 43°25'58.86014" | -107°13'09.50875" | 2469.015 | NVA |
| 2106\_2020\_WY | 43°08'31.73734" | -106°42'36.06777" | 1712.586 | NVA |
| 2107\_2020\_WY | 43°10'49.74812" | -106°57'14.10370" | 1654.988 | NVA |
| 2108\_2020\_WY | 43°09'55.55567" | -106°57'17.22845" | 1708.986 | NVA |
| 2109\_2020\_WY | 43°01'45.10006" | -107°02'03.75427" | 1712.189 | NVA |
| 2110\_2020\_WY | 43°05'06.95893" | -106°46'21.24340" | 1709.254 | NVA |
| 2111\_2020\_WY | 42°58'29.13346" | -107°05'03.26043" | 1808.579 | NVA |
| 2112\_2020\_WY | 43°22'35.45970" | -106°50'06.06518" | 1789.895 | NVA |
| 2113\_2020\_WY | 42°58'47.44443" | -106°48'31.78464" | 1750.702 | NVA |
| 2114\_2020\_WY | 43°20'10.49127" | -106°43'02.62263" | 1573.084 | NVA |
| 2115\_2020\_WY | 43°22'12.47387" | -107°04'03.17317" | 1874.053 | NVA |
| 2116\_2020\_WY | 43°25'20.59625" | -106°58'54.47524" | 1818.461 | NVA |
| 2117\_2020\_WY | 43°02'55.95910" | -106°40'28.27785" | 1674.518 | NVA |
| 2118\_2020\_WY | 43°06'52.35151" | -106°44'45.41975" | 1764.202 | NVA |
| 2119\_2020\_WY | 43°04'15.27694" | -106°35'08.48010" | 1663.190 | NVA |
| 2120\_2020\_WY | 43°06'06.49370" | -106°34'51.13111" | 1660.942 | NVA |
| 2121\_2020\_WY | 41°06'59.02672" | -106°14'26.16575" | 2592.193 | NVA |
| 2122\_2020\_WY | 41°02'56.57509" | -105°44'45.17599" | 2269.753 | NVA |
| 2123\_2020\_WY | 41°23'44.07249" | -105°54'16.50224" | 2223.096 | NVA |
| 2124\_2020\_WY | 41°17'59.32898" | -105°57'26.07658" | 2311.770 | NVA |
| 2125\_2020\_WY | 41°04'39.45468" | -106°05'46.66892" | 2709.080 | NVA |
| 2126\_2020\_WY | 41°12'49.51175" | -106°12'44.75908" | 2900.574 | NVA |
| 2127\_2020\_WY | 41°33'23.07858" | -106°06'01.51494" | 2302.269 | NVA |
| 2128\_2020\_WY | 41°24'26.89651" | -105°50'05.08749" | 2174.347 | NVA |
| 2129\_2020\_WY | 41°02'01.98714" | -105°59'40.16641" | 2435.143 | NVA |
| 2130\_2020\_WY | 41°36'15.11622" | -106°04'43.36080" | 2254.397 | NVA |
| 2131\_2020\_WY | 41°21'41.86676" | -105°44'57.28963" | 2186.541 | NVA |
| 2132\_2020\_WY | 41°18'55.94144" | -105°46'27.82345" | 2241.926 | NVA |
| 2133\_2020\_WY | 41°25'54.30903" | -105°53'24.38967" | 2200.691 | NVA |
| 2134\_2020\_WY | 41°27'26.61803" | -106°00'34.95457" | 2290.144 | NVA |
| 2135\_2020\_WY | 41°21'47.61488" | -105°57'34.67954" | 2222.068 | NVA |
| 2136\_2020\_WY | 41°05'49.65595" | -106°11'52.31277" | 2795.856 | NVA |
| 2137\_2020\_WY | 41°33'04.56680" | -106°17'48.01474" | 2681.133 | NVA |
| 2138\_2020\_WY | 41°03'51.13638" | -106°03'49.65571" | 2624.419 | NVA |
| 2139\_2020\_WY | 41°24'53.83291" | -105°56'36.34829" | 2243.793 | NVA |
| 2140\_2020\_WY | 41°19'59.46629" | -105°42'50.16378" | 2209.504 | NVA |
| 2141\_2020\_WY | 41°07'55.64998" | -105°45'59.62370" | 2216.332 | NVA |
| 2142\_2020\_WY | 41°19'09.87143" | -105°40'17.29842" | 2204.029 | NVA |
| 2143\_2020\_WY | 41°40'56.74627" | -105°20'08.06235" | 2063.495 | NVA |
| 2144\_2020\_WY | 41°07'57.28910" | -105°32'44.94067" | 2283.673 | NVA |
| 2145\_2020\_WY | 41°17'58.40220" | -105°27'08.37417" | 2583.103 | NVA |
| 2146\_2020\_WY | 41°28'07.20292" | -105°37'49.81473" | 2170.001 | NVA |
| 2147\_2020\_WY | 41°17'38.13146" | -105°35'21.18965" | 2176.015 | NVA |
| 2148\_2020\_WY | 41°17'16.75962" | -105°20'16.78924" | 2405.374 | NVA |
| 2149\_2020\_WY | 41°23'49.48425" | -105°22'25.87037" | 2331.983 | NVA |
| 2150\_2020\_WY | 41°27'00.25837" | -105°37'13.61679" | 2165.090 | NVA |
| 2151\_2020\_WY | 41°33'59.92249" | -105°40'11.96365" | 2136.439 | NVA |
| 2152\_2020\_WY | 41°23'46.18616" | -105°17'18.17519" | 2259.020 | NVA |
| 2153\_2020\_WY | 41°15'14.11977" | -105°36'06.14227" | 2184.865 | NVA |
| 2154\_2020\_WY | 41°07'05.34975" | -105°32'33.83233" | 2291.417 | NVA |
| 2155\_2020\_WY | 41°35'04.73633" | -105°33'31.99324" | 2230.976 | NVA |
| 2156\_2020\_WY | 41°24'54.43769" | -105°36'09.88405" | 2169.606 | NVA |
| 2157\_2020\_WY | 41°15'17.62373" | -105°21'09.91193" | 2445.650 | NVA |
| 2158\_2020\_WY | 41°18'23.06220" | -105°33'32.66652" | 2191.610 | NVA |
| 2159\_2020\_WY | 41°11'54.20959" | -105°35'54.78225" | 2206.356 | NVA |
| 2160\_2020\_WY | 41°06'06.49116" | -105°41'19.75014" | 2259.576 | NVA |
| 2161\_2020\_WY | 41°12'18.09696" | -105°20'23.86172" | 2441.059 | NVA |
| 2162\_2020\_WY | 41°14'20.70797" | -105°26'09.51443" | 2629.910 | NVA |
| 2163\_2020\_WY | 42°01'52.50070" | -105°47'59.73700" | 2212.471 | NVA |
| 2164\_2020\_WY | 42°13'26.50620" | -106°15'23.61516" | 2105.749 | NVA |
| 2165\_2020\_WY | 41°49'42.21564" | -105°50'16.58297" | 2077.718 | NVA |
| 2166\_2020\_WY | 41°40'07.86284" | -105°47'57.67508" | 2155.478 | NVA |
| 2167\_2020\_WY | 41°44'33.60030" | -105°58'31.90964" | 2089.744 | NVA |
| 2168\_2020\_WY | 42°11'49.21219" | -106°08'56.66219" | 2109.152 | NVA |
| 2169\_2020\_WY | 42°16'17.54812" | -105°51'24.42329" | 2201.224 | NVA |
| 2170\_2020\_WY | 41°38'37.47005" | -106°02'00.04261" | 2176.457 | NVA |
| 2171\_2020\_WY | 42°10'27.16198" | -105°58'46.42591" | 2093.804 | NVA |
| 2172\_2020\_WY | 41°36'38.85299" | -106°18'13.52832" | 2334.241 | NVA |
| 2173\_2020\_WY | 42°10'27.56691" | -105°48'23.59843" | 2155.127 | NVA |
| 2174\_2020\_WY | 41°58'05.88592" | -105°46'34.91660" | 2123.266 | NVA |
| 2175\_2020\_WY | 41°49'42.47674" | -105°51'43.18957" | 2049.369 | NVA |
| 2176\_2020\_WY | 41°50'51.73186" | -105°43'47.15784" | 2110.610 | NVA |
| 2177\_2020\_WY | 41°48'42.85735" | -105°16'45.48372" | 1762.899 | NVA |
| 2178\_2020\_WY | 42°04'05.95670" | -105°23'40.56255" | 2153.820 | NVA |
| 2179\_2020\_WY | 42°08'06.19285" | -105°46'08.36851" | 2152.316 | NVA |
| 2180\_2020\_WY | 42°07'07.67891" | -105°25'43.30714" | 2145.706 | NVA |
| 2181\_2020\_WY | 41°43'14.87382" | -105°40'44.03128" | 2120.399 | NVA |
| 2182\_2020\_WY | 41°38'34.84056" | -105°32'58.05446" | 2215.439 | NVA |
| 2183\_2020\_WY | 42°06'25.86022" | -105°45'15.66500" | 2147.773 | NVA |
| 2184\_2020\_WY | 41°44'06.26540" | -105°26'12.53687" | 1948.506 | NVA |
| 2185\_2020\_WY | 41°52'01.57354" | -105°45'08.03537" | 2115.377 | NVA |
| 2186\_2020\_WY | 41°43'02.20029" | -105°53'17.90421" | 2143.384 | NVA |
| 2187\_2020\_WY | 41°44'31.43050" | -105°35'03.33677" | 2208.269 | NVA |
| 2188\_2020\_WY | 41°42'00.10322" | -105°41'23.06206" | 2141.539 | NVA |
| 2189\_2020\_WY | 42°13'41.39389" | -105°21'55.15425" | 2185.742 | NVA |
| 2190\_2020\_WY | 42°34'52.43951" | -107°19'39.93964" | 1950.499 | NVA |
| 2191\_2020\_WY | 42°52'35.11300" | -106°08'45.27443" | 1587.119 | NVA |
| 2192\_2020\_WY | 41°12'36.82181" | -107°50'38.18622" | 2344.753 | NVA |
| 2193\_2020\_WY | 41°13'55.09237" | -106°57'15.17964" | 2610.035 | NVA |
| 2194\_2020\_WY | 41°30'47.43606" | -107°32'31.84296" | 2127.697 | NVA |
| 2195\_2020\_WY | 42°51'20.16027" | -106°05'02.06652" | 1523.571 | NVA |
| 2196\_2020\_WY | 41°29'32.21102" | -107°12'10.96338" | 2150.274 | NVA |
| 2197\_2020\_WY | 41°37'17.00916" | -107°17'12.02244" | 2169.746 | NVA |
| 2198\_2020\_WY | 41°04'38.17687" | -106°50'41.71276" | 2822.554 | NVA |
| 2199\_2020\_WY | 42°44'04.07365" | -106°39'44.71088" | 1676.083 | NVA |
| 2200\_2020\_WY | 41°13'14.43332" | -107°42'34.72126" | 1958.296 | NVA |
| 2201\_2020\_WY | 41°34'17.28118" | -106°09'06.36725" | 2353.887 | NVA |
| 2202\_2020\_WY | 41°34'40.58821" | -107°23'05.37712" | 2213.129 | NVA |
| 2203\_2020\_WY | 41°31'16.89618" | -107°28'05.96405" | 2252.439 | NVA |
| 2204\_2020\_WY | 41°02'48.35815" | -107°41'53.63430" | 1899.372 | NVA |
| 2205\_2020\_WY | 42°42'04.26881" | -106°08'10.16825" | 1728.233 | NVA |
| 2206\_2020\_WY | 41°10'03.62202" | -107°28'27.25652" | 2379.160 | NVA |
| 2207\_2020\_WY | 41°06'40.07119" | -106°52'13.53048" | 2800.801 | NVA |
| 2208\_2020\_WY | 41°04'11.15224" | -107°16'12.73073" | 2284.941 | NVA |
| 2209\_2020\_WY | 41°34'32.89656" | -107°54'24.44251" | 2029.835 | NVA |
| 2210\_2020\_WY | 42°57'59.59526" | -106°07'22.31076" | 1670.357 | NVA |
| 2211\_2020\_WY | 41°20'12.43875" | -107°03'29.61676" | 2492.326 | NVA |
| 2212\_2020\_WY | 41°05'47.85580" | -107°51'36.28769" | 2045.015 | NVA |
| 2213\_2020\_WY | 41°27'41.19759" | -107°55'29.84785" | 2001.039 | NVA |
| 2214\_2020\_WY | 41°35'55.48230" | -107°54'52.90577" | 2027.977 | NVA |
| 2215\_2020\_WY | 42°38'50.47252" | -107°00'20.37449" | 1857.387 | NVA |
| 2216\_2020\_WY | 41°38'53.55294" | -107°53'47.32168" | 2100.428 | NVA |
| 2217\_2020\_WY | 41°08'35.89487" | -106°52'50.95684" | 2622.698 | NVA |
| 2218\_2020\_WY | 41°16'26.88092" | -107°05'43.64918" | 2666.508 | NVA |
| 2219\_2020\_WY | 41°20'20.12467" | -107°54'56.99159" | 2001.530 | NVA |
| 2220\_2020\_WY | 41°30'16.47173" | -107°01'32.77231" | 2326.076 | NVA |
| 2221\_2020\_WY | 41°29'31.12666" | -107°53'30.28570" | 2033.354 | NVA |
| 2222\_2020\_WY | 41°17'46.20057" | -107°00'49.52862" | 2630.818 | NVA |
| 2223\_2020\_WY | 41°19'58.88008" | -105°34'37.77861" | 2181.100 | NVA |
| 2224\_2020\_WY | 41°19'31.15596" | -105°37'09.74102" | 2169.366 | NVA |
| 2225\_2020\_WY | 41°18'46.53160" | -105°35'28.15676" | 2171.579 | NVA |
| 2226\_2020\_WY | 41°47'19.71174" | -107°14'51.85282" | 2059.308 | NVA |
| 2227\_2020\_WY | 41°47'37.98173" | -107°12'47.03071" | 2026.449 | NVA |
| 2228\_2020\_WY | 41°49'00.51727" | -107°13'27.76437" | 2071.932 | NVA |
| 2229\_2020\_WY | 41°37'50.79161" | -106°17'07.39608" | 2354.740 | NVA |
| 2230\_2020\_WY | 41°23'41.47322" | -105°49'16.51661" | 2171.992 | NVA |
| 2231\_2020\_WY | 41°07'32.67379" | -105°18'17.92521" | 2390.872 | NVA |
| 2232\_2020\_WY | 41°06'40.41478" | -106°00'45.58024" | 2268.941 | NVA |
| 2233\_2020\_WY | 41°18'25.38637" | -105°37'58.95313" | 2174.176 | NVA |
| 2234\_2020\_WY | 41°19'35.15555" | -105°33'16.28846" | 2206.017 | NVA |
| 2235\_2020\_WY | 41°17'25.00436" | -105°32'04.63370" | 2236.337 | NVA |
| 2236\_2020\_WY | 41°20'58.85499" | -105°35'18.96516" | 2170.931 | NVA |
| 2237\_2020\_WY | 41°33'07.46747" | -105°40'53.75328" | 2136.148 | NVA |
| 2238\_2020\_WY | 41°49'25.22834" | -106°00'17.58695" | 2108.087 | NVA |
| 2239\_2020\_WY | 42°24'54.81201" | -106°22'48.42548" | 1964.193 | NVA |
| 2240\_2020\_WY | 42°33'36.81855" | -106°43'25.83094" | 1624.267 | NVA |
| 2241\_2020\_WY | 42°33'15.47191" | -106°50'05.39125" | 1908.671 | NVA |
| 2242\_2020\_WY | 42°29'35.29817" | -107°08'12.06679" | 1784.463 | NVA |
| 2243\_2020\_WY | 42°21'43.97726" | -107°26'35.98090" | 1900.331 | NVA |
| 2244\_2020\_WY | 41°01'55.47855" | -107°30'06.24857" | 1959.686 | NVA |
| 2245\_2020\_WY | 41°02'00.46891" | -107°32'03.88946" | 1925.814 | NVA |
| 2246\_2020\_WY | 41°09'26.55518" | -105°24'14.22648" | 2538.512 | NVA |
| 2267\_2020\_WY | 41°43'25.20234" | -105°55'51.34615" | 2109.935 | NVA |
| 2268\_2020\_WY | 42°31'50.09121" | -106°46'41.37917" | 1668.901 | NVA |
| 2269\_2020\_WY | 41°46'35.54675" | -107°13'29.61127" | 2052.041 | NVA |
| 2270\_2020\_WY | 41°48'06.48155" | -107°14'03.66158" | 2069.310 | NVA |
| 2271\_2020\_WY | 41°32'36.17908" | -106°04'56.40104" | 2327.189 | NVA |
| 2272\_2020\_WY | 41°34'26.62269" | -105°41'39.07404" | 2147.154 | NVA |
| 2273\_2020\_WY | 43°01'56.01992" | -106°59'18.05874" | 1729.748 | NVA |
| 2274\_2020\_WY | 41°17'09.27256" | -105°40'02.59257" | 2182.902 | NVA |
| 2275\_2020\_WY | 42°11'00.37012" | -106°15'42.58368" | 2095.929 | NVA |
| 2276\_2020\_WY | 41°18'45.24086" | -106°09'09.24562" | 2570.449 | NVA |
| 2277\_2020\_WY | 43°25'09.87026" | -106°23'02.49311" | 1558.690 | NVA |
| 2278\_2020\_WY | 43°25'26.29359" | -106°19'54.93806" | 1480.970 | NVA |
| 2279\_2020\_WY | 43°24'32.34308" | -106°16'25.00092" | 1468.168 | NVA |
| 2280\_2020\_WY | 43°24'53.88382" | -106°14'54.29050" | 1483.152 | NVA |
| 2281\_2020\_WY | 43°10'07.81286" | -106°20'15.38481" | 1623.499 | NVA |
| 2282\_2020\_WY | 41°28'58.43749" | -106°01'28.16894" | 2318.133 | NVA |
| 2283\_2020\_WY | 43°01'46.75072" | -106°48'32.69143" | 1696.966 | NVA |
| 2284\_2020\_WY | 43°14'37.00591" | -107°19'20.59096" | 1866.222 | NVA |
| 2285\_2020\_WY | 41°22'49.89537" | -107°46'03.85491" | 2003.824 | NVA |
| 2286\_2020\_WY | 41°36'07.54496" | -107°39'58.57962" | 2112.595 | NVA |
| 2287\_2020\_WY | 41°14'37.76718" | -107°28'42.91043" | 2302.719 | NVA |
| 2288\_2020\_WY | 43°24'20.16905" | -106°40'57.53652" | 1576.832 | NVA |
| 2289\_2020\_WY | 42°26'12.64170" | -106°44'12.98622" | 2042.915 | NVA |
| 2290\_2020\_WY | 41°26'08.25443" | -107°45'21.64231" | 2016.373 | NVA |
| 2300\_2020\_WY | 43°19'02.45419" | -106°15'09.86151" | 1528.139 | NVA |
| 2301\_2020\_WY | 43°14'33.71315" | -106°18'53.08580" | 1566.605 | NVA |
| 2302\_2020\_WY | 43°09'19.65529" | -107°14'41.22177" | 1857.491 | NVA |
| 2303\_2020\_WY | 42°23'35.07528" | -107°23'06.36789" | 1865.543 | NVA |
| 2304\_2020\_WY | 42°24'55.28605" | -107°17'42.59641" | 1842.216 | NVA |
| 2305\_2020\_WY | 43°04'17.72162" | -107°11'42.15443" | 1833.774 | NVA |
| 2306\_2020\_WY | 42°20'51.60271" | -105°42'28.91963" | 2285.483 | NVA |
| 2307\_2020\_WY | 42°21'07.45055" | -105°19'25.93778" | 1905.589 | NVA |
| 2307\_2020\_WY | 42°21'07.45079" | -105°19'25.93787" | 1905.580 | NVA |
| 2308\_2020\_WY | 42°19'59.12635" | -105°17'29.31498" | 1850.354 | NVA |
| 2308\_2020\_WY | 42°19'59.12608" | -105°17'29.31526" | 1850.359 | NVA |
| 2309\_2020\_WY | 42°14'30.98105" | -105°43'15.34771" | 2249.960 | NVA |
| 2310\_2020\_WY | 42°22'28.47086" | -106°06'10.40941" | 2142.547 | NVA |
| 2311\_2020\_WY | 42°19'00.51494" | -106°05'28.64318" | 2195.270 | NVA |
| 2312\_2020\_WY | 42°22'35.86572" | -106°02'05.57167" | 2192.884 | NVA |
| 2313\_2020\_WY | 42°12'59.39523" | -105°17'59.39760" | 1799.466 | NVA |
| 2314\_2020\_WY | 42°09'26.42930" | -105°24'41.81851" | 1981.772 | NVA |
| 2315\_2020\_WY | 42°38'15.81968" | -107°15'04.20793" | 1942.645 | NVA |
| 2316\_2020\_WY | 42°33'58.02867" | -106°58'47.70358" | 1796.411 | NVA |
| 2317\_2020\_WY | 42°32'51.71555" | -107°05'28.91011" | 1803.884 | NVA |
| 2318\_2020\_WY | 42°56'35.99544" | -106°36'48.21824" | 1645.799 | NVA |
| 2319\_2020\_WY | 43°00'30.22993" | -106°37'11.92468" | 1661.361 | NVA |
| 2320\_2020\_WY | 43°25'33.52212" | -106°58'40.11797" | 1811.230 | NVA |
| 2321\_2020\_WY | 43°22'25.14457" | -106°51'54.22015" | 1777.248 | NVA |
| 3001\_2020\_WY | 43°00'18.06086" | -107°14'55.57275" | 1869.341 | VVA |
| 3002\_2020\_WY | 42°38'19.45063" | -106°23'41.18232" | 1766.016 | VVA |
| 3003\_2020\_WY | 42°08'21.54608" | -106°18'10.61457" | 2235.116 | VVA |
| 3004\_2020\_WY | 41°33'49.30107" | -107°24'45.42006" | 2240.510 | VVA |
| 3005\_2020\_WY | 42°52'31.57809" | -106°49'02.86723" | 1777.188 | VVA |
| 3006\_2020\_WY | 41°13'10.03427" | -106°16'16.79294" | 2929.568 | VVA |
| 3007\_2020\_WY | 42°47'03.61680" | -107°09'58.07563" | 1984.764 | VVA |
| 3008\_2020\_WY | 41°07'17.90983" | -105°18'45.99732" | 2391.974 | VVA |
| 3009\_2020\_WY | 42°46'16.54088" | -107°22'13.17018" | 2175.259 | VVA |
| 3010\_2020\_WY | 42°23'58.34743" | -107°16'48.45184" | 1881.962 | VVA |
| 3011\_2020\_WY | 42°40'30.43524" | -106°18'31.36301" | 2362.333 | VVA |
| 3012\_2020\_WY | 42°43'50.16532" | -106°37'46.69215" | 1634.788 | VVA |
| 3013\_2020\_WY | 41°09'05.44192" | -106°35'24.18976" | 2362.930 | VVA |
| 3014\_2020\_WY | 41°37'04.34632" | -107°28'45.51257" | 2164.565 | VVA |
| 3015\_2020\_WY | 42°51'52.42319" | -107°01'15.92671" | 1837.101 | VVA |
| 3016\_2020\_WY | 42°07'03.08180" | -107°27'36.73675" | 1979.495 | VVA |
| 3017\_2020\_WY | 41°43'15.43895" | -105°38'56.15395" | 2122.848 | VVA |
| 3018\_2020\_WY | 41°18'30.16307" | -107°36'20.77243" | 2089.404 | VVA |
| 3019\_2020\_WY | 42°19'52.22475" | -106°13'17.27382" | 2132.123 | VVA |
| 3020\_2020\_WY | 41°06'09.41703" | -107°31'17.42333" | 2237.581 | VVA |
| 3021\_2020\_WY | 42°21'01.82629" | -105°42'26.40615" | 2280.080 | VVA |
| 3022\_2020\_WY | 41°15'33.59062" | -105°43'54.50169" | 2185.455 | VVA |
| 3023\_2020\_WY | 42°46'28.71779" | -106°52'16.46714" | 1830.295 | VVA |
| 3024\_2020\_WY | 43°20'19.12509" | -107°08'30.02808" | 2004.499 | VVA |
| 3025\_2020\_WY | 41°06'49.20813" | -105°39'06.53838" | 2280.405 | VVA |
| 3026\_2020\_WY | 41°11'34.05401" | -107°28'14.10764" | 2349.219 | VVA |
| 3027\_2020\_WY | 42°38'05.03943" | -106°48'58.68700" | 1953.616 | VVA |
| 3028\_2020\_WY | 41°41'05.65114" | -105°49'41.89103" | 2180.851 | VVA |
| 3029\_2020\_WY | 42°44'40.04531" | -106°54'48.66133" | 1902.431 | VVA |
| 3030\_2020\_WY | 42°50'18.80984" | -107°16'02.50856" | 1923.873 | VVA |
| 3031\_2020\_WY | 43°07'24.39204" | -106°07'02.45088" | 1811.549 | VVA |
| 3032\_2020\_WY | 41°34'07.09721" | -106°31'49.14578" | 2296.889 | VVA |
| 3033\_2020\_WY | 42°14'58.49146" | -105°35'44.26160" | 2350.461 | VVA |
| 3034\_2020\_WY | 41°13'07.73044" | -105°26'38.26220" | 2655.434 | VVA |
| 3035\_2020\_WY | 42°24'23.31722" | -107°19'45.65867" | 1870.346 | VVA |
| 3036\_2020\_WY | 42°11'13.32117" | -107°21'27.80677" | 2065.092 | VVA |
| 3037\_2020\_WY | 41°34'07.39366" | -106°41'22.86737" | 2157.108 | VVA |
| 3038\_2020\_WY | 43°16'54.17096" | -106°16'56.68831" | 1550.732 | VVA |
| 3039\_2020\_WY | 42°13'27.02551" | -106°53'00.63080" | 1788.075 | VVA |
| 3040\_2020\_WY | 42°05'46.69991" | -105°26'04.23197" | 2201.318 | VVA |
| 3041\_2020\_WY | 41°02'46.75487" | -107°41'57.37082" | 1898.442 | VVA |
| 3042\_2020\_WY | 43°22'11.61062" | -107°04'02.77955" | 1874.689 | VVA |
| 3043\_2020\_WY | 41°00'21.87461" | -107°34'36.40565" | 2007.947 | VVA |
| 3044\_2020\_WY | 41°41'00.80659" | -105°34'41.56156" | 2159.090 | VVA |
| 3045\_2020\_WY | 42°50'10.13030" | -106°33'29.47107" | 1646.998 | VVA |
| 3046\_2020\_WY | 43°09'18.23255" | -107°09'16.18423" | 1772.686 | VVA |
| 3047\_2020\_WY | 42°13'30.57598" | -105°48'52.01167" | 2196.309 | VVA |
| 3048\_2020\_WY | 41°42'02.49206" | -105°51'31.09916" | 2142.588 | VVA |
| 3049\_2020\_WY | 42°06'09.67686" | -105°23'21.63518" | 2172.552 | VVA |
| 3050\_2020\_WY | 42°01'11.96172" | -107°17'28.96441" | 1959.414 | VVA |
| 3051\_2020\_WY | 41°53'39.29809" | -105°51'11.99111" | 2088.431 | VVA |
| 3052\_2020\_WY | 42°31'04.57498" | -106°18'09.38235" | 2033.625 | VVA |
| 3053\_2020\_WY | 41°26'40.45220" | -107°53'19.61244" | 2002.882 | VVA |
| 3054\_2020\_WY | 41°46'10.71118" | -107°29'19.46821" | 2020.042 | VVA |
| 3055\_2020\_WY | 41°25'27.62978" | -105°57'43.64639" | 2236.386 | VVA |
| 3056\_2020\_WY | 42°43'19.04743" | -106°37'46.34750" | 1639.289 | VVA |
| 3057\_2020\_WY | 41°05'51.86966" | -107°51'30.59207" | 2027.263 | VVA |
| 3058\_2020\_WY | 41°26'29.99467" | -105°56'38.19658" | 2215.152 | VVA |
| 3059\_2020\_WY | 41°16'11.25707" | -105°51'53.45590" | 2202.696 | VVA |
| 3060\_2020\_WY | 43°11'44.46891" | -107°15'29.71137" | 1843.149 | VVA |
| 3061\_2020\_WY | 41°28'07.98248" | -105°32'59.54905" | 2215.332 | VVA |
| 3063\_2020\_WY | 41°20'14.28145" | -105°35'57.04569" | 2162.261 | VVA |
| 3064\_2020\_WY | 41°22'11.07513" | -106°33'37.66735" | 2381.464 | VVA |
| 3065\_2020\_WY | 41°41'28.14030" | -105°19'36.90391" | 2018.266 | VVA |
| 3066\_2020\_WY | 42°18'33.92543" | -106°44'00.51820" | 2086.956 | VVA |
| 3067\_2020\_WY | 41°05'54.53847" | -106°31'42.32523" | 2343.158 | VVA |
| 3068\_2020\_WY | 42°14'59.44039" | -106°39'58.79468" | 2131.120 | VVA |
| 3069\_2020\_WY | 42°47'38.61916" | -107°27'27.55748" | 2267.662 | VVA |
| 3070\_2020\_WY | 42°30'27.64666" | -106°24'05.19162" | 2014.140 | VVA |
| 3071\_2020\_WY | 41°04'09.22255" | -106°09'56.90146" | 2760.328 | VVA |
| 3072\_2020\_WY | 41°54'03.79206" | -105°45'07.61068" | 2109.795 | VVA |
| 3073\_2020\_WY | 41°33'06.66699" | -107°39'13.03533" | 2163.856 | VVA |
| 3074\_2020\_WY | 42°56'42.61390" | -107°06'08.90783" | 1810.676 | VVA |
| 3075\_2020\_WY | 41°21'17.39762" | -107°54'18.21354" | 1992.816 | VVA |
| 3076\_2020\_WY | 42°39'02.61517" | -107°12'14.26205" | 2041.126 | VVA |
| 3077\_2020\_WY | 41°21'16.93591" | -106°36'27.71526" | 2346.438 | VVA |
| 3078\_2020\_WY | 42°43'23.43433" | -106°21'17.76342" | 2439.759 | VVA |
| 3079\_2020\_WY | 42°21'39.00737" | -107°11'51.19319" | 1970.025 | VVA |
| 3080\_2020\_WY | 41°17'02.64291" | -107°54'28.71993" | 2026.138 | VVA |
| 3081\_2020\_WY | 42°42'01.91949" | -107°28'20.46571" | 2087.266 | VVA |
| 3082\_2020\_WY | 42°12'31.35558" | -106°02'03.21941" | 2109.819 | VVA |
| 3083\_2020\_WY | 41°07'54.39036" | -106°35'03.64336" | 2467.133 | VVA |
| 3084\_2020\_WY | 41°19'37.93880" | -107°46'33.94986" | 1973.950 | VVA |
| 3085\_2020\_WY | 41°17'13.75851" | -106°02'25.03720" | 2327.507 | VVA |
| 3086\_2020\_WY | 41°04'12.76746" | -105°22'23.73978" | 2344.472 | VVA |
| 3087\_2020\_WY | 42°19'39.78143" | -107°07'53.67991" | 1985.564 | VVA |
| 3088\_2020\_WY | 42°08'52.12080" | -105°34'54.52009" | 2142.493 | VVA |
| 3089\_2020\_WY | 41°32'23.26619" | -106°44'48.56333" | 2080.061 | VVA |
| 3090\_2020\_WY | 42°19'24.41294" | -107°06'23.85067" | 1990.091 | VVA |
| 3091\_2020\_WY | 41°22'39.49152" | -105°57'02.83300" | 2214.513 | VVA |
| 3092\_2020\_WY | 42°11'29.01570" | -105°48'27.56461" | 2164.138 | VVA |
| 3093\_2020\_WY | 41°09'33.38831" | -105°42'17.58304" | 2203.673 | VVA |
| 3094\_2020\_WY | 41°20'01.95230" | -107°32'46.35001" | 2212.310 | VVA |
| 3095\_2020\_WY | 41°21'56.92421" | -107°43'58.78498" | 2109.964 | VVA |
| 3096\_2020\_WY | 41°56'37.57967" | -105°46'26.55092" | 2108.487 | VVA |
| 3097\_2020\_WY | 42°09'11.11323" | -106°26'34.35522" | 2281.096 | VVA |
| 3098\_2020\_WY | 42°13'15.54865" | -107°28'42.93019" | 2007.326 | VVA |
| 3099\_2020\_WY | 41°30'37.86626" | -106°26'55.39344" | 2562.862 | VVA |
| 3100\_2020\_WY | 41°50'57.09011" | -105°47'07.94515" | 2091.298 | VVA |
| 3101\_2020\_WY | 41°54'56.11775" | -105°43'15.55685" | 2116.074 | VVA |
| 3102\_2020\_WY | 41°07'31.99422" | -106°00'35.72043" | 2272.486 | VVA |
| 3103\_2020\_WY | 41°37'36.62574" | -105°24'58.68576" | 2319.015 | VVA |
| 3104\_2020\_WY | 41°06'15.27190" | -107°44'12.30188" | 1959.227 | VVA |
| 3105\_2020\_WY | 42°04'28.31808" | -106°55'12.96448" | 1974.372 | VVA |
| 3106\_2020\_WY | 41°14'40.54312" | -107°47'54.95909" | 2033.239 | VVA |
| 3107\_2020\_WY | 41°33'18.22345" | -106°01'57.63781" | 2249.844 | VVA |
| 3108\_2020\_WY | 41°47'51.30274" | -107°29'28.47478" | 2018.517 | VVA |
| 3109\_2020\_WY | 42°21'49.97213" | -106°35'21.95936" | 2271.145 | VVA |
| 3110\_2020\_WY | 42°00'04.28949" | -107°27'01.41341" | 1978.547 | VVA |
| 3111\_2020\_WY | 41°58'37.81247" | -106°05'32.75609" | 2056.976 | VVA |
| 3112\_2020\_WY | 42°19'45.60048" | -107°06'57.56881" | 1987.069 | VVA |
| 3113\_2020\_WY | 42°26'37.42517" | -107°03'11.26783" | 1831.413 | VVA |
| 3114\_2020\_WY | 42°13'56.85040" | -107°29'57.09324" | 2022.857 | VVA |
| 3115\_2020\_WY | 42°06'09.37204" | -107°25'47.99222" | 1969.204 | VVA |
| 3116\_2020\_WY | 42°15'29.42296" | -105°22'46.56196" | 1955.045 | VVA |
| 3117\_2020\_WY | 41°26'20.31406" | -105°59'32.26204" | 2284.348 | VVA |
| 3118\_2020\_WY | 41°07'26.58813" | -105°31'33.72147" | 2309.167 | VVA |
| 3119\_2020\_WY | 42°00'29.99853" | -107°26'18.39784" | 1976.694 | VVA |
| 3120\_2020\_WY | 42°41'46.12034" | -107°29'32.51996" | 2110.153 | VVA |
| 3121\_2020\_WY | 41°59'33.35118" | -107°00'08.75742" | 2020.491 | VVA |
| 3122\_2020\_WY | 42°25'12.63496" | -106°30'17.93039" | 2006.163 | VVA |
| 3123\_2020\_WY | 41°13'51.55613" | -107°22'33.12506" | 2236.759 | VVA |
| 3124\_2020\_WY | 42°13'35.75888" | -105°42'06.07523" | 2239.224 | VVA |
| 3125\_2020\_WY | 42°21'02.13237" | -106°29'57.43818" | 2287.792 | VVA |
| 3126\_2020\_WY | 43°04'57.79986" | -107°20'22.16109" | 1846.068 | VVA |
| 3127\_2020\_WY | 41°32'44.82813" | -107°41'47.22805" | 2204.055 | VVA |
| 3128\_2020\_WY | 42°06'51.80762" | -106°00'24.14607" | 2088.780 | VVA |
| 3129\_2020\_WY | 42°44'18.98961" | -107°00'18.43945" | 2047.828 | VVA |
| 3130\_2020\_WY | 41°31'06.23617" | -105°59'24.30378" | 2238.656 | VVA |
| 3131\_2020\_WY | 43°04'18.50706" | -107°26'34.24136" | 1850.236 | VVA |
| 3132\_2020\_WY | 41°39'24.85101" | -106°03'45.69617" | 2201.357 | VVA |
| 3133\_2020\_WY | 41°26'15.46588" | -105°47'22.19164" | 2158.898 | VVA |
| 3134\_2020\_WY | 42°03'06.24079" | -106°58'07.65173" | 1952.084 | VVA |
| 3135\_2020\_WY | 42°19'45.28699" | -107°10'17.04689" | 2016.038 | VVA |
| 3136\_2020\_WY | 43°06'20.23389" | -106°50'44.44866" | 1774.810 | VVA |
| 3137\_2020\_WY | 41°01'58.49835" | -106°16'56.90636" | 2619.500 | VVA |
| 3138\_2020\_WY | 41°20'41.05442" | -106°29'58.86219" | 2536.445 | VVA |
| 3139\_2020\_WY | 41°10'22.35012" | -106°15'54.55499" | 2717.837 | VVA |
| 3140\_2020\_WY | 41°24'37.75109" | -106°22'21.11932" | 2964.700 | VVA |
| 3141\_2020\_WY | 42°14'00.86051" | -106°35'32.47957" | 2462.362 | VVA |
| 3141A\_2020\_WY | 42°10'48.18135" | -106°41'08.23784" | 2398.304 | VVA |
| 3142\_2020\_WY | 41°07'04.42126" | -106°13'20.22306" | 2631.089 | VVA |
| 3143\_2020\_WY | 41°03'04.29659" | -106°39'35.12924" | 2835.413 | VVA |
| 3144\_2020\_WY | 41°01'43.51220" | -106°39'07.71129" | 2882.622 | VVA |
| 3145\_2020\_WY | 41°28'57.36400" | -106°18'47.72921" | 2826.024 | VVA |
| 3146\_2020\_WY | 42°16'01.50752" | -105°34'17.48570" | 2343.095 | VVA |
| 3147\_2020\_WY | 41°00'43.80034" | -106°40'25.06346" | 2847.018 | VVA |
| 3148\_2020\_WY | 41°29'41.50753" | -106°17'11.69777" | 2948.795 | VVA |
| 3149\_2020\_WY | 42°43'46.43403" | -106°18'46.91285" | 2396.951 | VVA |
| 3150\_2020\_WY | 42°13'28.37092" | -105°21'18.08164" | 2152.444 | VVA |
| 3151\_2020\_WY | 41°01'13.29849" | -105°37'31.88914" | 2661.267 | VVA |
| 3152\_2020\_WY | 41°04'14.81501" | -106°42'40.69025" | 2887.510 | VVA |
| 3153\_2020\_WY | 43°21'37.97350" | -106°23'33.16955" | 1591.098 | VVA |
| 3154\_2020\_WY | 41°11'22.82062" | -106°16'06.93461" | 2849.711 | VVA |
| 3155\_2020\_WY | 42°52'39.16686" | -106°07'25.35812" | 1584.284 | VVA |
| 3156\_2020\_WY | 43°00'27.29364" | -106°35'46.92426" | 1647.069 | VVA |
| 3157\_2020\_WY | 43°05'38.20153" | -107°00'56.52851" | 1717.942 | VVA |
| 3158\_2020\_WY | 42°18'41.99881" | -105°58'30.90983" | 2246.554 | VVA |
| 3159\_2020\_WY | 41°20'40.90601" | -105°37'35.42109" | 2173.372 | VVA |
| 3160\_2020\_WY | 42°33'41.42118" | -107°07'10.27179" | 1813.987 | VVA |
| 3161\_2020\_WY | 42°33'54.06205" | -107°00'54.71104" | 1788.454 | VVA |
| 3162\_2020\_WY | 42°35'02.13523" | -107°19'45.50597" | 1955.084 | VVA |
| 3163\_2020\_WY | 42°17'54.10374" | -107°05'19.20283" | 1908.634 | VVA |
| 3164\_2020\_WY | 43°20'15.50313" | -106°15'43.58836" | 1546.726 | VVA |
| 3165\_2020\_WY | 42°17'03.01965" | -105°42'40.54320" | 2280.182 | VVA |
| 3166\_2020\_WY | 41°55'03.59994" | -105°19'46.78492" | 1846.107 | VVA |
| 3167\_2020\_WY | 42°51'00.18401" | -106°45'11.27353" | 1747.710 | VVA |
| 3168\_2020\_WY | 42°57'00.15796" | -106°30'51.39659" | 1619.371 | VVA |
| 3169\_2020\_WY | 42°27'49.99605" | -106°51'07.28116" | 1764.841 | VVA |
| 3170\_2020\_WY | 42°13'00.95062" | -105°17'51.27883" | 1793.225 | VVA |
| 3171\_2020\_WY | 43°07'50.29268" | -107°07'48.57860" | 1756.271 | VVA |
| 3172\_2020\_WY | 42°17'49.95993" | -106°19'43.42114" | 2196.776 | VVA |
| 3173\_2020\_WY | 43°04'49.24566" | -106°33'12.83524" | 1643.817 | VVA |
| 3175\_2020\_WY | 42°51'52.26824" | -107°18'15.19862" | 1902.881 | VVA |
| 3176\_2020\_WY | 42°44'44.25889" | -106°37'29.12197" | 1656.603 | VVA |
| 3177\_2020\_WY | 43°25'03.55028" | -106°53'58.79703" | 1807.349 | VVA |
| 3178\_2020\_WY | 42°28'45.51127" | -106°21'07.82187" | 2236.616 | VVA |
| 3179\_2020\_WY | 41°25'43.77283" | -106°06'09.30981" | 2647.988 | VVA |
| 3180\_2020\_WY | 42°49'02.21811" | -107°02'31.67295" | 1857.482 | VVA |
| 3181\_2020\_WY | 42°55'07.73220" | -106°07'04.54593" | 1680.169 | VVA |
| 3182\_2020\_WY | 42°07'08.34400" | -106°55'02.18894" | 2004.815 | VVA |
| 3183\_2020\_WY | 42°54'40.51649" | -106°30'48.45297" | 1608.425 | VVA |
| 3184\_2020\_WY | 43°24'39.83319" | -107°13'47.26801" | 2523.797 | VVA |
| 3185\_2020\_WY | 42°22'33.27077" | -106°14'31.51008" | 2188.450 | VVA |
| 3186\_2020\_WY | 41°14'23.04147" | -105°27'42.60444" | 2642.919 | VVA |
| 3187\_2020\_WY | 42°35'34.96800" | -107°10'59.39331" | 1906.304 | VVA |
| 3188\_2020\_WY | 42°21'30.91785" | -107°01'22.15703" | 1835.787 | VVA |
| 3189\_2020\_WY | 43°03'23.69970" | -106°12'01.34198" | 1665.927 | VVA |
| 3190\_2020\_WY | 41°02'36.69696" | -105°34'34.27854" | 2509.895 | VVA |
| 3191\_2020\_WY | 41°51'10.58937" | -105°21'20.27734" | 1883.820 | VVA |
| 3192\_2020\_WY | 42°33'17.47902" | -107°03'27.15937" | 1782.376 | VVA |
| 3193\_2020\_WY | 42°27'40.60423" | -107°30'45.34308" | 1893.125 | VVA |
| 3194\_2020\_WY | 42°32'56.11997" | -106°28'09.47576" | 1824.733 | VVA |
| 3195\_2020\_WY | 42°10'28.45914" | -106°14'57.28081" | 2102.039 | VVA |
| 3196\_2020\_WY | 41°25'18.14744" | -105°47'20.75479" | 2159.944 | VVA |
| 3197\_2020\_WY | 41°09'16.36095" | -105°56'55.54258" | 2244.020 | VVA |
| 3198\_2020\_WY | 41°19'35.74898" | -106°25'56.53039" | 2882.634 | VVA |
| 3199\_2020\_WY | 41°36'37.56452" | -107°16'21.15952" | 2151.216 | VVA |
| 3200\_2020\_WY | 41°52'56.58311" | -105°44'44.84557" | 2111.623 | VVA |
| 3201\_2020\_WY | 43°14'49.23612" | -106°23'16.23386" | 1645.537 | VVA |
| 3202\_2020\_WY | 41°34'59.84294" | -105°41'56.05591" | 2145.671 | VVA |
| 3203\_2020\_WY | 41°44'01.98828" | -105°26'43.51958" | 1956.407 | VVA |
| 3204\_2020\_WY | 41°58'34.63635" | -107°21'24.69730" | 2002.159 | VVA |
| 3205\_2020\_WY | 43°14'13.45007" | -106°43'02.52950" | 1660.851 | VVA |

## Survey Control-Worldwide/UTM Coordinate System

* Horizontal Datum: NAD 1983 (2011)
* Horizontal Projection: UTM 13 North
* Vertical Datum: NAVD88
* Geoid Model: Geoid18
* Units: Meters

Table 2.3 Survey Control -Worldwide UTM

| Point Number | UTM 13N Northing (M) | UTM 13N Easting (M) | Orthometric Height (M) | Description |
| --- | --- | --- | --- | --- |
| 17 JFM | 4599395.545 | 409924.552 | 2356.019 | MP0510 |
| A 338 | 4713244.207 | 348927.619 | 1934.162 | TSM |
| B 15 | 4566528.032 | 274300.860 | 1959.112 | MP0334 |
| BARRETT | 4576134.811 | 372271.856 | 2761.953 | MP0552 |
| C 167 | 4604680.329 | 448000.604 | 2190.469 | DISK F |
| C 334 | 4768866.842 | 328606.555 | 1853.162 | TSM OV0253 |
| D 15 | 4559490.003 | 276064.905 | 1942.379 | NGS |
| K 31 | 4707041.514 | 324685.877 | 1796.976 | NR0159 TSM |
| K 334 | 4766021.166 | 344236.738 | 1732.824 | OV0261 |
| L 336 | 4686236.665 | 297208.234 | 1967.427 | TSM |
| LS 70 | 4570615.621 | 456263.678 | 2273.155 | MO0965 |
| MILLER | 4594357.330 | 305827.047 | 2565.295 | NGS |
| P032 | 4623553.872 | 312411.497 | 2181.658 | DI2248 |
| Q 360 | 4782143.464 | 392145.750 | 1639.528 | TSM OV0309 |
| R 334 | 4750810.779 | 378359.164 | 1617.114 | NR0223 |
| S 74 | 4562984.029 | 347371.545 | 2341.471 | MP0149 |
| S 88 | 4599954.518 | 443331.760 | 2145.780 | TSM |
| S 335 | 4737941.423 | 381235.994 | 1633.729 | NR0242 |
| U 16 | 4746787.705 | 411558.316 | 1541.585 | NR0002 |
| X 358 | 4807264.425 | 398226.644 | 1491.590 | OV0289 |
| Y 336 | 4665072.980 | 299942.725 | 1990.775 | NR0313 |
| Z 338 | 4630402.655 | 314277.207 | 2092.805 | MP0454 |

## Survey Control-Geodetic Coordinate System

* Horizontal Datum: NAD 1983 (2011)
* Vertical Datum: NAVD88
* Units: Meters

Table 2.4 Survey Control -Geodetic Coordinate System

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Point Number | NAD1983 (2011) Latitude (N) | NAD1983 (2011) Longitude (W) | Ellipsoid Height (M) | Description |
| 17 JFM | 41°32'28.13677" | -106°04'47.65837" | 2344.358 | MP0510 |
| A 338 | 42°33'24.57645" | -106°50'24.93904" | 1921.727 | TSM |
| B 15 | 41°13'07.22312" | -107°41'32.77376" | 1944.482 | MP0334 |
| BARRETT | 41°19'35.67770" | -106°31'34.58075" | 2751.107 | MP0552 |
| C 167 | 41°35'31.66429" | -105°37'26.07092" | 2178.817 | DISK F |
| C 334 | 43°03'11.35286" | -107°06'16.39323" | 1839.717 | TSM OV0253 |
| D 15 | 41°09'21.00179" | -107°40'07.82652" | 1927.823 | NGS |
| K 31 | 42°29'45.18161" | -107°08'00.49368" | 1784.714 | NR0159 TSM |
| K 334 | 43°01'51.27771" | -106°54'42.99681" | 1719.566 | OV0261 |
| L 336 | 42°18'07.12096" | -107°27'36.89660" | 1954.232 | TSM |
| LS 70 | 41°17'08.87102" | -105°31'20.29294" | 2261.519 | MO0965 |
| MILLER | 41°28'38.36104" | -107°19'32.05639" | 2552.444 | NGS |
| P032 | 41°44'30.00320" | -107°15'21.27885" | 2168.099 | DI2248 |
| Q 360 | 43°11'03.71317" | -106°19'37.90826" | 1625.915 | TSM OV0309 |
| R 334 | 42°54'00.77648" | -106°29'23.82460" | 1603.932 | NR0223 |
| S 74 | 41°12'13.85302" | -106°49'13.40748" | 2330.09 | MP0149 |
| S 88 | 41°32'57.29044" | -105°40'46.11848" | 2134.098 | TSM |
| S 335 | 42°47'05.32770" | -106°27'07.23126" | 1620.881 | NR0242 |
| U 16 | 42°52'06.82812" | -106°04'57.91045" | 1528.052 | NR0002 |
| X 358 | 43°24'40.89102" | -106°15'25.33453" | 1477.709 | OV0289 |
| Y 336 | 42°06'44.09364" | -107°25'11.35339" | 1976.895 | NR0313 |
| Z 338 | 41°48'13.48532" | -107°14'08.27162" | 2079.179 | MP0454 |

# GPS Control Diagram

Image 3.1. Overview of the Lidar Control Network

![Lidar Control Network
]()

North Arrow


Image 3.2. Overview of the Lidar NVA Network

![NVA Network
]()

North Arrow


Image 3.3. Overview of the Lidar VVA Network

![VVA Network
]()

North Arrow


# NGS Datasheets

Below are the published National Geodetic Survey (NGS) datasheets for those existing monumented control stations used to establish 3-dimensional coordinates for each of the newly established project ground control survey points.

## The NGS Data Sheet for 17 JFM

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.9

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = AUGUST 18, 2020

MP0510 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MP0510 DESIGNATION - 17 JFM

MP0510 PID - MP0510

MP0510 STATE/COUNTY- WY/CARBON

MP0510 COUNTRY - US

MP0510 USGS QUAD - BENGOUGH HILL (2017)

MP0510

MP0510 \*CURRENT SURVEY CONTROL

MP0510 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MP0510\* NAD 83(1993) POSITION- 41 32 28.13486(N) 106 04 47.65966(W) ADJUSTED

MP0510\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 2356.04 (+/-2cm) 7729.8 (feet) VERTCON

MP0510 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MP0510 GEOID HEIGHT - -11.661 (meters) GEOID18

MP0510 LAPLACE CORR - -4.35 (seconds) DEFLEC18

MP0510 HORZ ORDER - THIRD

MP0510 VERT ORDER - THIRD ? (See Below)

MP0510

MP0510.The horizontal coordinates were established by classical geodetic methods

MP0510.and adjusted by the National Geodetic Survey in January 1997.

MP0510.

MP0510.The NAVD 88 height was computed by applying the VERTCON shift value to

MP0510.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)

MP0510

MP0510.Significant digits in the geoid height do not necessarily reflect accuracy.

MP0510.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

MP0510

MP0510.The vertical order pertains to the NGVD 29 superseded value.

MP0510

MP0510.Click [photographs](https://www.ngs.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=MP0510) - Photos may exist for this station.

MP0510

MP0510.The Laplace correction was computed from DEFLEC18 derived deflections.

MP0510

MP0510. The following values were computed from the NAD 83(1993) position.

MP0510

MP0510; North East Units Scale Factor Converg.

MP0510;SPC WYEC - 216,375.507 504,584.636 MT 1.00007206 +0 49 52.7

MP0510;SPC WYEC - 709,891.98 1,655,458.09 sFT 1.00007206 +0 49 52.7

MP0510;UTM 13 - 4,599,395.487 409,924.522 MT 0.99969985 -0 42 58.3

MP0510

MP0510! - Elev Factor x Scale Factor = Combined Factor

MP0510!SPC WYEC - 0.99963242 x 1.00007206 = 0.99970445

MP0510!UTM 13 - 0.99963242 x 0.99969985 = 0.99933238

MP0510

MP0510: Primary Azimuth Mark Grid Az

MP0510:SPC WYEC - STROUSS 159 46 31.1

MP0510:UTM 13 - STROUSS 161 19 22.1

MP0510

MP0510\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TDF0992499395(NAD 83)

MP0510

MP0510|---------------------------------------------------------------------|

MP0510| PID Reference Object Distance Geod. Az |

MP0510| dddmmss.s |

MP0510| MP0521 STROUSS APPROX. 6.8 KM 1603623.8 |

MP0510|---------------------------------------------------------------------|

MP0510

MP0510 SUPERSEDED SURVEY CONTROL

MP0510

MP0510 NAD 83(1986)- 41 32 28.12290(N) 106 04 47.65631(W) AD( ) 3

MP0510 NAD 27 - 41 32 28.23569(N) 106 04 45.62768(W) AD( ) 3

MP0510 NGVD 29 2354.81 (m) 7725.7 (f) LEVELING 3

MP0510

MP0510.Superseded values are not recommended for survey control.

MP0510

MP0510.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

MP0510.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

MP0510

MP0510\_MARKER: DB = BENCH MARK DISK

MP0510\_SETTING: 0 = UNSPECIFIED SETTING

MP0510\_STABILITY: D = MARK OF QUESTIONABLE OR UNKNOWN STABILITY

MP0510

MP0510 HISTORY - Date Condition Report By

MP0510 HISTORY - 1953 MONUMENTED USGS

MP0510

MP0510 STATION DESCRIPTION

MP0510

MP0510'DESCRIBED BY US GEOLOGICAL SURVEY 1953

MP0510'STATION IS LOCATED ABOUT 36 MI. (AIRLINE) NW. OF LARAMIE, ON THE

MP0510'EDGE OF A GRASS COVERED, ROCKY MESA, IN THE SW. CORNER OF SEC. 8,

MP0510'T 18 N, R 77 W.

MP0510'

MP0510'TO REACH FROM LARAMIE POST OFFICE, GO W. 7.0 MI. ON STATE HIGHWAY

MP0510'130 TO A RD. FORK, TURN RIGHT (N.) AND FOLLOW BLACK TOP RD. 6.7

MP0510'MI. TO END OF BLACK TOP, CONTINUE ON MAIN TRAVELED, GRADED RD. 19.8

MP0510'MI. TO CATTLEGUARD ON AN E-W. FENCE LINE. RD. TURNS NW. AT THIS

MP0510'POINT, LEAVE RD., GO N. 0.1 MI. TO EDGE OF MESA AND STATION.

MP0510'

MP0510'STATION MARK--STANDARD USGS BENCH MARK TABLET, STAMPED ---17 JFM

MP0510'1953---.

MP0510'

MP0510'REFERENCE MARKS--NONE.

\*\*\* retrieval complete.

Elapsed Time = 00:00:01

## The NGS Data Sheet for A 338

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.9

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = AUGUST 18, 2020

NR0270 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

NR0270 DESIGNATION - A 338

NR0270 PID - NR0270

NR0270 STATE/COUNTY- WY/NATRONA

NR0270 COUNTRY - US

NR0270 USGS QUAD - BENTON BASIN (2017)

NR0270

NR0270 \*CURRENT SURVEY CONTROL

NR0270 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NR0270\* NAD 83(2011) POSITION- 42 33 24.57626(N) 106 50 24.93910(W) ADJUSTED

NR0270\* NAD 83(2011) ELLIP HT- 1921.722 (meters) (06/27/12) ADJUSTED

NR0270\* NAD 83(2011) EPOCH - 2010.00

NR0270\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 1934.144 (meters) 6345.60 (feet) ADJUSTED

NR0270 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NR0270 GEOID HEIGHT - -12.435 (meters) GEOID18

NR0270 NAD 83(2011) X - -1,363,582.217 (meters) COMP

NR0270 NAD 83(2011) Y - -4,504,959.169 (meters) COMP

NR0270 NAD 83(2011) Z - 4,292,666.391 (meters) COMP

NR0270 LAPLACE CORR - -2.32 (seconds) DEFLEC18

NR0270 DYNAMIC HEIGHT - 1932.795 (meters) 6341.18 (feet) COMP

NR0270 MODELED GRAVITY - 979,853.9 (mgal) NAVD 88

NR0270

NR0270 VERT ORDER - FIRST CLASS II

NR0270

NR0270 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

NR0270 Standards:

NR0270 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

NR0270 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

NR0270 -------------------------------------------------------------------

NR0270 NETWORK 2.24 2.06 0.44 1.12 1.05 0.12975147

NR0270 -------------------------------------------------------------------

NR0270 Click [here](https://www.ngs.noaa.gov/cgi-bin/lna_ret.prl?PID=NR0270) for local accuracies and other accuracy information.

NR0270

NR0270

NR0270.The horizontal coordinates were established by GPS observations

NR0270.and adjusted by the National Geodetic Survey in June 2012.

NR0270

NR0270.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

NR0270.been affixed to the stable North American tectonic plate. See

NR0270.[NA2011](https://www.ngs.noaa.gov/web/surveys/NA2011) for more information.

NR0270

NR0270.The horizontal coordinates are valid at the epoch date displayed above

NR0270.which is a decimal equivalence of Year/Month/Day.

NR0270

NR0270.The orthometric height was determined by differential leveling and

NR0270.adjusted by the NATIONAL GEODETIC SURVEY

NR0270.in June 1991.

NR0270

NR0270.Significant digits in the geoid height do not necessarily reflect accuracy.

NR0270.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

NR0270

NR0270.Click [photographs](https://www.ngs.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=NR0270) - Photos may exist for this station.

NR0270

NR0270.The X, Y, and Z were computed from the position and the ellipsoidal ht.

NR0270

NR0270.The Laplace correction was computed from DEFLEC18 derived deflections.

NR0270

NR0270.The ellipsoidal height was determined by GPS observations

NR0270.and is referenced to NAD 83.

NR0270

NR0270.The dynamic height is computed by dividing the NAVD 88

NR0270.geopotential number by the normal gravity value computed on the

NR0270.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

NR0270.degrees latitude (g = 980.6199 gals.).

NR0270

NR0270.The modeled gravity was interpolated from observed gravity values.

NR0270

NR0270. The following values were computed from the NAD 83(2011) position.

NR0270

NR0270; North East Units Scale Factor Converg.

NR0270;SPC WYEC - 328,543.272 440,490.862 MT 0.99995766 +0 20 00.5

NR0270;SPC WYEC - 1,077,895.72 1,445,177.10 sFT 0.99995766 +0 20 00.5

NR0270;UTM 13 - 4,713,244.202 348,927.617 MT 0.99988080 -1 14 41.4

NR0270

NR0270! - Elev Factor x Scale Factor = Combined Factor

NR0270!SPC WYEC - 0.99969870 x 0.99995766 = 0.99965638

NR0270!UTM 13 - 0.99969870 x 0.99988080 = 0.99957954

NR0270

NR0270\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TCH4892713244(NAD 83)

NR0270

NR0270 SUPERSEDED SURVEY CONTROL

NR0270

NR0270 NAD 83(2007)- 42 33 24.57598(N) 106 50 24.94023(W) AD(2002.00) 0

NR0270 ELLIP H (02/10/07) 1921.742 (m) GP(2002.00)

NR0270 NAD 83(1993)- 42 33 24.57551(N) 106 50 24.94003(W) AD( ) A

NR0270 ELLIP H (02/28/01) 1921.758 (m) GP( ) 2 1

NR0270 NAVD 88 1934.14 (m) 6345.6 (f) LEVELING 3

NR0270 NGVD 29 (06/08/92) 1933.194 (m) 6342.49 (f) ADJUSTED 1 2

NR0270

NR0270.Superseded values are not recommended for survey control.

NR0270

NR0270.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

NR0270.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

NR0270

NR0270\_MARKER: I = METAL ROD

NR0270\_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)

NR0270\_STAMPING: A 338 1982

NR0270\_MARK LOGO: NGS

NR0270\_PROJECTION: FLUSH

NR0270\_MAGNETIC: I = MARKER IS A STEEL ROD

NR0270\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

NR0270\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

NR0270+SATELLITE: SATELLITE OBSERVATIONS - September 17, 2009

NR0270\_ROD/PIPE-DEPTH: 3.4 meters

NR0270

NR0270 HISTORY - Date Condition Report By

NR0270 HISTORY - 1982 MONUMENTED NGS

NR0270 HISTORY - 19990902 GOOD BLM

NR0270 HISTORY - 20090917 GOOD INDIV

NR0270

NR0270 STATION DESCRIPTION

NR0270

NR0270'DESCRIBED BY NATIONAL GEODETIC SURVEY 1982

NR0270'53.1 KM (33.0 MI) SW FROM CASPER.

NR0270'53.1 KM (33.0 MI) SOUTHWESTERLY ALONG STATE HIGHWAY 220 FROM ITS

NR0270'JUNCTION WITH STATE HIGHWAY 257 IN CASPER, 0.5 KM (0.3 MI) EAST OF

NR0270'MILEPOST 80, 0.5 KM (0.3 MI) WEST OF A PAVED ROAD LEADING SOUTH TO

NR0270'PATHFINDER DAM, 40.2 METERS (131.9 FT) NORTHEAST OF THE CENTERLINE OF

NR0270'THE HIGHWAY, 28.1 METERS (92.2 FT) NORTHEAST OF THE NORTHEAST END OF A

NR0270'CONCRETE DRAINAGE PIPE AND 8.4 KM (27.6 FT) NORTHWEST OF THE CENTER OF

NR0270'A FIELD ENTRANCE. NOTE, ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH

NR0270'LOGO CAP.

NR0270'THE MARK IS 0.3 METERS SW FROM A WITNESS POST AND FENCE

NR0270'THE MARK IS ABOVE LEVEL WITH THE HIGHWAY.

NR0270

NR0270 STATION RECOVERY (1999)

NR0270

NR0270'RECOVERY NOTE BY BUREAU OF LAND MANAGEMENT 1999 (MDL)

NR0270'RECOVERED AS DESCRIBED.

NR0270

NR0270 STATION RECOVERY (2009)

NR0270

NR0270'RECOVERY NOTE BY INDIVIDUAL CONTRIBUTORS 2009 (DK)

NR0270'RECOVERED AS DESCRIBED

\*\*\* retrieval complete.

Elapsed Time = 00:00:02

## The NGS Data Sheet for B 15

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.10

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 22, 2020

MP0334 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MP0334 DESIGNATION - B 15

MP0334 PID - MP0334

MP0334 STATE/COUNTY- WY/CARBON

MP0334 COUNTRY - US

MP0334 USGS QUAD - PEACH ORCHARD FLAT (2017)

MP0334

MP0334 \*CURRENT SURVEY CONTROL

MP0334 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MP0334\* NAD 83(1986) POSITION- 41 13 07. (N) 107 41 33. (W) SCALED

MP0334\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 1959.068 (meters) 6427.38 (feet) ADJUSTED

MP0334 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MP0334 GEOID HEIGHT - -14.631 (meters) GEOID18

MP0334 DYNAMIC HEIGHT - 1957.299 (meters) 6421.57 (feet) COMP

MP0334 MODELED GRAVITY - 979,651.5 (mgal) NAVD 88

MP0334

MP0334 VERT ORDER - FIRST CLASS II

MP0334

MP0334.The horizontal coordinates were scaled from a map and have

MP0334.an estimated accuracy of +/- 6 seconds.

MP0334.

MP0334.The orthometric height was determined by differential leveling and

MP0334.adjusted by the NATIONAL GEODETIC SURVEY

MP0334.in June 1991.

MP0334

MP0334.Significant digits in the geoid height do not necessarily reflect accuracy.

MP0334.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

MP0334

MP0334.Click [photographs](https://www.ngs.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=MP0334) - Photos may exist for this station.

MP0334

MP0334.The dynamic height is computed by dividing the NAVD 88

MP0334.geopotential number by the normal gravity value computed on the

MP0334.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

MP0334.degrees latitude (g = 980.6199 gals.).

MP0334

MP0334.The modeled gravity was interpolated from observed gravity values.

MP0334

MP0334; North East Units Estimated Accuracy

MP0334;SPC WYEC - 179,860. 369,880. MT (+/- 180 meters Scaled)

MP0334

MP0334\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TBF742665(NAD 83)

MP0334

MP0334 SUPERSEDED SURVEY CONTROL

MP0334

MP0334 NGVD 29 (??/??/92) 1957.838 (m) 6423.34 (f) ADJ UNCH 1 2

MP0334

MP0334.Superseded values are not recommended for survey control.

MP0334

MP0334.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

MP0334.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

MP0334

MP0334\_MARKER: DB = BENCH MARK DISK

MP0334\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

MP0334\_STAMPING: B 15 1933

MP0334\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

MP0334+STABILITY: SURFACE MOTION

MP0334

MP0334 HISTORY - Date Condition Report By

MP0334 HISTORY - 1933 MONUMENTED CGS

MP0334 HISTORY - 1945 GOOD CGS

MP0334

MP0334 STATION DESCRIPTION

MP0334

MP0334'DESCRIBED BY COAST AND GEODETIC SURVEY 1933

MP0334'13.7 MI N FROM BAGGS.

MP0334'ABOUT 13.7 MILES NORTH ALONG THE BAGGS-WAMSUTTER HIGHWAY FROM BAGGS,

MP0334'CARBON COUNTY, ABOUT 115 FEET NORTH OF THE NORTH END OF A BRIDGE OVER

MP0334'A DRY GULCH, AND 63 FEET EAST OF THE CENTER LINE OF THE HIGHWAY. A

MP0334'STANDARD DISK, STAMPED B 15 1933 AND SET IN THE TOP OF A CONCRETE

MP0334'POST.

MP0334

MP0334 STATION RECOVERY (1945)

MP0334

MP0334'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1945

MP0334'RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

Elapsed Time = 00:00:01

## The NGS Data Sheet for Barrett

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.10

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = OCTOBER 5, 2020

MP0552 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MP0552 CBN - This is a Cooperative Base Network Control Station.

MP0552 DESIGNATION - BARRETT

MP0552 PID - MP0552

MP0552 STATE/COUNTY- WY/CARBON

MP0552 COUNTRY - US

MP0552 USGS QUAD - RYAN PARK (2017)

MP0552

MP0552 \*CURRENT SURVEY CONTROL

MP0552 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MP0552\* NAD 83(2011) POSITION- 41 19 35.67787(N) 106 31 34.57981(W) ADJUSTED

MP0552\* NAD 83(2011) ELLIP HT- 2751.158 (meters) (06/27/12) ADJUSTED

MP0552\* NAD 83(2011) EPOCH - 2010.00

MP0552\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 2762.2 (meters) 9062. (feet) GPS OBS

MP0552 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MP0552 NAVD 88 orthometric height was determined with geoid model GEOID93

MP0552 GEOID HEIGHT - -10.52 (meters) GEOID93

MP0552 GEOID HEIGHT - -10.845 (meters) GEOID18

MP0552 NAD 83(2011) X - -1,365,038.157 (meters) COMP

MP0552 NAD 83(2011) Y - -4,600,544.065 (meters) COMP

MP0552 NAD 83(2011) Z - 4,191,544.305 (meters) COMP

MP0552 LAPLACE CORR - 8.23 (seconds) DEFLEC18

MP0552

MP0552 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

MP0552 Standards:

MP0552 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

MP0552 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

MP0552 -------------------------------------------------------------------

MP0552 NETWORK 1.80 5.15 0.83 0.60 2.63 0.06517090

MP0552 -------------------------------------------------------------------

MP0552 Click [here](https://www.ngs.noaa.gov/cgi-bin/lna_ret.prl?PID=MP0552) for local accuracies and other accuracy information.

MP0552

MP0552

MP0552.The horizontal coordinates were established by GPS observations

MP0552.and adjusted by the National Geodetic Survey in June 2012.

MP0552

MP0552.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

MP0552.been affixed to the stable North American tectonic plate. See

MP0552.[NA2011](https://www.ngs.noaa.gov/web/surveys/NA2011) for more information.

MP0552

MP0552.The horizontal coordinates are valid at the epoch date displayed above

MP0552.which is a decimal equivalence of Year/Month/Day.

MP0552

MP0552.The orthometric height was determined by GPS observations and a

MP0552.high-resolution geoid model.

MP0552

MP0552.Significant digits in the geoid height do not necessarily reflect accuracy.

MP0552.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

MP0552

MP0552.Click [photographs](https://www.ngs.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=MP0552) - Photos may exist for this station.

MP0552

MP0552.The X, Y, and Z were computed from the position and the ellipsoidal ht.

MP0552

MP0552.The Laplace correction was computed from DEFLEC18 derived deflections.

MP0552

MP0552.The ellipsoidal height was determined by GPS observations

MP0552.and is referenced to NAD 83.

MP0552

MP0552. The following values were computed from the NAD 83(2011) position.

MP0552

MP0552; North East Units Scale Factor Converg.

MP0552;SPC WYEC - 192,101.736 467,562.046 MT 0.99999366 +0 31 58.7

MP0552;SPC WYEC - 630,253.78 1,533,993.15 sFT 0.99999366 +0 31 58.7

MP0552;UTM 13 - 4,576,134.816 372,271.878 MT 0.99980078 -1 00 28.8

MP0552

MP0552! - Elev Factor x Scale Factor = Combined Factor

MP0552!SPC WYEC - 0.99956866 x 0.99999366 = 0.99956232

MP0552!UTM 13 - 0.99956866 x 0.99980078 = 0.99936952

MP0552

MP0552: Primary Azimuth Mark Grid Az

MP0552:SPC WYEC - MEDICINE BOW 077 17 59.6

MP0552:UTM 13 - MEDICINE BOW 078 50 27.1

MP0552

MP0552\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TCF7227176134(NAD 83)

MP0552

MP0552|---------------------------------------------------------------------|

MP0552| PID Reference Object Distance Geod. Az |

MP0552| dddmmss.s |

MP0552| MP0546 MEDICINE BOW APPROX.17.9 KM 0774958.3 |

MP0552| CP5324 BARRETT LOT RM 1 9.285 METERS 14330 |

MP0552| CP5325 BARRETT LOT RM 2 9.369 METERS 25058 |

MP0552|---------------------------------------------------------------------|

MP0552

MP0552 SUPERSEDED SURVEY CONTROL

MP0552

MP0552 NAD 83(2007)- 41 19 35.67766(N) 106 31 34.58063(W) AD(2002.00) 0

MP0552 ELLIP H (02/10/07) 2751.178 (m) GP(2002.00)

MP0552 ELLIP H (09/07/01) 2751.186 (m) GP( ) 4 1

MP0552 NAD 83(1993)- 41 19 35.67695(N) 106 31 34.58050(W) AD( ) B

MP0552 ELLIP H (10/19/94) 2751.229 (m) GP( ) 4 1

MP0552 NAD 83(1986)- 41 19 35.67052(N) 106 31 34.57480(W) AD( ) 3

MP0552 NAD 27 - 41 19 35.79300(N) 106 31 32.49000(W) AD( ) 3

MP0552 NGVD 29 (07/19/86) 2766. (m) 9075. (f) VERT ANG

MP0552

MP0552.Superseded values are not recommended for survey control.

MP0552

MP0552.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

MP0552.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

MP0552

MP0552\_MARKER: DS = TRIANGULATION STATION DISK

MP0552\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

MP0552\_STAMPING: BARRETT 1948

MP0552\_MARK LOGO: CGS

MP0552\_MAGNETIC: N = NO MAGNETIC MATERIAL

MP0552\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

MP0552+STABILITY: SURFACE MOTION

MP0552\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

MP0552+SATELLITE: SATELLITE OBSERVATIONS - August 12, 1993

MP0552

MP0552 HISTORY - Date Condition Report By

MP0552 HISTORY - 1948 MONUMENTED CGS

MP0552 HISTORY - 1959 GOOD USGS

MP0552 HISTORY - 19930812 GOOD NGS

MP0552

MP0552 STATION DESCRIPTION

MP0552

MP0552'DESCRIBED BY COAST AND GEODETIC SURVEY 1948 (DHK)

MP0552'THE STATION IS LOCATED ABOUT 17.0 MILES AIRLINE SOUTHEAST OF

MP0552'SARATOGA, ON A HIGH, HEAVILY TIMBERED, NORTHWEST-SOUTHEAST

MP0552'RIDGE, WHICH IS LOCALLY KNOWN AS BARRETT RIDGE. THE STATION

MP0552'IS BELIEVED TO BE NEAR THE HIGHEST POINT, IN THE CENTER OF THE

MP0552'BASE OF THE BARRETT RIDGE FOREST SERVICE LOOKOUT TOWER,

MP0552'APPROXIMATELY 25 YARDS SOUTHEAST OF THE HIGHEST POINT, 19

MP0552'FEET WEST-NORTHWEST OF A 4X4 WITNESS POST, PROJECTS 3 INCHES,

MP0552'STAMPED, BARRETT 1948.

MP0552'

MP0552'REFERENCE MARK NO. 1, IS APPROXIMATELY 3 FEET LOWER THAN

MP0552'THE STATION, 18 FEET SOUTH OF A 4X4 WITNESS POST, PROJECTS

MP0552'3 INCHES, STAMPED, BARRETT NO 1 1948.

MP0552'

MP0552'REFERENCE MARK NO. 2, IS APPROXIMATELY 2 FEET LOWER THAN THE

MP0552'STATION, ON THE WEST SLOPE, PROJECTS 4 INCHES, STAMPED, BARRETT

MP0552'NO 2 1948.

MP0552'

MP0552'TRIANGULATION STATION MEDICINE BOW 1948 IS THE AZIMUTH.

MP0552'

MP0552'TO REACH FROM SARATOGA. GO SOUTH ON STATE HIGHWAY 230 FOR

MP0552'8.4 MILES TO THE JUNCTION OF STATE HIGHWAY 130. TURN LEFT (EAST)

MP0552'AND FOLLOW STATE HIGHWAY 130 FOR 12.1 MILES TO THE BRUSH CREEK

MP0552'RANGER STATION ON LEFT. CONTINUE STRAIGHT AHEAD FOR 1.85

MP0552'MILES TO A DIRT ROAD SHARP RIGHT. TURN RIGHT ON DIRT ROAD

MP0552'FOR 0.25 MILE TO A FORK. TAKE THE EXTREME LEFT FORK FOR

MP0552'0.1 MILE TO A FORK. TAKE THE RIGHT FORK MAIN TRAVELED ROAD

MP0552'(PASSING CABINS) FOR 0.35 TO A FORK. TAKE THE LEFT FORK UP

MP0552'HILL AND CONTINUE FOR 0.95 MILE TO A FORK AND SIGN BARRETT

MP0552'RIDGE LOOKOUT. TAKE THE RIGHT FORK UP HILL FOR 0.5 MILE TO THE

MP0552'HIGHEST POINT AND STATION AS DESCRIBED. A DRIVE

MP0552'STATION.

MP0552

MP0552 STATION RECOVERY (1959)

MP0552

MP0552'RECOVERY NOTE BY US GEOLOGICAL SURVEY 1959

MP0552'RECOVERED.

MP0552'

MP0552'STATION MARK--STANDARD USC AND GS DISK, STAMPED ---BARRETT 1948---.

MP0552

MP0552 STATION RECOVERY (1993)

MP0552

MP0552'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1993 (GRH)

MP0552'STATION MARK AND REFERENCE MARKS 1 AND 2 WERE RECOVERED IN GOOD

MP0552'CONDITION. NO AZIMUTH MARK FOR THIS STATION. THE LOOKOUT TOWER HAS

MP0552'BEEN REMOVED, LEAVING ONLY THE CONCRETE PAD FOR THE LADDER. STATION IS

MP0552'LOCATED ABOUT 29 KM (18.00 MI) SOUTHEAST OF SARATOGA, 32 KM (19.90 MI)

MP0552'WEST OF CENTENNIAL, 2 KM (1.25 MI) NORTHWEST OF THE RYAN PARK

MP0552'COMMUNITY, IN THE MEDICINE BOW NATIONAL FOREST, ON BARRETT RIDGE, ON A

MP0552'MOSTLY CLEAR KNOLL, IN THE NORTHWEST 1/4 OF SECTION 29, T 16 N, R 81

MP0552'W. OWNERSHIP--US DEPARTMENT OF AGRICULTURE. TO REACH FROM THE

MP0552'CENTENNIAL SCHOOL IN CENTENNIAL, GO WEST ON STATE HIGHWAY 130 FOR

MP0552'18.93 KM (11.75 MI) TO THE LIBBY FLATS OBSERVATION POINT ON THE LEFT.

MP0552'CONTINUE AHEAD FOR 21.75 KM (13.50 MI) TO THE ENTRANCE TO THE RYAN

MP0552'PARK CAMPGROUND ON THE LEFT. CONTINUE AHEAD FOR 1.02 KM (0.65 MI) TO

MP0552'A DIRT ROAD LEFT. TURN LEFT, SOUTHWEST, ON RYAN PARK ROAD FOR 0.38 KM

MP0552'(0.25 MI) TO A FORK. BEAR LEFT, SOUTHEAST, ON GRADED ROAD FOR 0.23 KM

MP0552'(0.15 MI) TO A FORK. BEAR RIGHT, SOUTHERLY, ON GRADED ROAD FOR 0.26

MP0552'KM (0.15 MI) TO A ROAD RIGHT. TURN RIGHT, WEST, ON FOREST SERVICE

MP0552'ROAD 210 FOR 1.07 KM (0.65 MI) TO A CATTLE GUARD. CONTINUE AHEAD,

MP0552'WEST, ON GRADED ROAD FOR 0.82 KM (0.50 MI) TO A FORK. BEAR RIGHT,

MP0552'NORTHWEST, UPHILL, ON ROAD 232 FOR 0.31 KM (0.20 MI) TO A TRACK ROAD

MP0552'RIGHT AT TOP OF GRADE. TURN RIGHT, NORTH, ON ROAD 232 1A FOR 0.67 KM

MP0552'(0.40 MI) TO TOP OF RISE AND STATION ON THE LEFT. STATION MARK IS A

MP0552'DISK SET IN THE TOP OF A 30-CM SQUARE CONCRETE POST PROJECTING 5 CM

MP0552'ABOVE GROUND. IT IS ON THE SOUTHEAST END OF THE SHORT

MP0552'NORTHWEST-SOUTHEAST ROCKY KNOLL THAT IS COVERED WITH LOW ASPEN AND

MP0552'PINES. IT IS 13.9 M (45.6 FT) NORTH OF, AND 1 M (3.3 FT) HIGHER THAN

MP0552'THE ROAD CENTER, 1.5 M (4.9 FT) NORTH OF THE SMALL CONCRETE PAD, AND

MP0552'1.1 M (3.6 FT) SOUTH OF A FIBERGLASS WITNESS POST. DESCRIBED BY

MP0552'G.R.HEID

\*\*\* retrieval complete.

Elapsed Time = 00:00:02

## The NGS Data Sheet for C 167

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.9

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 10, 2020

MO0754 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MO0754 DESIGNATION - C 167

MO0754 PID - MO0754

MO0754 STATE/COUNTY- WY/ALBANY

MO0754 COUNTRY - US

MO0754 USGS QUAD - BOSLER SE (2017)

MO0754

MO0754 \*CURRENT SURVEY CONTROL

MO0754 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MO0754\* NAD 83(1986) POSITION- 41 35 30. (N) 105 37 28. (W) SCALED

MO0754\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 2190.438 (meters) 7186.46 (feet) ADJUSTED

MO0754 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MO0754 GEOID HEIGHT - -11.652 (meters) GEOID18

MO0754 DYNAMIC HEIGHT - 2188.593 (meters) 7180.41 (feet) COMP

MO0754 MODELED GRAVITY - 979,701.1 (mgal) NAVD 88

MO0754

MO0754 VERT ORDER - SECOND CLASS 0

MO0754

MO0754.The horizontal coordinates were scaled from a map and have

MO0754.an estimated accuracy of +/- 6 seconds.

MO0754.

MO0754.The orthometric height was determined by differential leveling and

MO0754.adjusted by the NATIONAL GEODETIC SURVEY

MO0754.in June 1991.

MO0754

MO0754.Significant digits in the geoid height do not necessarily reflect accuracy.

MO0754.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

MO0754

MO0754.Click [photographs](https://www.ngs.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=MO0754) - Photos may exist for this station.

MO0754

MO0754.The dynamic height is computed by dividing the NAVD 88

MO0754.geopotential number by the normal gravity value computed on the

MO0754.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

MO0754.degrees latitude (g = 980.6199 gals.).

MO0754

MO0754.The modeled gravity was interpolated from observed gravity values.

MO0754

MO0754; North East Units Estimated Accuracy

MO0754;SPC WY E - 121,330. 161,830. MT (+/- 180 meters Scaled)

MO0754

MO0754\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TDG479046(NAD 83)

MO0754

MO0754 SUPERSEDED SURVEY CONTROL

MO0754

MO0754 NGVD 29 (??/??/92) 2189.389 (m) 7183.02 (f) ADJ UNCH 2 0

MO0754

MO0754.Superseded values are not recommended for survey control.

MO0754

MO0754.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

MO0754.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

MO0754

MO0754\_MARKER: DB = BENCH MARK DISK

MO0754\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

MO0754\_STAMPING: C 167 1966

MO0754\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

MO0754+STABILITY: SURFACE MOTION

MO0754

MO0754 HISTORY - Date Condition Report By

MO0754 HISTORY - 1966 MONUMENTED CGS

MO0754

MO0754 STATION DESCRIPTION

MO0754

MO0754'DESCRIBED BY COAST AND GEODETIC SURVEY 1966

MO0754'5.9 MI NE FROM BOSLER.

MO0754'1.95 MILES SOUTH ALONG U.S. HIGHWAY 30 FROM THE SCHOOL AT

MO0754'BOSLER, THENCE 3.95 MILES NORTHEAST ALONG STATE HIGHWAY 34, 0.15

MO0754'MILE NORTHEAST OF A T FENCE JUNCTION, 99 FEET NORTHWEST OF THE

MO0754'CENTER LINE OF THE HIGHWAY, 46 FEET NORTHEAST OF BENCH MARK 7182

MO0754'(WSHD), 16.8 FEET NORTHEAST OF THE NORTHEAST END OF A GATE, 2.7

MO0754'FEET SOUTHEAST OF A FENCE, 1.9 FEET SOUTHWEST OF A WITNESS

MO0754'POST, ABOUT LEVEL WITH THE HIGHWAY, AND SET IN THE TOP OF A

MO0754'CONCRETE POST PROJECTING 0.4 FOOT ABOVE THE GROUND.

\*\*\* retrieval complete.

Elapsed Time = 00:00:01

## The NGS Data Sheet for C 334

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.9

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = AUGUST 18, 2020

OV0253 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

OV0253 FBN - This is a Federal Base Network Control Station.

OV0253 DESIGNATION - C 334

OV0253 PID - OV0253

OV0253 STATE/COUNTY- WY/NATRONA

OV0253 COUNTRY - US

OV0253 USGS QUAD - HELLS HALF ACRE (2017)

OV0253

OV0253 \*CURRENT SURVEY CONTROL

OV0253 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

OV0253\* NAD 83(2011) POSITION- 43 03 11.35267(N) 107 06 16.39328(W) ADJUSTED

OV0253\* NAD 83(2011) ELLIP HT- 1839.648 (meters) (06/27/12) ADJUSTED

OV0253\* NAD 83(2011) EPOCH - 2010.00

OV0253\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 1853.096 (meters) 6079.70 (feet) ADJUSTED

OV0253 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

OV0253 GEOID HEIGHT - -13.444 (meters) GEOID18

OV0253 NAD 83(2011) X - -1,373,307.882 (meters) COMP

OV0253 NAD 83(2011) Y - -4,462,744.967 (meters) COMP

OV0253 NAD 83(2011) Z - 4,333,074.417 (meters) COMP

OV0253 LAPLACE CORR - 2.35 (seconds) DEFLEC18

OV0253 DYNAMIC HEIGHT - 1851.814 (meters) 6075.49 (feet) COMP

OV0253 MODELED GRAVITY - 979,862.7 (mgal) NAVD 88

OV0253

OV0253 VERT ORDER - FIRST CLASS II

OV0253

OV0253 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

OV0253 Standards:

OV0253 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

OV0253 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

OV0253 -------------------------------------------------------------------

OV0253 NETWORK 0.56 1.41 0.22 0.24 0.72 -0.02276177

OV0253 -------------------------------------------------------------------

OV0253 Click [here](https://www.ngs.noaa.gov/cgi-bin/lna_ret.prl?PID=OV0253) for local accuracies and other accuracy information.

OV0253

OV0253

OV0253.The horizontal coordinates were established by GPS observations

OV0253.and adjusted by the National Geodetic Survey in June 2012.

OV0253

OV0253.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

OV0253.been affixed to the stable North American tectonic plate. See

OV0253.[NA2011](https://www.ngs.noaa.gov/web/surveys/NA2011) for more information.

OV0253

OV0253.The horizontal coordinates are valid at the epoch date displayed above

OV0253.which is a decimal equivalence of Year/Month/Day.

OV0253

OV0253.The orthometric height was determined by differential leveling and

OV0253.adjusted by the NATIONAL GEODETIC SURVEY

OV0253.in June 1991.

OV0253

OV0253.Significant digits in the geoid height do not necessarily reflect accuracy.

OV0253.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

OV0253

OV0253.Click [photographs](https://www.ngs.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=OV0253) - Photos may exist for this station.

OV0253

OV0253.The X, Y, and Z were computed from the position and the ellipsoidal ht.

OV0253

OV0253.The Laplace correction was computed from DEFLEC18 derived deflections.

OV0253

OV0253.The ellipsoidal height was determined by GPS observations

OV0253.and is referenced to NAD 83.

OV0253

OV0253.The dynamic height is computed by dividing the NAVD 88

OV0253.geopotential number by the normal gravity value computed on the

OV0253.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

OV0253.degrees latitude (g = 980.6199 gals.).

OV0253

OV0253.The modeled gravity was interpolated from observed gravity values.

OV0253

OV0253. The following values were computed from the NAD 83(2011) position.

OV0253

OV0253; North East Units Scale Factor Converg.

OV0253;SPC WYEC - 383,583.809 418,637.664 MT 0.99994177 +0 09 22.3

OV0253;SPC WYEC - 1,258,474.55 1,373,480.40 sFT 0.99994177 +0 09 22.3

OV0253;UTM 13 - 4,768,866.836 328,606.554 MT 0.99996139 -1 26 13.5

OV0253

OV0253! - Elev Factor x Scale Factor = Combined Factor

OV0253!SPC WYEC - 0.99971159 x 0.99994177 = 0.99965337

OV0253!UTM 13 - 0.99971159 x 0.99996139 = 0.99967299

OV0253

OV0253\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TCH2860668866(NAD 83)

OV0253

OV0253 SUPERSEDED SURVEY CONTROL

OV0253

OV0253 NAD 83(2007)- 43 03 11.35248(N) 107 06 16.39448(W) AD(2002.00) 0

OV0253 ELLIP H (02/10/07) 1839.671 (m) GP(2002.00)

OV0253 ELLIP H (07/24/97) 1839.706 (m) GP( ) 1 1

OV0253 NAD 83(1993)- 43 03 11.35163(N) 107 06 16.39404(W) AD( ) A

OV0253 ELLIP H (10/19/94) 1839.769 (m) GP( ) 3 1

OV0253 NAVD 88 1853.10 (m) 6079.7 (f) LEVELING 3

OV0253 NAVD 88 (10/19/94) 1852.9 (m) UNKNOWN model used GPS OBS

OV0253 NAVD 88 1853.10 (m) 6079.7 (f) LEVELING 3

OV0253 NGVD 29 (06/08/92) 1852.079 (m) 6076.36 (f) ADJUSTED 1 2

OV0253

OV0253.Superseded values are not recommended for survey control.

OV0253

OV0253.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

OV0253.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

OV0253

OV0253\_MARKER: I = METAL ROD

OV0253\_SETTING: 59 = STAINLESS STEEL ROD IN SLEEVE (10 FT.+)

OV0253\_STAMPING: C334 1982

OV0253\_MARK LOGO: NGS

OV0253\_PROJECTION: FLUSH

OV0253\_MAGNETIC: N = NO MAGNETIC MATERIAL

OV0253\_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD

OV0253+STABILITY: POSITION/ELEVATION WELL

OV0253\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

OV0253+SATELLITE: SATELLITE OBSERVATIONS - September 20, 2008

OV0253\_ROD/PIPE-DEPTH: 2.7 meters

OV0253

OV0253 HISTORY - Date Condition Report By

OV0253 HISTORY - 1982 MONUMENTED NGS

OV0253 HISTORY - 19930723 GOOD WYDT

OV0253 HISTORY - 19990729 GOOD NGS

OV0253 HISTORY - 20080920 GOOD GEOCAC

OV0253

OV0253 STATION DESCRIPTION

OV0253

OV0253'DESCRIBED BY NATIONAL GEODETIC SURVEY 1982

OV0253'7.7 KM (4.8 MI) EAST FROM WALTMAN.

OV0253'7.7 KM (4.8 MI) EASTERLY ALONG U. S. HIGHWAY 20 FROM ITS JUNCTION WITH

OV0253'COUNTY ROADS 104 AND 212 IN WALTMAN, 1.1 KM (0.7 MI) NORTHWEST OF THE

OV0253'NORTHWEST ENTRANCE TO HELLS HALF ACRE, 85.6 METERS (280.8 FT)

OV0253'NORTHEAST OF THE CENTERLINE OF THE HIGHWAY, 22.1 METERS (72.5 FT) WEST

OV0253'OF THE CENTER OF A DIRT ROAD LEADING NORTH AND 16.8 METERS (55.1 FT)

OV0253'NORTHWEST OF A FENCE CORNER. NOTE=ACCESS TO THE DATUM POINT IS

OV0253'THROUGH A 5-INCH LOGO CAP.

OV0253'THE MARK IS 0.3 METERS SW FROM A WITNESS POST AND FENCE

OV0253'THE MARK IS 1.2 M BELOW THE HIGHWAY.

OV0253

OV0253 STATION RECOVERY (1993)

OV0253

OV0253'RECOVERY NOTE BY WYOMING DEPARTMENT OF TRANSPORTATION 1993 (RR)

OV0253'NOTE--PUNCH HOLE NEEDED TOP CENTER ON ROD FOR GPS OBSERVATIONS.

OV0253'STATION IS LOCATED ABOUT 9 KM (5.60 MI) WEST OF POWDER RIVER, 10 KM

OV0253'(6.20 MI) EAST OF WALTMAN, 1 KM (0.60 MI) WEST OF THE WEST ENTRANCE

OV0253'HELLS HALF ACRE PARK, ALONG US HIGHWAYS 20 AND 26, ON THE

OV0253'RIGHT-OF-WAY, NEAR MILE 45.9, IN SECTION 35, T 36 N, R 86 W.

OV0253'OWNERSHIP--STATE HIGHWAY DEPARTMENT. TO REACH FROM THE JUNCTION OF US

OV0253'HIGHWAYS 20, 26 AND COUNTY ROADS 106 AND 211 AT POWDER RIVER, GO WEST

OV0253'ON HIGHWAYS 20 AND 26 FOR 8.88 KM (5.50 MI) TO THE WEST ENTRANCE TO

OV0253'HELLS HALF ACRE PARK. CONTINUE AHEAD FOR 1.22 KM (0.75 MI) TO A TRACK

OV0253'ROAD RIGHT AT MILE 45.9. TURN SHARP RIGHT, EASTERLY, ON TRACK ROAD

OV0253'FOR 0.09 KM (0.05 MI) TO THE RIGHT-OF-WAY FENCE AND THE STATION.

OV0253'STATION MARK IS A PUNCH HOLE TOP CENTER ON A STEEL ROD ENCASED IN A

OV0253'PVC PIPE WITH LOGO CAP SET IN A CONCRETE POST FLUSH WITH THE GROUND.

OV0253'IT IS 61 M (200.1 FT) NORTHEAST OF THE HIGHWAY CENTER, 16.8 M (55.1

OV0253'FT) NORTHEAST OF THE TRACK ROAD CENTER, 0.3 M (1.0 FT) SOUTHWEST OF A

OV0253'FIBERGLASS WITNESS POST IN THE FENCELINE, 16.8 M (55.1 FT) NORTHWEST

OV0253'OF A FENCE CORNER, AND 2.6 M (8.5 FT) WEST OF A BRACED FENCE POST.

OV0253'DESCRIBED BY WHD. TYPED BY GRH.

OV0253

OV0253 STATION RECOVERY (1999)

OV0253

OV0253'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1999 (CSM)

OV0253'RECOVERED BY NATIONAL GEODETIC SURVEY 1999. RECOVERED IN GOOD

OV0253'CONDITION AND AS PREVIOUSLY DESCRIBED. ADD THE STATION IS NOW

OV0253'SURROUNDED BY 3 METAL I-BEAM POSTS AND IS 0.3 M (1.0 FT) SOUTHWEST OF

OV0253'A WYDOT FIBERGLASS WITNESS POST.

OV0253

OV0253 STATION RECOVERY (2008)

OV0253

OV0253'RECOVERY NOTE BY GEOCACHING 2008 (WD)

OV0253'RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

Elapsed Time = 00:00:01

## The NGS Data Sheet for D 15

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.9

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = AUGUST 25, 2020

MP0337 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MP0337 DESIGNATION - D 15

MP0337 PID - MP0337

MP0337 STATE/COUNTY- WY/CARBON

MP0337 COUNTRY - US

MP0337 USGS QUAD - PEACH ORCHARD FLAT (2017)

MP0337

MP0337 \*CURRENT SURVEY CONTROL

MP0337 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MP0337\* NAD 83(1986) POSITION- 41 09 21.2 (N) 107 40 07.7 (W) HD\_HELD2

MP0337\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 1942.374 (meters) 6372.61 (feet) ADJUSTED

MP0337 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MP0337 GEOID HEIGHT - -14.555 (meters) GEOID18

MP0337 DYNAMIC HEIGHT - 1940.625 (meters) 6366.87 (feet) COMP

MP0337 MODELED GRAVITY - 979,654.6 (mgal) NAVD 88

MP0337

MP0337 VERT ORDER - FIRST CLASS II

MP0337

MP0337.The horizontal coordinates were established by autonomous hand held GPS

MP0337.observations and have an estimated accuracy of +/- 10 meters.

MP0337.

MP0337.The orthometric height was determined by differential leveling and

MP0337.adjusted by the NATIONAL GEODETIC SURVEY

MP0337.in June 1991.

MP0337

MP0337.Significant digits in the geoid height do not necessarily reflect accuracy.

MP0337.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

MP0337

MP0337.Click [photographs](https://www.ngs.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=MP0337) - Photos may exist for this station.

MP0337

MP0337.The dynamic height is computed by dividing the NAVD 88

MP0337.geopotential number by the normal gravity value computed on the

MP0337.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

MP0337.degrees latitude (g = 980.6199 gals.).

MP0337

MP0337.The modeled gravity was interpolated from observed gravity values.

MP0337

MP0337; North East Units Estimated Accuracy

MP0337;SPC WYEC - 172,887. 371,843. MT (+/- 10 meters HH2 GPS)

MP0337

MP0337\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TBF7606859496(NAD 83)

MP0337

MP0337 SUPERSEDED SURVEY CONTROL

MP0337

MP0337 NGVD 29 (??/??/92) 1941.160 (m) 6368.62 (f) ADJ UNCH 1 2

MP0337

MP0337.Superseded values are not recommended for survey control.

MP0337

MP0337.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

MP0337.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

MP0337

MP0337\_MARKER: DB = BENCH MARK DISK

MP0337\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

MP0337\_STAMPING: D 15 1933

MP0337\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

MP0337+STABILITY: SURFACE MOTION

MP0337

MP0337 HISTORY - Date Condition Report By

MP0337 HISTORY - 1933 MONUMENTED CGS

MP0337 HISTORY - 1945 GOOD CGS

MP0337 HISTORY - 1978 GOOD USGS

MP0337

MP0337 STATION DESCRIPTION

MP0337

MP0337'DESCRIBED BY COAST AND GEODETIC SURVEY 1933

MP0337'9.2 MI N FROM BAGGS.

MP0337'ABOUT 9.2 MILES NORTH ALONG THE BAGGS-WAMSUTTER HIGHWAY FROM BAGGS,

MP0337'CARBON COUNTY, ABOUT 500 FEET NORTH OF WHERE MUDDY RIVER HAS NEARLY

MP0337'CUT INTO THE HIGHWAY, AT THE POINT OF A REVERSE CURVE WHERE THE OLD

MP0337'ROAD RUNS INTO A SIDEHILL CUT ON A SMALL HILL WEST OF THE NEW ROAD,

MP0337'NEAR RAMPS ON BOTH SIDES OF THE ROAD, 35 FEET SOUTH OF A 30-INCH

MP0337'CORRUGATED IRON PIPE CULVERT, 77 FEET EAST OF THE CENTER LINE OF THE

MP0337'HIGHWAY, AND 27 FEET SOUTH OF THE CENTER LINE OF THE EAST RAMP. A

MP0337'STANDARD DISK, STAMPED D 15 1933 AND SET IN THE TOP OF A CONCRETE

MP0337'POST.

MP0337

MP0337 STATION RECOVERY (1945)

MP0337

MP0337'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1945

MP0337'RECOVERED IN GOOD CONDITION.

MP0337

MP0337 STATION RECOVERY (1978)

MP0337

MP0337'RECOVERY NOTE BY US GEOLOGICAL SURVEY 1978

MP0337'ABOUT 9.2 MILES NORTH ALONG STATE HIGHWAY 789 FROM THE POST OFFICE

MP0337'AT, APPROXIMATELY 1.2 MILES NORTH OF TWO LARGE METAL BUILDINGS ON

MP0337'EAST SIDE OF HIGHWAY, ABOUT 500 FT. NORTH OF WHERE MUDDY CREEK HAS

MP0337'NEARLY CUT INTO THE HIGHWAY, 47 FT. SOUTH OF A SMALL DRAIN, 137 FT.

MP0337'EAST OF CENTER OF HIGHWAY, 38 FT. EAST OF ROW FENCE, IN CONCRETE POST

MP0337'PROJECTING 0.5 FT., A STANDARD DISK STAMPED D 15, 1933.

\*\*\* retrieval complete.

Elapsed Time = 00:00:01

## The NGS Data Sheet for K 31

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.9

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = AUGUST 18, 2020

NR0159 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

NR0159 DESIGNATION - K 31

NR0159 PID - NR0159

NR0159 STATE/COUNTY- WY/NATRONA

NR0159 COUNTRY - US

NR0159 USGS QUAD - INDEPENDENCE ROCK (2017)

NR0159

NR0159 \*CURRENT SURVEY CONTROL

NR0159 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NR0159\* NAD 83(1993) POSITION- 42 29 45.16970(N) 107 08 00.51248(W) ADJUSTED

NR0159\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 1796.961 (meters) 5895.53 (feet) ADJUSTED

NR0159 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NR0159 GEOID HEIGHT - -12.262 (meters) GEOID18

NR0159 LAPLACE CORR - -1.47 (seconds) DEFLEC18

NR0159 DYNAMIC HEIGHT - 1795.744 (meters) 5891.54 (feet) COMP

NR0159 MODELED GRAVITY - 979,879.8 (mgal) NAVD 88

NR0159

NR0159 HORZ ORDER - THIRD

NR0159 VERT ORDER - FIRST CLASS II

NR0159

NR0159.The horizontal coordinates were established by classical geodetic methods

NR0159.and adjusted by the National Geodetic Survey in January 1997.

NR0159.

NR0159.The orthometric height was determined by differential leveling and

NR0159.adjusted by the NATIONAL GEODETIC SURVEY

NR0159.in June 1991.

NR0159

NR0159.Significant digits in the geoid height do not necessarily reflect accuracy.

NR0159.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

NR0159

NR0159.Click [photographs](https://www.ngs.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=NR0159) - Photos may exist for this station.

NR0159

NR0159.The Laplace correction was computed from DEFLEC18 derived deflections.

NR0159

NR0159.The dynamic height is computed by dividing the NAVD 88

NR0159.geopotential number by the normal gravity value computed on the

NR0159.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

NR0159.degrees latitude (g = 980.6199 gals.).

NR0159

NR0159.The modeled gravity was interpolated from observed gravity values.

NR0159

NR0159. The following values were computed from the NAD 83(1993) position.

NR0159

NR0159; North East Units Scale Factor Converg.

NR0159;SPC WYEC - 321,675.091 416,428.155 MT 0.99994082 +0 08 06.0

NR0159;SPC WYEC - 1,055,362.36 1,366,231.37 sFT 0.99994082 +0 08 06.0

NR0159;UTM 13 - 4,707,041.157 324,685.438 MT 0.99997816 -1 26 29.8

NR0159

NR0159! - Elev Factor x Scale Factor = Combined Factor

NR0159!SPC WYEC - 0.99972018 x 0.99994082 = 0.99966102

NR0159!UTM 13 - 0.99972018 x 0.99997816 = 0.99969835

NR0159

NR0159: Primary Azimuth Mark Grid Az

NR0159:SPC WYEC - SANFORD 067 54 11.1

NR0159:UTM 13 - SANFORD 069 28 46.9

NR0159

NR0159\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TCH2468507041(NAD 83)

NR0159

NR0159|---------------------------------------------------------------------|

NR0159| PID Reference Object Distance Geod. Az |

NR0159| dddmmss.s |

NR0159| NR0401 SANFORD APPROX.10.0 KM 0680217.1 |

NR0159|---------------------------------------------------------------------|

NR0159

NR0159 SUPERSEDED SURVEY CONTROL

NR0159

NR0159 NAD 83(1986)- 42 29 45.15619(N) 107 08 00.50391(W) AD( ) 3

NR0159 NAD 27 - 42 29 45.30700(N) 107 07 58.29674(W) AD( ) 3

NR0159 NGVD 29 (??/??/92) 1796.03 (m) 5892.5 (f) COMPUTED 1 2

NR0159 NGVD 29 1796.04 (m) 5892.5 (f) LEVELING 3

NR0159

NR0159.Superseded values are not recommended for survey control.

NR0159

NR0159.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

NR0159.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

NR0159

NR0159\_MARKER: DB = BENCH MARK DISK

NR0159\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

NR0159\_STAMPING: K 31 1933

NR0159\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

NR0159+STABILITY: SURFACE MOTION

NR0159\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

NR0159+SATELLITE: SATELLITE OBSERVATIONS - May 22, 2009

NR0159

NR0159 HISTORY - Date Condition Report By

NR0159 HISTORY - 1933 MONUMENTED CGS

NR0159 HISTORY - 1957 GOOD USGS

NR0159 HISTORY - 1982 MARK NOT FOUND NGS

NR0159 HISTORY - 20090522 GOOD GEOCAC

NR0159

NR0159 STATION DESCRIPTION

NR0159

NR0159'DESCRIBED BY COAST AND GEODETIC SURVEY 1933

NR0159'19.4 MI NE FROM THREE FORKS.

NR0159'IN NATRONA COUNTY, 19.4 MILES NORTHEAST ALONG STATE HIGHWAY 220 FROM

NR0159'THREE FORKS, CARBON COUNTY, AT THE JUNCTION OF A ROAD LEADING SOUTH TO

NR0159'INDEPENDENCE ROCK, 80 FEET EAST OF THE ROAD, 56 FEET SOUTH OF THE

NR0159'CENTER LINE OF THE HIGHWAY, AND 34 FEET NORTH OF THE CORNER OF A WIRE

NR0159'FENCE. A STANDARD DISK, STAMPED K 31 1933 AND SET IN THE TOP OF A

NR0159'CONCRETE POST PROJECTING 6 INCHES ABOVE GROUND.

NR0159

NR0159 STATION RECOVERY (1957)

NR0159

NR0159'RECOVERY NOTE BY US GEOLOGICAL SURVEY 1957 (PHJ)

NR0159'RECOVERED IN GOOD CONDITION.

NR0159'

NR0159'STATION LOCATED 25 MI. SW. OF ALCOVA, 54 FT. R. OF CENTER OF HIGHWAY

NR0159'220, 34 FT. N. OF FENCE CORNER, 670 FT. NW. OF INDEPENDENCE ROCK.

NR0159'

NR0159'TO REACH FROM N. ENTRANCE TO INDEPENDENCE ROCK, GO NW. 90 FT. TO

NR0159'STATION, 3 FT. W. OF FENCE LINE.

NR0159'

NR0159'STATION MARK--STANDARD USC AND GS CAP SET IN CONCRETE PROJECTING 2

NR0159'IN., STAMPED ---K-31 1933---.

NR0159'

NR0159'REFERENCE MARK NO. 1--EASTERLY OF TWO POSTS SUPPORTING INDEPENDENCE

NR0159'ROCK SIGN AND IS 118.00 FT. SW. OF STATION, N 56 DEG 38 MIN E.

NR0159'

NR0159'REFERENCE MARK NO. 2--STANDARD GLO MARKER, STAMPED ---1/4 COR. S. 9,

NR0159'10 1923---, AND IS 1293.10 FT. NE. OF STATION, S 21 DEG 41 MIN W.

NR0159

NR0159 STATION RECOVERY (1982)

NR0159

NR0159'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1982

NR0159'MARK NOT FOUND.

NR0159

NR0159 STATION RECOVERY (2009)

NR0159

NR0159'RECOVERY NOTE BY GEOCACHING 2009 (MEL)

NR0159'RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

Elapsed Time = 00:00:02

## The NGS Data Sheet for K 334

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.14

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = MARCH 2, 2022

OV0261 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

OV0261 DESIGNATION - K 334

OV0261 PID - OV0261

OV0261 STATE/COUNTY- WY/NATRONA

OV0261 COUNTRY - US

OV0261 USGS QUAD - POWDER RIVER (2017)

OV0261

OV0261 \*CURRENT SURVEY CONTROL

OV0261 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

OV0261\* NAD 83(1986) POSITION- 43 01 51.3 (N) 106 54 43.3 (W) HD\_HELD2

OV0261\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 1732.799 (meters) 5685.02 (feet) ADJUSTED

OV0261 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

OV0261 GEOID HEIGHT - -13.257 (meters) GEOID18

OV0261 DYNAMIC HEIGHT - 1731.681 (meters) 5681.36 (feet) COMP

OV0261 MODELED GRAVITY - 979,913.7 (mgal) NAVD 88

OV0261

OV0261 VERT ORDER - FIRST CLASS II

OV0261

OV0261.The horizontal coordinates were established by autonomous hand held GPS

OV0261.observations and have an estimated accuracy of +/- 10 meters.

OV0261.

OV0261.The orthometric height was determined by differential leveling and

OV0261.adjusted by the NATIONAL GEODETIC SURVEY

OV0261.in June 1991.

OV0261

OV0261.Significant digits in the geoid height do not necessarily reflect accuracy.

OV0261.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

OV0261

OV0261.Click [photographs](https://geodesy.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=OV0261) - Photos may exist for this station.

OV0261

OV0261.The dynamic height is computed by dividing the NAVD 88

OV0261.geopotential number by the normal gravity value computed on the

OV0261.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

OV0261.degrees latitude (g = 980.6199 gals.).

OV0261

OV0261.The modeled gravity was interpolated from observed gravity values.

OV0261

OV0261; North East Units Estimated Accuracy

OV0261;SPC WYEC - 381,174. 434,334. MT (+/- 10 meters HH2 GPS)

OV0261

OV0261\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TCH4422966022(NAD 83)

OV0261

OV0261 SUPERSEDED SURVEY CONTROL

OV0261

OV0261 NGVD 29 (06/08/92) 1731.860 (m) 5681.94 (f) ADJUSTED 1 2

OV0261

OV0261.Superseded values are not recommended for survey control.

OV0261

OV0261.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

OV0261.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

OV0261

OV0261\_MARKER: I = METAL ROD

OV0261\_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)

OV0261\_STAMPING: K 334 1982

OV0261\_MARK LOGO: NGS

OV0261\_PROJECTION: FLUSH

OV0261\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

OV0261\_ROD/PIPE-DEPTH: 7.0 meters

OV0261

OV0261 HISTORY - Date Condition Report By

OV0261 HISTORY - 1982 MONUMENTED NGS

OV0261 HISTORY - 20090523 GOOD GEOCAC

OV0261

OV0261 STATION DESCRIPTION

OV0261

OV0261'DESCRIBED BY NATIONAL GEODETIC SURVEY 1982

OV0261'24.0 KM (14.9 MI) EAST FROM WALTMAN.

OV0261'24.0 KM (14.9 MI) EASTERLY ALONG U. S. HIGHWAY 20 FROM ITS JUNCTION

OV0261'WITH COUNTY ROADS 104 AND 212 IN WALTMAN, 0.5 KM (0.3 MI) EAST OF

OV0261'MILEPOST 36, 41.4 METERS (135.8 FT) NORTH OF THE CENTERLINE OF THE

OV0261'HIGHWAY AND 8.2 METERS (26.9 FT) WEST OF THE CENTER OF A PRIVATE

OV0261'DRIVEWAY. NOTE=ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH LOGO

OV0261'CAP.

OV0261'THE MARK IS 0.3 METERS SSE FROM A WITNESS POST AND FENCE

OV0261'THE MARK IS 1.0 M BELOW THE HIGHWAY.

OV0261

OV0261 STATION RECOVERY (2009)

OV0261

OV0261'RECOVERY NOTE BY GEOCACHING 2009 (WD)

OV0261'THE STATION IS 26.9 FEET WEST OF THE CENTERLINE OF A DRIVEWAY LEADING

OV0261'TO A RANCH SIGNED AS THE DAN MILLER RANCH.

\*\*\* retrieval complete.

Elapsed Time = 00:00:04

## The NGS Data Sheet for L 336

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.9

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = AUGUST 25, 2020

NR0301 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

NR0301 DESIGNATION - L 336

NR0301 PID - NR0301

NR0301 STATE/COUNTY- WY/CARBON

NR0301 COUNTRY - US

NR0301 USGS QUAD - MUDDY GAP (2018)

NR0301

NR0301 \*CURRENT SURVEY CONTROL

NR0301 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NR0301\* NAD 83(1986) POSITION- 42 17 36.51 (N) 107 27 33.18 (W) HD\_HELD1

NR0301\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 1972.197 (meters) 6470.45 (feet) ADJUSTED

NR0301 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NR0301 GEOID HEIGHT - -13.212 (meters) GEOID18

NR0301 DYNAMIC HEIGHT - 1970.663 (meters) 6465.42 (feet) COMP

NR0301 MODELED GRAVITY - 979,773.4 (mgal) NAVD 88

NR0301

NR0301 VERT ORDER - FIRST CLASS II

NR0301

NR0301.The horizontal coordinates were determined by differentially corrected

NR0301.hand held GPS observations or other comparable positioning techniques

NR0301.and have an estimated accuracy of +/- 3 meters.

NR0301.

NR0301.The orthometric height was determined by differential leveling and

NR0301.adjusted by the NATIONAL GEODETIC SURVEY

NR0301.in June 1991.

NR0301

NR0301.Significant digits in the geoid height do not necessarily reflect accuracy.

NR0301.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

NR0301

NR0301.Click [photographs](https://www.ngs.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=NR0301) - Photos may exist for this station.

NR0301

NR0301.The dynamic height is computed by dividing the NAVD 88

NR0301.geopotential number by the normal gravity value computed on the

NR0301.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

NR0301.degrees latitude (g = 980.6199 gals.).

NR0301

NR0301.The modeled gravity was interpolated from observed gravity values.

NR0301

NR0301; North East Units Estimated Accuracy

NR0301;SPC WYEC - 299,181.4 389,619.2 MT (+/- 3 meters HH1 GPS)

NR0301

NR0301\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TBG9726685289(NAD 83)

NR0301

NR0301 SUPERSEDED SURVEY CONTROL

NR0301

NR0301 NGVD 29 (06/08/92) 1971.111 (m) 6466.89 (f) ADJUSTED 1 2

NR0301

NR0301.Superseded values are not recommended for survey control.

NR0301

NR0301.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

NR0301.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

NR0301

NR0301\_MARKER: I = METAL ROD

NR0301\_SETTING: 15 = METAL ROD DRIVEN INTO GROUND. SEE TEXT FOR ADDITIONAL

NR0301+WITH SETTING: INFORMATION.

NR0301\_STAMPING: L 336 1982

NR0301\_MARK LOGO: NGS

NR0301\_PROJECTION: FLUSH

NR0301\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

NR0301\_ROD/PIPE-DEPTH: 1.2 meters

NR0301

NR0301 HISTORY - Date Condition Report By

NR0301 HISTORY - 1982 MONUMENTED NGS

NR0301

NR0301 STATION DESCRIPTION

NR0301

NR0301'DESCRIBED BY NATIONAL GEODETIC SURVEY 1982

NR0301'8.4 KM (5.2 MI) SOUTH FROM MUDDY GAP.

NR0301'8.4 KM (5.2 MI) SOUTHERLY ALONG U.S. HIGHWAY 287 FROM ITS JUNCTION

NR0301'WITH STATE HIGHWAY 220 IN MUDDY GAP, 0.1 KM (0.05 MI) NORTH OF

NR0301'MILEPOST 39, 52.4 METERS (171.9 FT) WEST OF THE CENTERLINE OF THE

NR0301'HIGHWAY AND 6.1 METERS (20.0 FT) SOUTH OF THE CENTER OF A FIELD

NR0301'ENTRANCE. NOTE, REFUSAL WAS REACHED AT 4.0 FT. ACCESS TO THE DATUM

NR0301'POINT IS THROUGH A 5-INCH LOGO CAP.

NR0301'THE MARK IS 0.3 METERS E FROM A WITNESS POST AND FENCE

NR0301'THE MARK IS 2.0 M ABOVE THE HIGHWAY.

\*\*\* retrieval complete.

Elapsed Time = 00:00:01

## The NGS Data Sheet for LS 70

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.14

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = MARCH 2, 2022

MO0965 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MO0965 DESIGNATION - LS 70

MO0965 PID - MO0965

MO0965 STATE/COUNTY- WY/ALBANY

MO0965 COUNTRY - US

MO0965 USGS QUAD - LARAMIE (2017)

MO0965

MO0965 \*CURRENT SURVEY CONTROL

MO0965 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MO0965\* NAD 83(1986) POSITION- 41 17 09. (N) 105 31 20. (W) SCALED

MO0965\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 2273.126 (meters) 7457.75 (feet) ADJUSTED

MO0965 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MO0965 GEOID HEIGHT - -11.636 (meters) GEOID18

MO0965 DYNAMIC HEIGHT - 2271.134 (meters) 7451.21 (feet) COMP

MO0965 MODELED GRAVITY - 979,664.4 (mgal) NAVD 88

MO0965

MO0965 VERT ORDER - FIRST CLASS II

MO0965

MO0965.The horizontal coordinates were scaled from a map and have

MO0965.an estimated accuracy of +/- 6 seconds.

MO0965.

MO0965.The orthometric height was determined by differential leveling and

MO0965.adjusted by the NATIONAL GEODETIC SURVEY

MO0965.in June 1991.

MO0965

MO0965.Significant digits in the geoid height do not necessarily reflect accuracy.

MO0965.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

MO0965

MO0965.Click [photographs](https://geodesy.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=MO0965) - Photos may exist for this station.

MO0965

MO0965.The dynamic height is computed by dividing the NAVD 88

MO0965.geopotential number by the normal gravity value computed on the

MO0965.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

MO0965.degrees latitude (g = 980.6199 gals.).

MO0965

MO0965.The modeled gravity was interpolated from observed gravity values.

MO0965

MO0965; North East Units Estimated Accuracy

MO0965;SPC WY E - 87,320. 170,220. MT (+/- 180 meters Scaled)

MO0965

MO0965\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TDF562706(NAD 83)

MO0965

MO0965 SUPERSEDED SURVEY CONTROL

MO0965

MO0965 NGVD 29 (06/08/92) 2272.060 (m) 7454.25 (f) ADJUSTED 1 2

MO0965

MO0965.Superseded values are not recommended for survey control.

MO0965

MO0965.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

MO0965.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

MO0965

MO0965\_MARKER: DB = BENCH MARK DISK

MO0965\_SETTING: 32 = SET IN A RETAINING WALL OR CONCRETE LEDGE

MO0965\_SP\_SET: HEADWALL

MO0965\_STAMPING: LS 70 7454 1947

MO0965\_MARK LOGO: USGS

MO0965\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

MO0965+STABILITY: SURFACE MOTION

MO0965

MO0965 HISTORY - Date Condition Report By

MO0965 HISTORY - 1947 MONUMENTED USGS

MO0965 HISTORY - 1983 GOOD NGS

MO0965 HISTORY - 1983 GOOD NGS

MO0965

MO0965 STATION DESCRIPTION

MO0965

MO0965'DESCRIBED BY NATIONAL GEODETIC SURVEY 1983

MO0965'7.8 KM (4.85 MI) EAST FROM LARAMIE.

MO0965'0.3 KM (0.2 MI) NORTH ALONG THE UNION PACIFIC RAILROAD FROM THE

MO0965'STATION IN LARAMIE, THENCE 6.7 KM (4.15 MI) EASTERLY ALONG GRAND

MO0965'AVENUE, THENCE 0.8 KM (0.5 MI) SOUTHEAST ALONG INTERSTATE HIGHWAY 80,

MO0965'IN TOP OF THE NORTHWEST END OF THE NORTHEAST CONCRETE HEADWALL OF A

MO0965'CULVERT UNDER OLD U.S. HIGHWAY 30, 30.5 METERS (100.1 FT) SOUTHWEST OF

MO0965'THE CENTERLINE OF THE EAST BOUND LANES OF THE HIGHWAY, AND 9.2 METERS

MO0965'(30.2 FT) NORTHEAST OF THE CENTERLINE OF THE OLD HIGHWAY.

MO0965

MO0965 STATION RECOVERY (1983)

MO0965

MO0965'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1983

MO0965'RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

Elapsed Time = 00:00:03

## The NGS Data Sheet for Miller

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.9

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 8, 2020

MP0657 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MP0657 DESIGNATION - MILLER

MP0657 PID - MP0657

MP0657 STATE/COUNTY- WY/CARBON

MP0657 COUNTRY - US

MP0657 USGS QUAD - PINE GROVE RANCH (2017)

MP0657

MP0657 \*CURRENT SURVEY CONTROL

MP0657 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MP0657\* NAD 83(1993) POSITION- 41 28 38.35812(N) 107 19 32.05569(W) ADJUSTED

MP0657\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 2565.2 (meters) 8416. (feet) VERTCON

MP0657 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MP0657 GEOID HEIGHT - -12.851 (meters) GEOID18

MP0657 LAPLACE CORR - 5.16 (seconds) DEFLEC18

MP0657 HORZ ORDER - SECOND

MP0657

MP0657.The horizontal coordinates were established by classical geodetic methods

MP0657.and adjusted by the National Geodetic Survey in January 1997.

MP0657.

MP0657.The NAVD 88 height was computed by applying the VERTCON shift value to

MP0657.the NGVD 29 height (displayed under SUPERSEDED SURVEY CONTROL.)

MP0657

MP0657.Significant digits in the geoid height do not necessarily reflect accuracy.

MP0657.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

MP0657

MP0657.Click [photographs](https://www.ngs.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=MP0657) - Photos may exist for this station.

MP0657

MP0657.The Laplace correction was computed from DEFLEC18 derived deflections.

MP0657

MP0657. The following values were computed from the NAD 83(1993) position.

MP0657

MP0657; North East Units Scale Factor Converg.

MP0657;SPC WYEC - 208,528.429 400,648.309 MT 0.99993751 +0 00 18.5

MP0657;SPC WYEC - 684,147.02 1,314,460.33 sFT 0.99993751 +0 00 18.5

MP0657;UTM 13 - 4,594,357.240 305,827.061 MT 1.00006401 -1 32 26.7

MP0657

MP0657! - Elev Factor x Scale Factor = Combined Factor

MP0657!SPC WYEC - 0.99959982 x 0.99993751 = 0.99953736

MP0657!UTM 13 - 0.99959982 x 1.00006401 = 0.99966381

MP0657

MP0657: Primary Azimuth Mark Grid Az

MP0657:SPC WYEC - MILLER AZ MK 284 34 42.4

MP0657:UTM 13 - MILLER AZ MK 286 07 27.6

MP0657

MP0657\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TCF0582794357(NAD 83)

MP0657

MP0657|---------------------------------------------------------------------|

MP0657| PID Reference Object Distance Geod. Az |

MP0657| dddmmss.s |

MP0657| CP6242 MILLER RM 2 10.622 METERS 01409 |

MP0657| CP6241 MILLER RM 1 11.123 METERS 27625 |

MP0657| CP6240 MILLER AZ MK 2843500.9 |

MP0657|---------------------------------------------------------------------|

MP0657

MP0657 SUPERSEDED SURVEY CONTROL

MP0657

MP0657 NAD 83(1986)- 41 28 38.34758(N) 107 19 32.04669(W) AD( ) 2

MP0657 NAD 27 - 41 28 38.49100(N) 107 19 29.84700(W) AD( ) 2

MP0657 NGVD 29 (07/19/86) 2563.9 (m) 8412. (f) VERT ANG

MP0657

MP0657.Superseded values are not recommended for survey control.

MP0657

MP0657.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

MP0657.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

MP0657

MP0657\_MARKER: DS = TRIANGULATION STATION DISK

MP0657\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

MP0657

MP0657 HISTORY - Date Condition Report By

MP0657 HISTORY - 1937 MONUMENTED CGS

MP0657 HISTORY - 1948 GOOD CGS

MP0657 HISTORY - 1955 GOOD USGS

MP0657 HISTORY - 1961 GOOD USGS

MP0657

MP0657 STATION DESCRIPTION

MP0657

MP0657'DESCRIBED BY COAST AND GEODETIC SURVEY 1937 (FGJ)

MP0657'ABOUT 31 MILES NORTH AND 11 MILES EAST OF DIXON, WYO. STATION

MP0657'IS LOCATED ON THE HIGHEST POINT OF A BARE FLAT TOPPED HILL

MP0657'ON THE CONTINENTAL DIVIDE. STATION IS ON THE WESTERN SIDE

MP0657'OF THE HILL AND IS ABOUT 0.2 MILES EAST OF A NORTH AND SOUTH

MP0657'TRACK ROAD. R.M. NO. 1 IS NORTH NORTHWEST OF THE STATION AT

MP0657'ABOUT THE SAME ELEVATION. R.M. NO. 2 IS EAST NORTHEAST OF

MP0657'THE STATION AND ABOUT TWO FEET LOWER IN ELEVATION. AZIMUTH

MP0657'MARK IS ABOUT 0.2 MILES WEST OF THE STATION, ABOUT 150 FEET

MP0657'WEST OF THE ROAD AND ABOUT 30 FEET EAST NORTHEAST OF A ROCK

MP0657'CAIRN.

MP0657'

MP0657'STATION IS REACHED FROM DIXON, WYO. BY GOING NORTH ON A

MP0657'GRADED DIRT ROAD FOR 5.6 MILES TO A BRIDGE OVER COTTONWOOD

MP0657'CREEK. THENCE CROSS BRIDGE AND CONTINUE FOR 0.85 MILES TO

MP0657'AN OLD FORK. THENCE TAKE RIGHT FORK ON GRADED ROAD EAST UP

MP0657'RIDGE AND NORTH ALONG TOP OF RIDGE FOR 5.6 MILES TO A FORK

MP0657'AT THE CORNER OF A FIELD. THENCE LEFT FORK FOR 0.05 MILES

MP0657'TO ANOTHER FORK. THENCE RIGHT FORK ON MAIN TRAVELED TRAIL

MP0657'ROAD NORTHWEST FOR 0.25 MILES, TO CROSS ROADS. THENCE RIGHT

MP0657'FORK NORTHERLY ALONG A FENCE FOR 2.7 MILES. THENCE RIGHT,

MP0657'NORTH, ON A SECTION LINE ROAD FOR 1.75 MILES TO A FORK.

MP0657'THENCE RIGHT FORK NORTHEASTERLY FOR 0.4 MILES TO A FORK.

MP0657'THENCE TAKE LEFT FORK, NORTHERLY, KEEPING TO THE RIGHT

MP0657'OF A BUTTE FOR 1.6 MILES TO A GATE AND A FORK. PASS THRU

MP0657'GATE AND TAKE LEFT FORK FOR 0.95 MILES TO ANOTHER

MP0657'GATE. PASS THRU GATE AND CONTINUE FOR 0.35 MILES TO A

MP0657'FORK. THENCE GO STRAIGHT AHEAD ON RIGHT FORK, MAIN TRAVELED

MP0657'ROAD, EAST AND NORTHEAST FOR 0.5 MILES TO ANOTHER FORK.

MP0657'THENCE STRAIGHT AHEAD ON LEFT FORK, MAIN TRAVELED ROAD, FOR

MP0657'2.9 MILES TO WHERE A WELL TRAVELED ROAD COMES IN ON THE RIGHT.

MP0657'THENCE KEEP LEFT AND CONTINUE NORTH AND NORTHEAST ON A

MP0657'BLADED ROAD FOR 5.35 MILES TO A RANCH WITH A LARGE GRAY BARN.

MP0657'THENCE CONTINUE STRAIGHT AHEAD ON A BLADED ROAD UP A

MP0657'CANYON, NORTHEASTERLY, FOR 4.3 MILES TO THE TOP OF THE

MP0657'CONTINENTAL DIVE. THENCE CONTINUE STRAIGHT AHEAD DOWN

MP0657'HILL ON MAIN ROAD FOR 1.1 MILES TO A DIM TRAIL ROAD GOING TO

MP0657'THE LEFT JUST 0.1 MILES AFTER PASSING THRU A CATTLE GUARD.

MP0657'THENCE LEAVE GRADED ROAD, TURN LEFT ON THIS ROAD AND FOLLOW

MP0657'IT SOUTH AND WEST FOR 2.3 MILES TO A CATTLE GUARD. PASS THRU

MP0657'CATTLE GUARD AND CONTINUE WEST AND NORTH FOR 2.55 MILES TO

MP0657'A FORK. THENCE TAKE RIGHT FORK NORTHERLY ON MAIN TRAVELED

MP0657'ROAD FOR 1.80 MILES TO A POINT ON TOP OF RIDGE WHERE THERE

MP0657'IS A ROCK CAIRN ABOUT 75 YARDS TO THE LEFT. THENCE LEAVE ROAD,

MP0657'TURN RIGHT AND GO UP HILL THRU THE SAGE BRUSH SOUTHEASTERLY

MP0657'FOR 0.15 MILES TO THE TOP OF HILL AND THE STATION SITE.

MP0657

MP0657 STATION RECOVERY (1948)

MP0657

MP0657'RECOVERY NOTE BY COAST AND GEODETIC SURVEY 1948 (DHK)

MP0657'STATION MARK AND ALL REFERENCE MARKS RECOVERED AS DESCRIBED

MP0657'AND FOUND IN GOOD CONDITION, EXCEPT FOR THE DISTANCE TO

MP0657'REFERENCE MARK NO. 2. THE CORRECT DISTANCE IS SHOWN BELOW.

MP0657'THE DISTANCE WAS CHECKED IN THE FIELD.

MP0657'

MP0657'THE STATION IS LOCATED ABOUT 26 MILES AIRLINE WEST OF SARATOGA,

MP0657'ABOUT 23 MILES AIRLINE SOUTH-SOUTHWEST OF RAWLINS, ABOUT 0.15

MP0657'MILE AIRLINE EAST OF A GRADED ROAD, ON THE WEST SIDE AND THE

MP0657'HIGHEST POINT OF A BARE FLAT-TOPPED HILL ON THE CONTINENTAL

MP0657'DIVIDE. THE STATION MARK IS 10 FEET WEST OF A CAIRN WITH A

MP0657'WHITE WITNESS POST IN THE CENTER,

MP0657'PROJECTS 10 INCHES AND STAMPED, MILLER 1937.

MP0657'

MP0657'REFERENCE MARK NO. 1 IS APPROXIMATELY 1 FOOT LOWER THAN THE

MP0657'STATION MARK, PROJECTS 10 INCHES AND

MP0657'STAMPED, MILLER NO 1 1937.

MP0657'

MP0657'REFERENCE MARK NO. 2 IS APPROXIMATELY 1 FOOT LOWER THAN THE

MP0657'STATION MARK, PROJECTS 10 INCHES AND

MP0657'STAMPED, MILLER NO 2 1937.

MP0657'

MP0657'THE AZIMUTH MARK IS ON THE TOP OF A SMALL KNOLL ABOUT 150 FEET

MP0657'WEST OF THE ROAD, 3 FEET NORTH OF CAIRN WITH A WHITE WITNESS

MP0657'POST IN THE CENTER, PROJECTS 8 INCHES

MP0657'AND STAMPED, MILLER 1937.

MP0657'

MP0657'TO REACH THE STATION FROM THE POST OFFICE IN RAWLINS, GO SOUTH

MP0657'ON 6TH STREET ACROSS THE RAILROAD TRACKS FOR 0.3 MILE TO

MP0657'HUGHES STREET. TURN RIGHT, WEST, ON HUGHES STREET AND GO

MP0657'0.2 MILE TO BENNETT STREET. TURN LEFT, SOUTH, ON BENNETT

MP0657'STREET AND FOLLOW GRADED ROAD FOR 9.8 MILES TO AN OIL FIELD

MP0657'ON THE RIGHT, WEST. CONTINUE ON THE MAIN GRADED ROAD FOR

MP0657'6.0 MILES TO A WOODEN BRIDGE. CONTINUE STRAIGHT AHEAD FOR

MP0657'0.5 MILE TO A GRADED ROAD ON THE RIGHT, WEST. TURN RIGHT,

MP0657'WEST, AND GO 5.1 MILES TO FORK JUST AFTER REACHING THE TOP

MP0657'OF A LARGE HILL. TAKE LEFT FORK FOR 3.7 MILES TO THE TOP

MP0657'OF A RIDGE (THE AZIMUTH MARK IS 150 FEET WEST OF THE ROAD

MP0657'AT THIS POINT). HERE TURN LEFT, EAST, AND GO ACROSS

MP0657'COUNTRY 0.15 MILE TO THE HIGHEST POINT AND STATION. A

MP0657'DRIVE STATION.

MP0657'

MP0657'OBSERVATIONS MADE FROM A 1.1 METER TRIPOD.

MP0657

MP0657 STATION RECOVERY (1955)

MP0657

MP0657'RECOVERY NOTE BY US GEOLOGICAL SURVEY 1955

MP0657'TO REACH STATION FROM THE POST OFFICE IN RAWLINS PROCEED EAST

MP0657'FOR 7 BLOCKS TO WASHINGTON STREET. TURN RIGHT PASS THROUGH

MP0657'RAILROAD UNDERPASS AND GO 4 BLOCKS TO HUGUS STREET. TURN

MP0657'RIGHT, (W) GO 6 BLOCKS AND THEN TURN LEFT FOR 1 BLOCK. MAKE

MP0657'HALF RIGHT TURN AND FOLLOW HIGHWAY FOR 8.9 MILES TO HATFIELD

MP0657'OILFIELD ON RIGHT. FROM THIS POINT FOLLOW C AND GS DESCRIPTION

MP0657'TO STATION.

MP0657

MP0657 STATION RECOVERY (1961)

MP0657

MP0657'RECOVERY NOTE BY US GEOLOGICAL SURVEY 1961

MP0657'RECOVERED.

MP0657'

MP0657'STATION MARK--STANDARD USC AND GS DISK, SET IN CONCRETE POST, STAMPED

MP0657'---MILLER 1937---.

\*\*\* retrieval complete.

Elapsed Time = 00:00:01

## The NGS Data Sheet for PO32

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.14

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = MARCH 2, 2022

DI2248 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

DI2248 CORS - This is a GPS Continuously Operating Reference Station.

DI2248 DESIGNATION - RAWLINSWWTWY2005 CORS ARP

DI2248 CORS\_ID - P032

DI2248 PID - DI2248

DI2248 STATE/COUNTY- WY/CARBON

DI2248 COUNTRY - US

DI2248 USGS QUAD - COAL MINE RIDGE (2017)

DI2248

DI2248 \*CURRENT SURVEY CONTROL

DI2248 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DI2248\* NAD 83(2011) POSITION- 41 44 30.00319(N) 107 15 21.27885(W) ADJUSTED

DI2248\* NAD 83(2011) ELLIP HT- 2168.100 (meters) (06/??/19) ADJUSTED

DI2248\* NAD 83(2011) EPOCH - 2010.00

DI2248 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DI2248 GEOID HEIGHT - -13.558 (meters) GEOID18

DI2248 NAD 83(2011) X - -1,414,311.174 (meters) COMP

DI2248 NAD 83(2011) Y - -4,553,167.706 (meters) COMP

DI2248 NAD 83(2011) Z - 4,225,680.896 (meters) COMP

DI2248

DI2248 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

DI2248 Standards:

DI2248 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

DI2248 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

DI2248 -------------------------------------------------------------------

DI2248 NETWORK 0.15 0.36 0.05 0.07 0.18 0.17117600

DI2248 -------------------------------------------------------------------

DI2248

DI2248

DI2248.The coordinates were established by GPS observations

DI2248.and adjusted by the National Geodetic Survey in June 2019.

DI2248

DI2248.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

DI2248.been affixed to the stable North American Tectonic Plate.

DI2248

DI2248.The coordinates are valid at the epoch date displayed above

DI2248.which is a decimal equivalence of Year/Month/Day.

DI2248

DI2248.Due to the release of the International GNSS Service (IGS) 2014

DI2248.realization of the International Terrestrial Reference Frame of 2014

DI2248.(ITRF2014), NGS reprocessed all NOAA CORS Network and some IGS stations

DI2248.using data collected between 1/1/1996 and 1/30/2017. The resulting ITRF2014

DI2248.epoch 2010.00 coordinates, referred to as Multi-Year CORS Solution 2

DI2248.(MYCS2), were transformed to NAD 83 (2011/PA11/MA11) maintaining the

DI2248.currently published epoch of 2010.00.

DI2248

DI2248.Additional information on MYCS2 is available at

DI2248.<https://geodesy.noaa.gov/CORS/news/mycs2/mycs2.shtml>

DI2248

DI2248.Significant digits in the geoid height do not necessarily reflect accuracy.

DI2248.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

DI2248

DI2248.The PID for the CORS L1 Phase Center is DQ7758.

DI2248

DI2248.Click [photographs](https://geodesy.noaa.gov/CORS/sitephotos.shtml?site=p032) - Photos may exist for this station.

DI2248

DI2248.The XYZ, and position/ellipsoidal ht. are equivalent.

DI2248

DI2248.The ellipsoidal height was determined by GPS observations

DI2248.and is referenced to NAD 83.

DI2248

DI2248. The following values were computed from the NAD 83(2011) position.

DI2248

DI2248; North East Units Scale Factor Converg.

DI2248;SPC WYEC - 237,889.221 406,439.993 MT 0.99993801 +0 03 05.6

DI2248;SPC WYEC - 780,474.89 1,333,461.88 sFT 0.99993801 +0 03 05.6

DI2248;UTM 13 - 4,623,553.871 312,411.497 MT 1.00003305 -1 30 08.5

DI2248

DI2248! - Elev Factor x Scale Factor = Combined Factor

DI2248!SPC WYEC - 0.99966006 x 0.99993801 = 0.99959809

DI2248!UTM 13 - 0.99966006 x 1.00003305 = 0.99969310

DI2248

DI2248\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TCG1241123553(NAD 83)

DI2248

DI2248 SUPERSEDED SURVEY CONTROL

DI2248

DI2248 NAD 83(2011)- 41 44 30.00326(N) 107 15 21.27882(W) AD(2010.00) c

DI2248 ELLIP H (08/??/11) 2168.093 (m) GP(2010.00) c c

DI2248 NAD 83(CORS)- 41 44 30.00318(N) 107 15 21.27881(W) AD(2002.00) c

DI2248 ELLIP H (11/??/06) 2168.086 (m) GP(2002.00) c c

DI2248

DI2248.Superseded values are not recommended for survey control.

DI2248

DI2248.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

DI2248.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

DI2248

DI2248\_MARKER: STATION IS THE ANTENNA REFERENCE POINT OF THE GPS ANTENNA

DI2248

DI2248 STATION DESCRIPTION

DI2248

DI2248'DESCRIBED BY NATIONAL GEODETIC SURVEY 2019

DI2248'STATION IS A GPS CORS. LATEST INFORMATION INCLUDING POSITIONS AND

DI2248'VELOCITIES ARE AVAILABLE IN THE COORDINATE AND LOG FILES ACCESSIBLE

DI2248'BY ANONYMOUS FTP OR THE WORLDWIDE WEB.

DI2248' <https://geodesy.noaa.gov/corsdata/coord/coord_14>

DI2248' <https://geodesy.noaa.gov/corsdata/station_log>

DI2248' <https://geodesy.noaa.gov/CORS>

\*\*\* retrieval complete.

Elapsed Time = 00:00:04

## The NGS Data Sheet for Q 360

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.9

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = AUGUST 18, 2020

OV0309 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

OV0309 DESIGNATION - Q 360

OV0309 PID - OV0309

OV0309 STATE/COUNTY- WY/NATRONA

OV0309 COUNTRY - US

OV0309 USGS QUAD - TEAPOT ROCK (2017)

OV0309

OV0309 \*CURRENT SURVEY CONTROL

OV0309 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

OV0309\* NAD 83(1986) POSITION- 43 11 03. (N) 106 19 39. (W) SCALED

OV0309\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 1639.511 (meters) 5378.96 (feet) ADJUSTED

OV0309 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

OV0309 GEOID HEIGHT - -13.612 (meters) GEOID18

OV0309 DYNAMIC HEIGHT - 1638.520 (meters) 5375.71 (feet) COMP

OV0309 MODELED GRAVITY - 979,957.9 (mgal) NAVD 88

OV0309

OV0309 VERT ORDER - FIRST CLASS II

OV0309

OV0309.The horizontal coordinates were scaled from a map and have

OV0309.an estimated accuracy of +/- 6 seconds.

OV0309.

OV0309.The orthometric height was determined by differential leveling and

OV0309.adjusted by the NATIONAL GEODETIC SURVEY

OV0309.in June 1991.

OV0309

OV0309.Significant digits in the geoid height do not necessarily reflect accuracy.

OV0309.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

OV0309

OV0309.Click [photographs](https://www.ngs.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=OV0309) - Photos may exist for this station.

OV0309

OV0309.The dynamic height is computed by dividing the NAVD 88

OV0309.geopotential number by the normal gravity value computed on the

OV0309.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

OV0309.degrees latitude (g = 980.6199 gals.).

OV0309

OV0309.The modeled gravity was interpolated from observed gravity values.

OV0309

OV0309; North East Units Estimated Accuracy

OV0309;SPC WYEC - 398,600. 481,770. MT (+/- 180 meters Scaled)

OV0309

OV0309\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TCH921821(NAD 83)

OV0309

OV0309 SUPERSEDED SURVEY CONTROL

OV0309

OV0309 NGVD 29 (06/08/92) 1638.634 (m) 5376.09 (f) ADJUSTED 1 2

OV0309

OV0309.Superseded values are not recommended for survey control.

OV0309

OV0309.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

OV0309.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

OV0309

OV0309\_MARKER: I = METAL ROD

OV0309\_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)

OV0309\_STAMPING: Q 360 1985

OV0309\_MARK LOGO: NGS

OV0309\_PROJECTION: FLUSH

OV0309\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

OV0309\_ROD/PIPE-DEPTH: 18.3 meters

OV0309

OV0309 HISTORY - Date Condition Report By

OV0309 HISTORY - 1985 MONUMENTED NGS

OV0309

OV0309 STATION DESCRIPTION

OV0309

OV0309'DESCRIBED BY NATIONAL GEODETIC SURVEY 1985

OV0309'26.8 KM (16.65 MI) SOUTH FROM MIDWEST.

OV0309'26.82 KM (16.67 MI) SOUTH ALONG STATE HIGHWAY 259 FROM THE JUNCTION OF

OV0309'STATE HIGHWAY 387 AT MIDWEST, IN THE TOP OF THE SOUTH END OF A FLAT

OV0309'BETWEEN TWO RAVINES, 1.60 KM (0.99 MI) NORTH OF THE T JUNCTION OF

OV0309'HORSE CREEK ROAD LEADING WEST, 0.77 KM (0.48 MI) SOUTH OF MILEPOST 12,

OV0309'45.7 METERS (150 FT) EAST OF THE HIGHWAY CENTERLINE, 61.6 METERS (202

OV0309'FT) NORTHEAST OF THE EAST END OF A 24-INCH CONCRETE PIPE CULVERT AND

OV0309'0.3 METER (1 FT) WEST OF THE RIGHT OF WAY FENCE. NOTE--ACCESS TO

OV0309'DATUM POINT IS HAD THROUGH A 5-INCH LOGO CAP.

OV0309'THE MARK IS 0.3 METERS SW FROM A WITNESS POST

OV0309'THE MARK IS ABOVE LEVEL WITH THE HIGHWAY.

\*\*\* retrieval complete.

Elapsed Time = 00:00:01

## The NGS Data Sheet for R 334

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.14

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = MARCH 2, 2022

NR0223 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

NR0223 DESIGNATION - R 334

NR0223 PID - NR0223

NR0223 STATE/COUNTY- WY/NATRONA

NR0223 COUNTRY - US

NR0223 USGS QUAD - BISHOP (2017)

NR0223

NR0223 \*CURRENT SURVEY CONTROL

NR0223 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NR0223\* NAD 83(2011) POSITION- 42 54 00.77690(N) 106 29 23.82404(W) NO CHECK

NR0223\* NAD 83(2011) ELLIP HT- 1603.946 (meters) (06/27/12) NO CHECK

NR0223\* NAD 83(2011) EPOCH - 2010.00

NR0223\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 1617.131 (meters) 5305.54 (feet) ADJUSTED

NR0223 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NR0223 GEOID HEIGHT - -13.183 (meters) GEOID18

NR0223 NAD 83(2011) X - -1,328,598.170 (meters) COMP

NR0223 NAD 83(2011) Y - -4,488,162.681 (meters) COMP

NR0223 NAD 83(2011) Z - 4,320,479.820 (meters) COMP

NR0223 LAPLACE CORR - -0.40 (seconds) DEFLEC18

NR0223 DYNAMIC HEIGHT - 1616.128 (meters) 5302.25 (feet) COMP

NR0223 MODELED GRAVITY - 979,943.4 (mgal) NAVD 88

NR0223

NR0223 VERT ORDER - FIRST CLASS II

NR0223

NR0223 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

NR0223 Standards:

NR0223 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

NR0223 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

NR0223 -------------------------------------------------------------------

NR0223 NETWORK 1.02 2.55 0.45 0.36 1.30 -0.33127975

NR0223 -------------------------------------------------------------------

NR0223 Click [here](https://www.ngs.noaa.gov/cgi-bin/lna_ret.prl?PID=NR0223) for local accuracies and other accuracy information.

NR0223

NR0223

NR0223.The horizontal coordinates were established by GPS observations

NR0223.and adjusted by the National Geodetic Survey in June 2012.

NR0223

NR0223.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

NR0223.been affixed to the stable North American tectonic plate. See

NR0223.[NA2011](https://www.ngs.noaa.gov/web/surveys/NA2011) for more information.

NR0223

NR0223.The horizontal coordinates are valid at the epoch date displayed above

NR0223.which is a decimal equivalence of Year/Month/Day.

NR0223

NR0223.No horizontal observational check was made to the station.

NR0223.

NR0223.The orthometric height was determined by differential leveling and

NR0223.adjusted by the NATIONAL GEODETIC SURVEY

NR0223.in June 1991.

NR0223

NR0223.Significant digits in the geoid height do not necessarily reflect accuracy.

NR0223.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

NR0223

NR0223.Click [photographs](https://geodesy.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=NR0223) - Photos may exist for this station.

NR0223

NR0223.The X, Y, and Z were computed from the position and the ellipsoidal ht.

NR0223

NR0223.The Laplace correction was computed from DEFLEC18 derived deflections.

NR0223

NR0223.The ellipsoidal height was determined by GPS observations

NR0223.and is referenced to NAD 83.

NR0223

NR0223.The dynamic height is computed by dividing the NAVD 88

NR0223.geopotential number by the normal gravity value computed on the

NR0223.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

NR0223.degrees latitude (g = 980.6199 gals.).

NR0223

NR0223.The modeled gravity was interpolated from observed gravity values.

NR0223

NR0223. The following values were computed from the NAD 83(2011) position.

NR0223

NR0223; North East Units Scale Factor Converg.

NR0223;SPC WYEC - 366,914.361 468,877.263 MT 0.99999584 +0 34 26.9

NR0223;SPC WYEC - 1,203,784.87 1,538,308.15 sFT 0.99999584 +0 34 26.9

NR0223;UTM 13 - 4,750,810.792 378,359.177 MT 0.99978203 -1 00 51.7

NR0223

NR0223! - Elev Factor x Scale Factor = Combined Factor

NR0223!SPC WYEC - 0.99974852 x 0.99999584 = 0.99974436

NR0223!UTM 13 - 0.99974852 x 0.99978203 = 0.99953061

NR0223

NR0223\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TCH7835950810(NAD 83)

NR0223

NR0223 SUPERSEDED SURVEY CONTROL

NR0223

NR0223 NAD 83(2007)- 42 54 00.77657(N) 106 29 23.82528(W) AD(2002.00) 0

NR0223 ELLIP H (02/10/07) 1603.976 (m) GP(2002.00)

NR0223 NAD 83(1993)- 42 54 00.77624(N) 106 29 23.82516(W) AD( ) 1

NR0223 ELLIP H (05/24/02) 1603.984 (m) GP( ) 2 1

NR0223 NAVD 88 1617.13 (m) 5305.5 (f) LEVELING 3

NR0223 NGVD 29 (06/08/92) 1616.255 (m) 5302.66 (f) ADJUSTED 1 2

NR0223

NR0223.Superseded values are not recommended for survey control.

NR0223

NR0223.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

NR0223.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

NR0223

NR0223\_MARKER: F = FLANGE-ENCASED ROD

NR0223\_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)

NR0223\_STAMPING: R 334 1982

NR0223\_MARK LOGO: NGS

NR0223\_PROJECTION: FLUSH

NR0223\_MAGNETIC: I = MARKER IS A STEEL ROD

NR0223\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

NR0223\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

NR0223+SATELLITE: SATELLITE OBSERVATIONS - August 08, 2001

NR0223\_ROD/PIPE-DEPTH: 11.0 meters

NR0223

NR0223 HISTORY - Date Condition Report By

NR0223 HISTORY - 1982 MONUMENTED NGS

NR0223 HISTORY - 20010808 GOOD NGS

NR0223 HISTORY - 20090519 GOOD GEOCAC

NR0223

NR0223 STATION DESCRIPTION

NR0223

NR0223'DESCRIBED BY NATIONAL GEODETIC SURVEY 1982

NR0223'13.2 KM (8.2 MI) NW FROM CASPER.

NR0223'13.2 KM (8.2 MI) NORTHWESTERLY ALONG U. S. HIGHWAY 20 FROM ITS

NR0223'JUNCTION WITH INTERSTATE HIGHWAY 25 IN CASPER, 0.9 KM (0.55 MI)

NR0223'SOUTHEAST OF MILEPOST 12, 29.6 METERS (97.1 FT) SOUTHWEST OF THE

NR0223'CENTERLINE OF THE HIGHWAY AND 0.5 METER (1.6 FT) EAST OF A FENCE

NR0223'CORNER. NOTE=ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH LOGO CAP.

NR0223'THE MARK IS 0.3 METERS NE FROM A WITNESS POST AND FENCE

NR0223'THE MARK IS 1.5 M BELOW THE HIGHWAY.

NR0223

NR0223 STATION RECOVERY (2001)

NR0223

NR0223'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 2001 (AJL)

NR0223'RECOVERED AS DESCRIBED.

NR0223'

NR0223

NR0223 STATION RECOVERY (2009)

NR0223

NR0223'RECOVERY NOTE BY GEOCACHING 2009 (WD)

NR0223'RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

Elapsed Time = 00:00:04

## The NGS Data Sheet for S 74

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.14

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = MARCH 2, 2022

MP0149 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MP0149 DESIGNATION - S 74

MP0149 PID - MP0149

MP0149 STATE/COUNTY- WY/CARBON

MP0149 COUNTRY - US

MP0149 USGS QUAD - ENCAMPMENT (2017)

MP0149

MP0149 \*CURRENT SURVEY CONTROL

MP0149 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MP0149\* NAD 83(2011) POSITION- 41 12 13.85393(N) 106 49 13.40719(W) NO CHECK

MP0149\* NAD 83(2011) ELLIP HT- 2330.081 (meters) (06/27/12) NO CHECK

MP0149\* NAD 83(2011) EPOCH - 2010.00

MP0149\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 2341.449 (meters) 7681.90 (feet) ADJUSTED

MP0149 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MP0149 GEOID HEIGHT - -11.381 (meters) GEOID18

MP0149 NAD 83(2011) X - -1,391,147.047 (meters) COMP

MP0149 NAD 83(2011) Y - -4,601,781.836 (meters) COMP

MP0149 NAD 83(2011) Z - 4,181,017.194 (meters) COMP

MP0149 LAPLACE CORR - -4.05 (seconds) DEFLEC18

MP0149 DYNAMIC HEIGHT - 2339.267 (meters) 7674.75 (feet) COMP

MP0149 MODELED GRAVITY - 979,607.0 (mgal) NAVD 88

MP0149

MP0149 VERT ORDER - SECOND CLASS 0

MP0149

MP0149 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

MP0149 Standards:

MP0149 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

MP0149 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

MP0149 -------------------------------------------------------------------

MP0149 NETWORK 1.26 3.80 0.57 0.45 1.94 0.01468005

MP0149 -------------------------------------------------------------------

MP0149 Click [here](https://www.ngs.noaa.gov/cgi-bin/lna_ret.prl?PID=MP0149) for local accuracies and other accuracy information.

MP0149

MP0149

MP0149.The horizontal coordinates were established by GPS observations

MP0149.and adjusted by the National Geodetic Survey in June 2012.

MP0149

MP0149.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

MP0149.been affixed to the stable North American tectonic plate. See

MP0149.[NA2011](https://www.ngs.noaa.gov/web/surveys/NA2011) for more information.

MP0149

MP0149.The horizontal coordinates are valid at the epoch date displayed above

MP0149.which is a decimal equivalence of Year/Month/Day.

MP0149

MP0149.No horizontal observational check was made to the station.

MP0149.

MP0149.The orthometric height was determined by differential leveling and

MP0149.adjusted by the NATIONAL GEODETIC SURVEY

MP0149.in June 1991.

MP0149

MP0149.Significant digits in the geoid height do not necessarily reflect accuracy.

MP0149.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

MP0149

MP0149.Click [photographs](https://geodesy.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=MP0149) - Photos may exist for this station.

MP0149

MP0149.The X, Y, and Z were computed from the position and the ellipsoidal ht.

MP0149

MP0149.The Laplace correction was computed from DEFLEC18 derived deflections.

MP0149

MP0149.The ellipsoidal height was determined by GPS observations

MP0149.and is referenced to NAD 83.

MP0149

MP0149.The dynamic height is computed by dividing the NAVD 88

MP0149.geopotential number by the normal gravity value computed on the

MP0149.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

MP0149.degrees latitude (g = 980.6199 gals.).

MP0149

MP0149.The modeled gravity was interpolated from observed gravity values.

MP0149

MP0149. The following values were computed from the NAD 83(2011) position.

MP0149

MP0149; North East Units Scale Factor Converg.

MP0149;SPC WYEC - 178,285.065 443,020.659 MT 0.99996027 +0 20 16.4

MP0149;SPC WYEC - 584,923.58 1,453,476.95 sFT 0.99996027 +0 20 16.4

MP0149;UTM 13 - 4,562,984.057 347,371.553 MT 0.99988671 -1 11 57.8

MP0149

MP0149! - Elev Factor x Scale Factor = Combined Factor

MP0149!SPC WYEC - 0.99963465 x 0.99996027 = 0.99959493

MP0149!UTM 13 - 0.99963465 x 0.99988671 = 0.99952140

MP0149

MP0149\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TCF4737162984(NAD 83)

MP0149

MP0149 SUPERSEDED SURVEY CONTROL

MP0149

MP0149 NAD 83(2007)- 41 12 13.85376(N) 106 49 13.40752(W) AD(2002.00) 1

MP0149 ELLIP H (11/28/08) 2330.075 (m) GP(2002.00) 2 1

MP0149 NAVD 88 2341.45 (m) 7681.9 (f) LEVELING 3

MP0149 NGVD 29 (??/??/92) 2340.203 (m) 7677.82 (f) ADJ UNCH 2 0

MP0149

MP0149.Superseded values are not recommended for survey control.

MP0149

MP0149.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

MP0149.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

MP0149

MP0149\_MARKER: DB = BENCH MARK DISK

MP0149\_SETTING: 80 = SET IN A BOULDER

MP0149\_STAMPING: S 74 1934

MP0149\_MARK LOGO: CGS

MP0149\_MAGNETIC: O = OTHER; SEE DESCRIPTION

MP0149\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

MP0149+STABILITY: SURFACE MOTION

MP0149\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

MP0149+SATELLITE: SATELLITE OBSERVATIONS - October 07, 2008

MP0149

MP0149 HISTORY - Date Condition Report By

MP0149 HISTORY - 1934 MONUMENTED CGS

MP0149 HISTORY - 20081007 GOOD WOOLPT

MP0149

MP0149 STATION DESCRIPTION

MP0149

MP0149'DESCRIBED BY COAST AND GEODETIC SURVEY 1934

MP0149'2.4 MI W FROM ENCAMPMENT.

MP0149'2.4 MILES WEST ALONG THE SLATER ROAD FROM ENCAMPMENT, AT THE

MP0149'APPROXIMATE FOCAL POINT OF A SEMI-CIRCULAR CURVE, 250 FEET NORTH OF

MP0149'THE MOST SOUTHERLY POINT OF THE CURVE, IN THE TOP OF THE SOUTHEAST END

MP0149'OF THE EAST ONE OF TWO LARGE GRANITE BOULDERS, AND 2.8 FEET ABOVE THE

MP0149'GROUND. A STANDARD DISK, STAMPED S 74 1934.

MP0149

MP0149 STATION RECOVERY (2008)

MP0149

MP0149'RECOVERY NOTE BY WOOLPERT CONSULTANTS 2008 (KCH)

MP0149'THE STATION IS LOCATED ABOUT 2.4 MI (3.9 KM) WEST FROM ENCAMPMENT.

MP0149'APPROXIMATELY 17 MI (27.4 KM) SOUTH OF SARATOGA AND 35 MI (56.3 KM)

MP0149'NORTHEAST FROM SAVERY, AND SET IN THE TOP OF A LARGE GRANITE BOULDER.

MP0149'

MP0149'TO REACH THE STATION FROM THE INTERSECTION OF STATE HIGHWAY 70 AND

MP0149'STATE HIGHWAY 230 AT THE NORTH END OF ENCAMPMENT. GO SOUTHWEST ON

MP0149'STATE HIGHWAY 70 FOR 0.9 MI (1.4 KM) TO THE INTERSECTION WITH SIXTH

MP0149'STREET (STATE HIGHWAY 70), TURN RIGHT, NORTHWEST, ON SIXTH STREET FOR

MP0149'0.25 MI (0.4 KM) TO MCFARLAN AVENUE (STATE HIGHWAY 70), TURN LEFT,

MP0149'SOUTHWEST, ON MCFARLAN AVENUE FOR 1.45 MI (2.3 KM) TO THE STATION ON

MP0149'YOUR LEFT, SOUTHEAST.

MP0149'

MP0149'THE STATION IS A BENCH MARK DISK SET IN THE SOUTHEAST END OF THE EAST

MP0149'ONE OF TWO LARGE GRANITE BOULDERS, THE STATION IS 37.8 M (124.0 FT)

MP0149'EAST OF A WHITE FENCE POST IN A BARB WIRE FENCE LINE, 32.92 M (108.0

MP0149'FT) SOUTHEAST OF THE SOUTHEAST EDGE OF STATE HIGHWAY 70, AND 9.45 M

MP0149'(31.0 FT) SOUTHEAST OF THE ROW FENCE FOR STATE HIGHWAY 70 AND 2.8 FT

MP0149'(0.9 M) ABOVE THE GROUND.

\*\*\* retrieval complete.

Elapsed Time = 00:00:04

## The NGS Data Sheet for S 88

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.9

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = SEPTEMBER 10, 2020

MO0688 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MO0688 DESIGNATION - S 88

MO0688 PID - MO0688

MO0688 STATE/COUNTY- WY/ALBANY

MO0688 COUNTRY - US

MO0688 USGS QUAD - BOSLER (2017)

MO0688

MO0688 \*CURRENT SURVEY CONTROL

MO0688 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MO0688\* NAD 83(1986) POSITION- 41 32 57.2 (N) 105 40 46.1 (W) HD\_HELD2

MO0688\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 2145.758 (meters) 7039.87 (feet) ADJUSTED

MO0688 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MO0688 GEOID HEIGHT - -11.682 (meters) GEOID18

MO0688 DYNAMIC HEIGHT - 2143.952 (meters) 7033.95 (feet) COMP

MO0688 MODELED GRAVITY - 979,703.6 (mgal) NAVD 88

MO0688

MO0688 VERT ORDER - FIRST CLASS II

MO0688

MO0688.The horizontal coordinates were established by autonomous hand held GPS

MO0688.observations and have an estimated accuracy of +/- 10 meters.

MO0688.

MO0688.The orthometric height was determined by differential leveling and

MO0688.adjusted by the NATIONAL GEODETIC SURVEY

MO0688.in June 1991.

MO0688

MO0688.Significant digits in the geoid height do not necessarily reflect accuracy.

MO0688.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

MO0688

MO0688.Click [photographs](https://www.ngs.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=MO0688) - Photos may exist for this station.

MO0688

MO0688.The dynamic height is computed by dividing the NAVD 88

MO0688.geopotential number by the normal gravity value computed on the

MO0688.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

MO0688.degrees latitude (g = 980.6199 gals.).

MO0688

MO0688.The modeled gravity was interpolated from observed gravity values.

MO0688

MO0688; North East Units Estimated Accuracy

MO0688;SPC WY E - 116,640. 157,218. MT (+/- 10 meters HH2 GPS)

MO0688

MO0688\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TDF4333299951(NAD 83)

MO0688

MO0688 SUPERSEDED SURVEY CONTROL

MO0688

MO0688 NGVD 29 (??/??/92) 2144.720 (m) 7036.47 (f) SUPERSEDED 1 2

MO0688 NGVD 29 (06/08/92) 2144.713 (m) 7036.45 (f) ADJUSTED 1 2

MO0688

MO0688.Superseded values are not recommended for survey control.

MO0688

MO0688.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

MO0688.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

MO0688

MO0688\_MARKER: DB = BENCH MARK DISK

MO0688\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

MO0688\_STAMPING: S 88 1934

MO0688\_MARK LOGO: CGS

MO0688\_MAGNETIC: N = NO MAGNETIC MATERIAL

MO0688\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

MO0688+STABILITY: SURFACE MOTION

MO0688\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

MO0688+SATELLITE: SATELLITE OBSERVATIONS - October 27, 2010

MO0688

MO0688 HISTORY - Date Condition Report By

MO0688 HISTORY - 1934 MONUMENTED CGS

MO0688 HISTORY - 1966 GOOD CGS

MO0688 HISTORY - 1983 GOOD NGS

MO0688 HISTORY - 19990823 GOOD WYDT

MO0688 HISTORY - 20101027 GOOD GEOCAC

MO0688

MO0688 STATION DESCRIPTION

MO0688

MO0688'DESCRIBED BY COAST AND GEODETIC SURVEY 1966

MO0688'2.2 MI S FROM BOSLER.

MO0688'2.15 MILES SOUTH ALONG U.S. HIGHWAY 30 FROM THE SCHOOL AT BOSLER,

MO0688'0.2 MILE SOUTH OF THE JUNCTION OF STATE HIGHWAY 34, 104 FEET

MO0688'EAST OF THE CENTER LINE OF THE HIGHWAY, 32 FEET NORTH OF A

MO0688'TELEPHONE POLE, 44.3 FEET WEST OF A FENCE, 1.6 FEET EAST OF A

MO0688'WITNESS POST, ABOUT 5 FEET LOWER THAN THE HIGHWAY, AND SET IN

MO0688'THE TOP OF A CONCRETE POST PROJECTING 0.1 FOOT ABOVE THE GROUND.

MO0688

MO0688 STATION RECOVERY (1983)

MO0688

MO0688'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1983

MO0688'RECOVERED IN GOOD CONDITION. A NEW TO REACH FOLLOWS. 27.5 KM

MO0688'(17.1 MI) NORTHWESTERLY ALONG THE UNION PACIFIC RAILROAD FROM THE

MO0688'STATION IN LARAMIE.

MO0688

MO0688 STATION RECOVERY (1999)

MO0688

MO0688'RECOVERY NOTE BY WYOMING DEPARTMENT OF TRANSPORTATION 1999 (JSB)

MO0688'ORGANIZATION, WYOMING DEPARTMENT OF TRANSPORTATION, PHONE NUMBER,

MO0688'307-777-3819.

MO0688

MO0688 STATION RECOVERY (2010)

MO0688

MO0688'RECOVERY NOTE BY GEOCACHING 2010 (MEL)

MO0688'MARK IS NOW FLUSH WITH THE GROUND, 1.5 EAST OF A METAL WP, 4 FT SOUTH

MO0688'OF A WOOD WP AND 4 FT NORTH OF A CARSONITE WP.

\*\*\* retrieval complete.

Elapsed Time = 00:00:03

## The NGS Data Sheet for S 335

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.14

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = MARCH 2, 2022

NR0242 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

NR0242 DESIGNATION - S 335

NR0242 PID - NR0242

NR0242 STATE/COUNTY- WY/NATRONA

NR0242 COUNTRY - US

NR0242 USGS QUAD - GOOSE EGG (2017)

NR0242

NR0242 \*CURRENT SURVEY CONTROL

NR0242 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NR0242\* NAD 83(2011) POSITION- 42 47 05.32779(N) 106 27 07.23140(W) ADJUSTED

NR0242\* NAD 83(2011) ELLIP HT- 1620.862 (meters) (06/27/12) ADJUSTED

NR0242\* NAD 83(2011) EPOCH - 2010.00

NR0242\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 1633.691 (meters) 5359.87 (feet) ADJUSTED

NR0242 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NR0242 GEOID HEIGHT - -12.848 (meters) GEOID18

NR0242 NAD 83(2011) X - -1,328,098.750 (meters) COMP

NR0242 NAD 83(2011) Y - -4,497,416.052 (meters) COMP

NR0242 NAD 83(2011) Z - 4,311,088.971 (meters) COMP

NR0242 LAPLACE CORR - 2.86 (seconds) DEFLEC18

NR0242 DYNAMIC HEIGHT - 1632.660 (meters) 5356.49 (feet) COMP

NR0242 MODELED GRAVITY - 979,931.3 (mgal) NAVD 88

NR0242

NR0242 VERT ORDER - FIRST CLASS II

NR0242

NR0242 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

NR0242 Standards:

NR0242 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

NR0242 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

NR0242 -------------------------------------------------------------------

NR0242 NETWORK 2.19 2.06 0.44 1.09 1.05 0.13966403

NR0242 -------------------------------------------------------------------

NR0242 Click [here](https://www.ngs.noaa.gov/cgi-bin/lna_ret.prl?PID=NR0242) for local accuracies and other accuracy information.

NR0242

NR0242

NR0242.The horizontal coordinates were established by GPS observations

NR0242.and adjusted by the National Geodetic Survey in June 2012.

NR0242

NR0242.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

NR0242.been affixed to the stable North American tectonic plate. See

NR0242.[NA2011](https://www.ngs.noaa.gov/web/surveys/NA2011) for more information.

NR0242

NR0242.The horizontal coordinates are valid at the epoch date displayed above

NR0242.which is a decimal equivalence of Year/Month/Day.

NR0242

NR0242.The orthometric height was determined by differential leveling and

NR0242.adjusted by the NATIONAL GEODETIC SURVEY

NR0242.in June 1991.

NR0242

NR0242.Significant digits in the geoid height do not necessarily reflect accuracy.

NR0242.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

NR0242

NR0242.Click [photographs](https://geodesy.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=NR0242) - Photos may exist for this station.

NR0242

NR0242.The X, Y, and Z were computed from the position and the ellipsoidal ht.

NR0242

NR0242.The Laplace correction was computed from DEFLEC18 derived deflections.

NR0242

NR0242.The ellipsoidal height was determined by GPS observations

NR0242.and is referenced to NAD 83.

NR0242

NR0242.The dynamic height is computed by dividing the NAVD 88

NR0242.geopotential number by the normal gravity value computed on the

NR0242.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

NR0242.degrees latitude (g = 980.6199 gals.).

NR0242

NR0242.The modeled gravity was interpolated from observed gravity values.

NR0242

NR0242. The following values were computed from the NAD 83(2011) position.

NR0242

NR0242; North East Units Scale Factor Converg.

NR0242;SPC WYEC - 354,126.766 472,110.052 MT 1.00000145 +0 35 55.2

NR0242;SPC WYEC - 1,161,830.90 1,548,914.40 sFT 1.00000145 +0 35 55.2

NR0242;UTM 13 - 4,737,941.425 381,235.991 MT 0.99977353 -0 59 11.0

NR0242

NR0242! - Elev Factor x Scale Factor = Combined Factor

NR0242!SPC WYEC - 0.99974587 x 1.00000145 = 0.99974732

NR0242!UTM 13 - 0.99974587 x 0.99977353 = 0.99951946

NR0242

NR0242\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TCH8123537941(NAD 83)

NR0242

NR0242 SUPERSEDED SURVEY CONTROL

NR0242

NR0242 NAD 83(2007)- 42 47 05.32752(N) 106 27 07.23255(W) AD(2002.00) 0

NR0242 ELLIP H (02/10/07) 1620.882 (m) GP(2002.00)

NR0242 NAD 83(1993)- 42 47 05.32706(N) 106 27 07.23237(W) AD( ) A

NR0242 ELLIP H (02/28/01) 1620.896 (m) GP( ) 2 1

NR0242 NAVD 88 1633.69 (m) 5359.9 (f) LEVELING 3

NR0242 NGVD 29 (06/08/92) 1632.810 (m) 5356.98 (f) ADJUSTED 1 2

NR0242

NR0242.Superseded values are not recommended for survey control.

NR0242

NR0242.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

NR0242.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

NR0242

NR0242\_MARKER: DV = VERTICAL CONTROL DISK

NR0242\_SETTING: 66 = SET IN ROCK OUTCROP

NR0242\_STAMPING: S 335 1982

NR0242\_MARK LOGO: NGS

NR0242\_MAGNETIC: N = NO MAGNETIC MATERIAL

NR0242\_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD

NR0242+STABILITY: POSITION/ELEVATION WELL

NR0242\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

NR0242+SATELLITE: SATELLITE OBSERVATIONS - July 14, 1999

NR0242

NR0242 HISTORY - Date Condition Report By

NR0242 HISTORY - 1982 MONUMENTED NGS

NR0242 HISTORY - 19990714 GOOD BLM

NR0242

NR0242 STATION DESCRIPTION

NR0242

NR0242'DESCRIBED BY NATIONAL GEODETIC SURVEY 1982

NR0242'8.2 KM (5.1 MI) SW FROM CASPER.

NR0242'8.2 KM (5.1 MI) SOUTHWESTERLY ALONG STATE HIGHWAY 220 FROM ITS

NR0242'JUNCTION WITH STATE HIGHWAY 257 IN CASPER, IN THE CENTER OF THE

NR0242'SOUTHWESTERN 1/2 OF A 6 BY 24 FT. EXPOSED AREA OF BEDROCK IN A HIGHWAY

NR0242'CUT, 87.5 METERS (287.1 FT) SOUTHWEST OF THE CENTER OF A PRIVATE ROAD

NR0242'LEADING NORTHWEST, 81.0 METERS (265.7 FT) NORTHEAST OF A T-FENCE

NR0242'CORNER, 25.0 METERS (82.0 FT) SOUTH-SOUTHWEST OF A UTILITY POLE, 21.5

NR0242'METERS (70.5 FT) NORTHWEST OF THE CENTERLINE OF THE SOUTHWEST BOUND

NR0242'LANES OF THE HIGHWAY AND 14.5 (47.6 FT) SOUTHEAST OF A FENCE.

NR0242'THE MARK IS 0.3 METERS NE FROM A WITNESS POST.

NR0242'THE MARK IS 0.5 M ABOVE THE HIGHWAY.

NR0242

NR0242 STATION RECOVERY (1999)

NR0242

NR0242'RECOVERY NOTE BY BUREAU OF LAND MANAGEMENT 1999 (SSS)

NR0242'RECOVERED IN GOOD CONDITION IN RIGHT-OF-WAY OF WY STATE HWY 220 AS

NR0242'DESCRIBED.

\*\*\* retrieval complete.

Elapsed Time = 00:00:04

## The NGS Data Sheet U 16

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.9

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = AUGUST 18, 2020

NR0002 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

NR0002 DESIGNATION - U 16

NR0002 PID - NR0002

NR0002 STATE/COUNTY- WY/NATRONA

NR0002 COUNTRY - US

NR0002 USGS QUAD - LOCKETT (2017)

NR0002

NR0002 \*CURRENT SURVEY CONTROL

NR0002 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NR0002\* NAD 83(1986) POSITION- 42 52 06. (N) 106 04 59. (W) SCALED

NR0002\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 1541.534 (meters) 5057.52 (feet) ADJUSTED

NR0002 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NR0002 GEOID HEIGHT - -13.531 (meters) GEOID18

NR0002 DYNAMIC HEIGHT - 1540.575 (meters) 5054.37 (feet) COMP

NR0002 MODELED GRAVITY - 979,944.2 (mgal) NAVD 88

NR0002

NR0002 VERT ORDER - FIRST CLASS II

NR0002

NR0002.The horizontal coordinates were scaled from a map and have

NR0002.an estimated accuracy of +/- 6 seconds.

NR0002.

NR0002.The orthometric height was determined by differential leveling and

NR0002.adjusted by the NATIONAL GEODETIC SURVEY

NR0002.in June 1991.

NR0002

NR0002.Significant digits in the geoid height do not necessarily reflect accuracy.

NR0002.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

NR0002

NR0002.Click [photographs](https://www.ngs.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=NR0002) - Photos may exist for this station.

NR0002

NR0002.The dynamic height is computed by dividing the NAVD 88

NR0002.geopotential number by the normal gravity value computed on the

NR0002.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

NR0002.degrees latitude (g = 980.6199 gals.).

NR0002

NR0002.The modeled gravity was interpolated from observed gravity values.

NR0002

NR0002; North East Units Estimated Accuracy

NR0002;SPC WYEC - 363,790. 502,160. MT (+/- 180 meters Scaled)

NR0002

NR0002\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TDH115467(NAD 83)

NR0002

NR0002 SUPERSEDED SURVEY CONTROL

NR0002

NR0002 NGVD 29 (??/??/92) 1540.659 (m) 5054.65 (f) ADJ UNCH 1 2

NR0002

NR0002.Superseded values are not recommended for survey control.

NR0002

NR0002.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

NR0002.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

NR0002

NR0002\_MARKER: DB = BENCH MARK DISK

NR0002\_SETTING: 7 = SET IN TOP OF CONCRETE MONUMENT

NR0002\_STAMPING: U 16 1934

NR0002\_STABILITY: C = MAY HOLD, BUT OF TYPE COMMONLY SUBJECT TO

NR0002+STABILITY: SURFACE MOTION

NR0002

NR0002 HISTORY - Date Condition Report By

NR0002 HISTORY - 1934 MONUMENTED CGS

NR0002

NR0002 STATION DESCRIPTION

NR0002

NR0002'DESCRIBED BY COAST AND GEODETIC SURVEY 1934

NR0002'2.4 MI E FROM FRY.

NR0002'ABOUT 2.4 MILES EAST ALONG THE CHICAGO, BURLINGTON AND QUINCY RAILROAD

NR0002'FROM THE STATION AT FRY, NATRONA COUNTY, ABOUT 0.6 MILE EAST OF

NR0002'MILEPOST 190, AT A CHANGE IN THE WIDTH OF THE RIGHT-OF-WAY, 36.0 FEET

NR0002'SOUTH OF THE CENTER LINE OF A ROAD, 84 FEET NORTH OF THE NORTH RAIL,

NR0002'8.5 FEET SOUTH OF THE NORTH CORNER POST OF THE RIGHT-OF-WAY FENCE, AND

NR0002'3.0 FEET EAST OF THE FENCE. A STANDARD DISK, STAMPED U 16 1934 AND

NR0002'SET IN THE TOP OF A CONCRETE POST.

\*\*\* retrieval complete.

Elapsed Time = 00:00:01

## The NGS Data Sheet for X 358

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.9

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = AUGUST 12, 2020

OV0289 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

OV0289 FBN - This is a Federal Base Network Control Station.

OV0289 DESIGNATION - X 358

OV0289 PID - OV0289

OV0289 STATE/COUNTY- WY/NATRONA

OV0289 COUNTRY - US

OV0289 USGS QUAD - MIDWEST (2017)

OV0289

OV0289 \*CURRENT SURVEY CONTROL

OV0289 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

OV0289\* NAD 83(2011) POSITION- 43 24 40.89072(N) 106 15 25.33511(W) ADJUSTED

OV0289\* NAD 83(2011) ELLIP HT- 1477.646 (meters) (06/27/12) ADJUSTED

OV0289\* NAD 83(2011) EPOCH - 2010.00

OV0289\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 1491.495 (meters) 4893.35 (feet) ADJUSTED

OV0289 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

OV0289 GEOID HEIGHT - -13.881 (meters) GEOID18

OV0289 NAD 83(2011) X - -1,299,440.676 (meters) COMP

OV0289 NAD 83(2011) Y - -4,456,141.549 (meters) COMP

OV0289 NAD 83(2011) Z - 4,361,828.369 (meters) COMP

OV0289 LAPLACE CORR - -5.04 (seconds) DEFLEC18

OV0289 DYNAMIC HEIGHT - 1490.673 (meters) 4890.65 (feet) COMP

OV0289 MODELED GRAVITY - 980,016.7 (mgal) NAVD 88

OV0289

OV0289 VERT ORDER - FIRST CLASS II

OV0289

OV0289 Network accuracy estimates per FGDC Geospatial Positioning Accuracy

OV0289 Standards:

OV0289 FGDC (95% conf, cm) Standard deviation (cm) CorrNE

OV0289 Horiz Ellip SD\_N SD\_E SD\_h (unitless)

OV0289 -------------------------------------------------------------------

OV0289 NETWORK 0.67 1.88 0.30 0.24 0.96 0.05209243

OV0289 -------------------------------------------------------------------

OV0289 Click [here](https://www.ngs.noaa.gov/cgi-bin/lna_ret.prl?PID=OV0289) for local accuracies and other accuracy information.

OV0289

OV0289

OV0289.The horizontal coordinates were established by GPS observations

OV0289.and adjusted by the National Geodetic Survey in June 2012.

OV0289

OV0289.NAD 83(2011) refers to NAD 83 coordinates where the reference frame has

OV0289.been affixed to the stable North American tectonic plate. See

OV0289.[NA2011](https://www.ngs.noaa.gov/web/surveys/NA2011) for more information.

OV0289

OV0289.The horizontal coordinates are valid at the epoch date displayed above

OV0289.which is a decimal equivalence of Year/Month/Day.

OV0289

OV0289.The orthometric height was determined by differential leveling and

OV0289.adjusted by the NATIONAL GEODETIC SURVEY

OV0289.in June 1991.

OV0289

OV0289.Significant digits in the geoid height do not necessarily reflect accuracy.

OV0289.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

OV0289

OV0289.Click [photographs](https://www.ngs.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=OV0289) - Photos may exist for this station.

OV0289

OV0289.The X, Y, and Z were computed from the position and the ellipsoidal ht.

OV0289

OV0289.The Laplace correction was computed from DEFLEC18 derived deflections.

OV0289

OV0289.The ellipsoidal height was determined by GPS observations

OV0289.and is referenced to NAD 83.

OV0289

OV0289.The dynamic height is computed by dividing the NAVD 88

OV0289.geopotential number by the normal gravity value computed on the

OV0289.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

OV0289.degrees latitude (g = 980.6199 gals.).

OV0289

OV0289.The modeled gravity was interpolated from observed gravity values.

OV0289

OV0289. The following values were computed from the NAD 83(2011) position.

OV0289

OV0289; North East Units Scale Factor Converg.

OV0289;SPC WYEC - 423,914.210 487,169.315 MT 1.00003094 +0 44 23.0

OV0289;SPC WYEC - 1,390,791.87 1,598,321.33 sFT 1.00003094 +0 44 23.0

OV0289;UTM 13 - 4,807,264.416 398,226.631 MT 0.99972741 -0 51 50.2

OV0289

OV0289! - Elev Factor x Scale Factor = Combined Factor

OV0289!SPC WYEC - 0.99976834 x 1.00003094 = 0.99979927

OV0289!UTM 13 - 0.99976834 x 0.99972741 = 0.99949581

OV0289

OV0289\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TCJ9822607264(NAD 83)

OV0289

OV0289 SUPERSEDED SURVEY CONTROL

OV0289

OV0289 NAD 83(2007)- 43 24 40.89048(N) 106 15 25.33615(W) AD(2002.00) 0

OV0289 ELLIP H (02/10/07) 1477.669 (m) GP(2002.00)

OV0289 ELLIP H (02/28/01) 1477.694 (m) GP( ) 2 1

OV0289 NAD 83(1993)- 43 24 40.88959(N) 106 15 25.33570(W) AD( ) B

OV0289 ELLIP H (10/19/94) 1477.747 (m) GP( ) 4 1

OV0289 NAVD 88 1491.50 (m) 4893.4 (f) LEVELING 3

OV0289 NGVD 29 (06/08/92) 1490.694 (m) 4890.72 (f) ADJUSTED 1 2

OV0289

OV0289.Superseded values are not recommended for survey control.

OV0289

OV0289.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

OV0289.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

OV0289

OV0289\_MARKER: I = METAL ROD

OV0289\_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)

OV0289\_STAMPING: X 358 1985

OV0289\_MARK LOGO: NGS

OV0289\_PROJECTION: FLUSH

OV0289\_MAGNETIC: N = NO MAGNETIC MATERIAL

OV0289\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

OV0289\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

OV0289+SATELLITE: SATELLITE OBSERVATIONS - August 27, 2001

OV0289\_ROD/PIPE-DEPTH: 17.1 meters

OV0289

OV0289 HISTORY - Date Condition Report By

OV0289 HISTORY - 1985 MONUMENTED NGS

OV0289 HISTORY - 19931015 GOOD NGS

OV0289 HISTORY - 19991028 GOOD NGS

OV0289 HISTORY - 20010827 GOOD WYHD

OV0289

OV0289 STATION DESCRIPTION

OV0289

OV0289'DESCRIBED BY NATIONAL GEODETIC SURVEY 1985

OV0289'1.0 KM (0.6 MI) NE FROM MIDWEST.

OV0289'1.04 KM (0.65 MI) NORTHEAST ALONG STATE HIGHWAY 387 FROM THE JUNCTION

OV0289'OF STATE HIGHWAY 259 AT MIDWEST, IN THE INSIDE CORNER OF THE SOUTH ONE

OV0289'OF A DOUBLE RIGHT ANGLE OFFSET IN THE RIGHT OF WAY FENCE, AT THE

OV0289'SOUTHEAST CORNER OF THE T JUNCTION OF COUNTY ROAD 117 LEADING

OV0289'SOUTHEAST TO EDGERTON, 34.4 METERS (113 FT) SOUTH OF THE HIGHWAY

OV0289'CENTERLINE, 75.0 METERS (246 FT) EAST OF THE CENTER OF THE COUNTY

OV0289'ROAD, 4.6 METERS (15 FT) SOUTHEAST OF THE SOUTHEAST CORNER OF THE WEST

OV0289'ONE OF TWO 12 BY 12 FOOT ABANDONDED CONCRETE PADS, 0.6 METER (2 FT)

OV0289'NORTHWEST OF THE INSIDE BRACED WOODEN POST AND 0.5 METER (1.5 FT)

OV0289'NORTH OF THE EAST-WEST PORTION OF THE RIGHT OF WAY FENCE.

OV0289'THE MARK IS 0.3 METERS E FROM A WITNESS POST

OV0289'THE MARK IS 2.5 M BELOW THE HIGHWAY.

OV0289

OV0289 STATION RECOVERY (1993)

OV0289

OV0289'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1993 (AJL)

OV0289'STATION IS LOCATED ABOUT 1 KM (0.60 MI) EAST OF MIDWEST, ANDON THE

OV0289'WESTERN EDGE OF EDGERTON, ALONG STATE HIGHWAY 387, ON THE

OV0289'RIGHT-OF-WAY, IN A DIP, AT A JOG IN THE RIGHT-OF-WAY FENCE, AT AN

OV0289'INTERIOR FENCE CORNER AT SEVERAL SMALL CONCRETE PADS, IN THE NORTHEAST

OV0289'1/4 OF SECTION 30, T 40 N, R 78 W. OWNERSHIP--WYOMING DEPARTMENT OF

OV0289'TRANSPORTATION. TO REACH FROM THE UNDERPASS AT THE JUNCTION OF

OV0289'INTERSTATE HIGHWAY 25 AND STATE HIGHWAY 387 (EXIT 227), ABOUT 9 KM

OV0289'(5.60 MI) NORTHWEST OF MIDWEST, GO EASTERLY ON HIGHWAY 387 FOR 10.58

OV0289'KM (6.55 MI) TO ITS JUNCTION WITH STATE HIGHWAY 259 AT MIDWEST. TURN

OV0289'LEFT, EAST, ON HIGHWAY 387 FOR 0.96 KM (0.60 MI) TO COUNTY ROAD 117 ON

OV0289'THE RIGHT. CONTINUE AHEAD FOR 0.08 KM (0.05 MI) TO THE STATION ON THE

OV0289'RIGHT. STATION MARK IS A PUNCH HOLE TOP CENTER ON A STEEL ROD ENCASED

OV0289'IN A PVC PIPE WITH LOGO CAP SET IN A CONCRETE POST FLUSH WITH THE

OV0289'GROUND. IT IS 76 M (249.3 FT) EAST OF ROAD 117, 34.2 M (112.2 FT)

OV0289'SOUTH OF, AND 1.5 M (4.9 FT) LOWER THAN THE HIGHWAY CENTER, 0.3 M (1.0

OV0289'FT) EAST OF A FIBERGLASS WITNESS POST, 0.5 M (1.6 FT) NORTHWEST OF AN

OV0289'INTERIOR FENCE CORNER, 10.4 M (34.1 FT) SOUTH OF AN EXTERIOR FENCE

OV0289'CORNER, AND 4.7 M (15.4 FT) SOUTHEAST OF THE SOUTHEAST CORNER OF THE

OV0289'WEST ONE OF TWO 3 M (9.8 FT) SQUARE CONCRETE PADS. DESCRIBED BY

OV0289'G.R.HEID

OV0289

OV0289 STATION RECOVERY (1999)

OV0289

OV0289'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1999 (CSM)

OV0289'THE STATION IS LOCATED ABOUT 1 KM (0.60 MI) EAST OF MIDWEST, ON THE

OV0289'WESTERN EDGE OF EDGERTON, ALONG STATE HIGHWAY 387, IN A DIP AT A JOG

OV0289'IN A RIGHT-OF-WAY FENCE AT IN INTERIOR FENCE CORNER NEAR SEVERAL SMALL

OV0289'CONCRETE PADS. OWNERSHIP--WYDOT HIGHWAY RIGHT-OF-WAY. TO REACH THE

OV0289'STATION FROM THE UNDERPASS AT THE JUNCTION INTERSTATE HIGHWAY 25 AND

OV0289'STATE HIGHWAY 387 (EXIT 227) , ABOUT 9 KM (5.60 MI) NORTHWEST OF

OV0289'MIDWEST, GO EASTERLY ON HIGHWAY 387 FOR 10.58 KM (6.55 MI) TO THE

OV0289'JUNCTION WITH STATE HWY 259 AT MIDWEST. TURN LEFT AND GO EAST ON HWY

OV0289'387 FOR 0.96 KM (0.60 MI) TO COUNTY ROAD 117 ON THE RIGHT, CONTINUE

OV0289'AHEAD FOR 0.08 KM (0.05 MI) TO THE STATION ON THE RIGHT. THE STATION

OV0289'MARK IS A PUNCH MARK IN THE TOP CENTER OF A DATUM POINT CRIMPED TO THE

OV0289'TOP OF A STAINLESS STEEL ROD ENCASED IN A PVC PIPE WITH AN ALUMINUM

OV0289'ACCESS COVER ANCHORED IN CONCRETE AND FLUSH WITH THE GROUND. IT IS,

OV0289'76 M (249.3 FT) EAST OF COUNTY ROAD 117, 34.2 M (112.2 FT) SOUTH OF

OV0289'AND 1.5 M (4.9 FT) LOWER THAN THE HIGHWAY CENTER, 0.3 M (1.0 FT) EAST

OV0289'OF A FIBERGLASS WITNESS POST, 0.5 M (1.6 FT) NORTHWEST OF AN INTERIOR

OV0289'FENCE CORNER, 10.4 M (34.1 FT) SOUTH OF AN EXTERIOR FENCE CORNER AND

OV0289'4.7 M (15.4 FT) SOUTHEAST OF THE SOUTHEAST CORNER OF THE WEST ONE OF

OV0289'TWO 3 M (9.8 FT) SQUARE CONCRETE PADS. NOTE--THE STATION IS NOW

OV0289'SURROUNDED BY 3 METAL I-BEAM POSTS. DESCRIBED BY J.D. DIMARE.

OV0289

OV0289 STATION RECOVERY (2001)

OV0289

OV0289'RECOVERY NOTE BY WYOMING HIGHWAY DEPARTMENT 2001 (JE)

OV0289'RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

Elapsed Time = 00:00:02

## The NGS Data Sheet for Y 336

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.14

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = MARCH 2, 2022

NR0313 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

NR0313 DESIGNATION - Y 336

NR0313 PID - NR0313

NR0313 STATE/COUNTY- WY/CARBON

NR0313 COUNTRY - US

NR0313 USGS QUAD - SEPARATION RIM (2017)

NR0313

NR0313 \*CURRENT SURVEY CONTROL

NR0313 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NR0313\* NAD 83(1986) POSITION- 42 06 44.09 (N) 107 25 11.35 (W) HD\_HELD1

NR0313\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 1990.781 (meters) 6531.42 (feet) ADJUSTED

NR0313 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

NR0313 GEOID HEIGHT - -13.880 (meters) GEOID18

NR0313 DYNAMIC HEIGHT - 1989.151 (meters) 6526.07 (feet) COMP

NR0313 MODELED GRAVITY - 979,732.8 (mgal) NAVD 88

NR0313

NR0313 VERT ORDER - FIRST CLASS II

NR0313

NR0313.The horizontal coordinates were determined by differentially corrected

NR0313.hand held GPS observations or other comparable positioning techniques

NR0313.and have an estimated accuracy of +/- 3 meters.

NR0313.

NR0313.The orthometric height was determined by differential leveling and

NR0313.adjusted by the NATIONAL GEODETIC SURVEY

NR0313.in June 1991.

NR0313

NR0313.Significant digits in the geoid height do not necessarily reflect accuracy.

NR0313.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

NR0313

NR0313.Click [photographs](https://geodesy.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=NR0313) - Photos may exist for this station.

NR0313

NR0313.The dynamic height is computed by dividing the NAVD 88

NR0313.geopotential number by the normal gravity value computed on the

NR0313.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

NR0313.degrees latitude (g = 980.6199 gals.).

NR0313

NR0313.The modeled gravity was interpolated from observed gravity values.

NR0313

NR0313; North East Units Estimated Accuracy

NR0313;SPC WYEC - 279,048.3 392,847.6 MT (+/- 3 meters HH1 GPS)

NR0313

NR0313\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TBG9994265072(NAD 83)

NR0313

NR0313 SUPERSEDED SURVEY CONTROL

NR0313

NR0313 NGVD 29 (06/08/92) 1989.642 (m) 6527.68 (f) ADJUSTED 1 2

NR0313

NR0313.Superseded values are not recommended for survey control.

NR0313

NR0313.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

NR0313.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

NR0313

NR0313\_MARKER: F = FLANGE-ENCASED ROD

NR0313\_SETTING: 49 = STAINLESS STEEL ROD W/O SLEEVE (10 FT.+)

NR0313\_STAMPING: Y 336 1982

NR0313\_MARK LOGO: NGS

NR0313\_PROJECTION: FLUSH

NR0313\_STABILITY: B = PROBABLY HOLD POSITION/ELEVATION WELL

NR0313\_SATELLITE: THE SITE LOCATION WAS REPORTED AS SUITABLE FOR

NR0313+SATELLITE: SATELLITE OBSERVATIONS - August 08, 2018

NR0313\_ROD/PIPE-DEPTH: 20.7 meters

NR0313

NR0313 HISTORY - Date Condition Report By

NR0313 HISTORY - 1982 MONUMENTED NGS

NR0313 HISTORY - 20100302 GOOD WYDT

NR0313 HISTORY - 20180808 GOOD WYDT

NR0313

NR0313 STATION DESCRIPTION

NR0313

NR0313'DESCRIBED BY NATIONAL GEODETIC SURVEY 1982

NR0313'30.6 KM (19.0 MI) SOUTH FROM MUDDY GAP.

NR0313'30.6 KM (19.0 MI) SOUTHERLY ALONG U.S. HIGHWAY 287 FROM ITS JUNCTION

NR0313'WITH STATE HIGHWAY 220 IN MUDDY GAP, 0.5 KM (0.3 MI) NORTH OF MILEPOST

NR0313'25 AND 53.0 METERS (173.9 FT) SOUTHWEST OF THE CENTERLINE OF THE

NR0313'HIGHWAY. NOTE, ACCESS TO THE DATUM POINT IS THROUGH A 5-INCH LOGO

NR0313'CAP.

NR0313'THE MARK IS 0.3 METERS NE FROM A WITNESS POST AND FENCE

NR0313'THE MARK IS 0.6 M ABOVE THE HIGHWAY.

NR0313

NR0313 STATION RECOVERY (2010)

NR0313

NR0313'RECOVERY NOTE BY WYOMING DEPARTMENT OF TRANSPORTATION 2010 (ABC)

NR0313'RECOVERED IN GOOD CONDITION.

NR0313

NR0313 STATION RECOVERY (2018)

NR0313

NR0313'RECOVERY NOTE BY WYOMING DEPARTMENT OF TRANSPORTATION 2018 (ABC)

NR0313'RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

Elapsed Time = 00:00:05

## The NGS Data Sheet for Z 338

##### See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) for more information about the datasheet.

PROGRAM = datasheet95, VERSION = 8.12.5.14

Starting Datasheet Retrieval...

1 National Geodetic Survey, Retrieval Date = MARCH 2, 2022

MP0454 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

MP0454 DESIGNATION - Z 338

MP0454 PID - MP0454

MP0454 STATE/COUNTY- WY/CARBON

MP0454 COUNTRY - US

MP0454 USGS QUAD - RAWLINS (2017)

MP0454

MP0454 \*CURRENT SURVEY CONTROL

MP0454 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MP0454\* NAD 83(1986) POSITION- 41 48 13.5 (N) 107 14 08.3 (W) HD\_HELD2

MP0454\* [NAVD 88](https://www.ngs.noaa.gov/datums/vertical/index.shtml#NAVD88) ORTHO HEIGHT - 2092.785 (meters) 6866.08 (feet) ADJUSTED

MP0454 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

MP0454 GEOID HEIGHT - -13.625 (meters) GEOID18

MP0454 DYNAMIC HEIGHT - 2091.016 (meters) 6860.28 (feet) COMP

MP0454 MODELED GRAVITY - 979,702.2 (mgal) NAVD 88

MP0454

MP0454 VERT ORDER - FIRST CLASS II

MP0454

MP0454.The horizontal coordinates were established by autonomous hand held GPS

MP0454.observations and have an estimated accuracy of +/- 10 meters.

MP0454.

MP0454.The orthometric height was determined by differential leveling and

MP0454.adjusted by the NATIONAL GEODETIC SURVEY

MP0454.in June 1991.

MP0454

MP0454.Significant digits in the geoid height do not necessarily reflect accuracy.

MP0454.GEOID18 height accuracy estimate available [here](https://www.ngs.noaa.gov/GEOID/GEOID18/computation.html).

MP0454

MP0454.Click [photographs](https://geodesy.noaa.gov/cgi-bin/get_image.prl?PROCESSING=list&PID=MP0454) - Photos may exist for this station.

MP0454

MP0454.The dynamic height is computed by dividing the NAVD 88

MP0454.geopotential number by the normal gravity value computed on the

MP0454.Geodetic Reference System of 1980 (GRS 80) ellipsoid at 45

MP0454.degrees latitude (g = 980.6199 gals.).

MP0454

MP0454.The modeled gravity was interpolated from observed gravity values.

MP0454

MP0454; North East Units Estimated Accuracy

MP0454;SPC WYEC - 244,786. 408,118. MT (+/- 10 meters HH2 GPS)

MP0454

MP0454\_U.S. NATIONAL GRID SPATIAL ADDRESS: 13TCG1427630403(NAD 83)

MP0454

MP0454 SUPERSEDED SURVEY CONTROL

MP0454

MP0454 NGVD 29 (06/08/92) 2091.642 (m) 6862.33 (f) ADJUSTED 1 2

MP0454

MP0454.Superseded values are not recommended for survey control.

MP0454

MP0454.NGS no longer adjusts projects to the NAD 27 or NGVD 29 datums.

MP0454.See file [dsdata.pdf](https://www.ngs.noaa.gov/DATASHEET/dsdata.pdf) to determine how the superseded data were derived.

MP0454

MP0454\_MARKER: DB = BENCH MARK DISK

MP0454\_SETTING: 66 = SET IN ROCK OUTCROP

MP0454\_STAMPING: Z 338 1983

MP0454\_MARK LOGO: NGS

MP0454\_STABILITY: A = MOST RELIABLE AND EXPECTED TO HOLD

MP0454+STABILITY: POSITION/ELEVATION WELL

MP0454

MP0454 HISTORY - Date Condition Report By

MP0454 HISTORY - 1983 MONUMENTED NGS

MP0454 HISTORY - 1983 GOOD NGS

MP0454 HISTORY - 1983 GOOD NGS

MP0454

MP0454 STATION DESCRIPTION

MP0454

MP0454'DESCRIBED BY NATIONAL GEODETIC SURVEY 1983

MP0454'IN RAWLINS.

MP0454'IN RAWLINS, AT 209 EAST LARSON STREET, IN THE CENTER OF THE SOUTHERN

MP0454'1/2 OF A 12 BY 18 FT. EXPOSED AREA OF OUTCROPPING BEDROCK, 35.0 METERS

MP0454'(114.8 FT) NORTHWEST OF THE CENTERLINE OF THE SOUTH BOUND LANES OF

MP0454'U.S. HIGHWAY 287, 13.0 METERS (42.7 FT) NORTH OF THE CENTER OF LARSON

MP0454'STREET AND 5.0 METERS (16.4 FT) NORTHWEST OF THE CENTER OF A DRIVEWAY.

MP0454'THE MARK IS 1.0 M ABOVE THE STREET.

MP0454

MP0454 STATION RECOVERY (1983)

MP0454

MP0454'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1983

MP0454'RECOVERED IN GOOD CONDITION.

MP0454

MP0454 STATION RECOVERY (1983)

MP0454

MP0454'RECOVERY NOTE BY NATIONAL GEODETIC SURVEY 1983

MP0454'RECOVERED IN GOOD CONDITION.

\*\*\* retrieval complete.

Elapsed Time = 00:00:06