



NOBLE ENERGY

Location: Tyler County, WV
Field: Tyler
Facility: SHR-3 Pad

Well: SHR-3C-HS
Wellbore: SHR-3C-HS PWB



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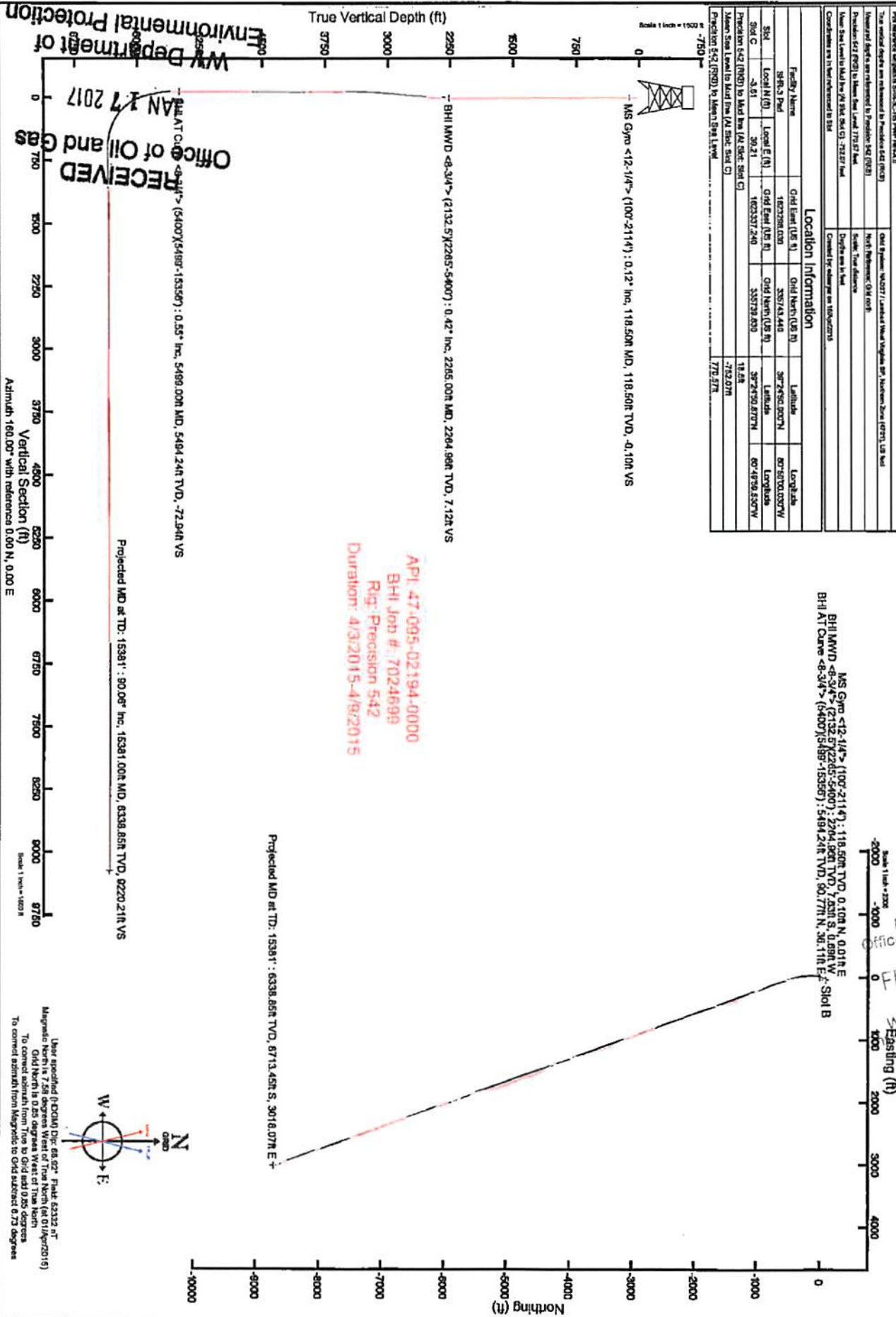
| Pre-referenced wellpath: SHR-3C-HS PWB (PWB) | | Grid System: NAD83 / Lambert West Virginia State Plane Zone 18N (NAD83) US Unit | |
|---|-------------------------|---|----------------------|
| True vertical depth was referenced to Provision S42 (R20) | North Magnetic (GM 001) | North Magnetic (GM 001) | Scale: True distance |
| Provision S42 (R20) is being used. Level: 770.07' Mod | Depth was in feet | Created by: change on 10/02/2015 | |
| User: Steve Lavelle to Mod the (A) Slot: Slot C) : 752.07' Mod | | | |
| Coordinates are in 10' increments to Slot | | | |
| Location Information | | | |
| Facility Name | Grid East (US N) | Grid North (US N) | Longitude |
| SHR-3 Pad | 1602296.00N | 335743.44E | 807.5070.007W |
| Spot | Local E (ft) | Grid East (US N) | Longitude |
| Slot C | -4.51 | 335738.93E | 807.4976.5307W |
| Provision S42 (R20) to Mod the (A) Slot: Slot C) | Vertical Depth (ft) | Grid East (US N) | Longitude |
| Maximum Level to Mod from (A) Slot: Slot C) <td>18.58</td> <td>335739.47E</td> <td>807.4976.5307W</td> | 18.58 | 335739.47E | 807.4976.5307W |
| Provision S42 (R20) to Mod from (A) Slot: Slot C) <td>770.07</td> <td>335739.47E</td> <td>807.4976.5307W</td> | 770.07 | 335739.47E | 807.4976.5307W |

MS Gym <12-1/4" > (1007-2114) : 0.12° Inc, 118.50N MD, 118.50N TVD, -0.10N VS
BHI MWD <8-3/4" > (1007-2114) : 0.12° Inc, 118.50N MD, 118.50N TVD, -0.10N VS
BHI AT Curve <8-3/4" > (1007-2114) : 0.12° Inc, 118.50N MD, 118.50N TVD, -0.10N VS

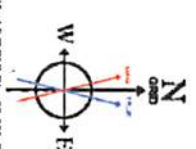
APL 47:095-02194-0000
BHI Job #: 7024699
Rig: Precision 542
Duration: 4/3/2015-4/9/2015

Projected MD at TD: 15381' : 90.08° Inc, 15381.00N MD, 6338.85E TVD, 02220.21R VS

Projected MD at TD: 15381' : 90.08° Inc, 15381.00N MD, 6338.85E TVD, 02220.21R VS



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When specified (R20) Dip: 88.02° Pluck: 6338.85 ft
Magnetic North is 0.85 degrees West of True North
To correct azimuth from True to Grid add 0.85 degrees
To correct azimuth from Magnetic to Grid subtract 0.73 degrees

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ACTUAL WELLPATH REPORT (CSV version)

Prepared by Baker Hughes
Software System: WellArchitect® 4.0.1

REFERENCE WELLPATH IDENTIFICATION

Operator NOBLE ENERGY
Area Tyler County, WV
Field Tyler
Facility SHR-3 Pad
Slot Slot C
Well SHR-3C-HS
Wellbore SHR-3C-HS AWB
Wellpath SHR-3C-HS AWP Proj: 15381'
Sidetrack (none)

REPORT SETUP INFORMATION

Projection NAD27 / Lambert West Virginia SP, Northern Zone (4701), US feet
North Refe Grid
Scale 0.999948
Convergen 0.85° West
Software S WellArchitect® 4.0.1
User Edsaryar
Report Gei 16/Apr/2015 at 08:53
DataBase:/ WellArchitectEasternDB/ev89.xml

| WELLPATH | Local North [ft] | Local East [ft] | Easting [US ft] | Northing [US ft] | Latitude | Longitude |
|--------------|------------------|-----------------|-----------------|------------------|--------------|----------------|
| Slot Locati | -3.61 | 39.21 | 1623337 | 335739.8 | 39°24'50.8 | 80°49'59.530°W |
| Facility Ref | | | 1623298 | 335743.4 | 39°24'50.9 | 80°50'00.030°W |
| Field Refer | | | 609601.2 | | 0 38°23'48.7 | 84°21'09.765°W |

WELLPATH DATUM

Calculation Minimum curvature
Horizontal Slot
Vertical Re Precision 542 (RKB)
MD Refere Precision 542 (RKB)
Field Vertir Mean Sea Level
Precision S 770.57ft
Precision S 770.57ft
Precision S 18.50ft
Section Ori N 0.00, E 0.00 ft
Section Azi 160.00°

WELLPATH DATA † = interpolated/extrapolated station

| MD [ft] | Inclination [°] | Azimuth [°] | TVD [ft] | Vert Sect [ft] | North [ft] | East [ft] | Grid East [US ft] | Grid North [US ft] | Latitude | Longitude | Closure Dis [ft] | Closure Dir [°] | DLS ["/100ft] | Build Rate ["/100ft] | Turn Rate ["/100ft] |
|---------|-----------------|-------------|----------|----------------|------------|-----------|-------------------|--------------------|------------|------------|------------------|-----------------|---------------|----------------------|---------------------|
| 0 | 0 | 0 | 4.05 | 0 | 0 | 0 | 0 | 1623337 | 335739.8 | 39°24'50.8 | 80°49'59.5 | 0 | 0 | 0 | 0 |
| 18.5 | 0 | 0 | 4.05 | 18.5 | 0 | 0 | 0 | 1623337 | 335739.8 | 39°24'50.8 | 80°49'59.5 | 0 | 0 | 0 | 0 |
| 118.5 | 0.12 | 4.05 | 118.5 | -0.1 | 0.1 | 0.01 | 1623337 | 335739.9 | 39°24'50.8 | 80°49'59.5 | 0.1 | 4.05 | 0.12 | 0.12 | 0 |
| 218.5 | 0.27 | 58.5 | 218.5 | -0.24 | 0.33 | 0.22 | 1623337 | 335740.2 | 39°24'50.8 | 80°49'59.5 | 0.4 | 33.008 | 0.22 | 0.15 | 54.45 |
| 318.5 | 0.23 | 230.22 | 318.5 | -0.22 | 0.33 | 0.26 | 1623338 | 335740.2 | 39°24'50.8 | 80°49'59.5 | 0.42 | 38.763 | 0.5 | -0.04 | 171.72 |
| 418.5 | 0.35 | 212.2 | 418.5 | 0.04 | -0.06 | -0.05 | 1623337 | 335739.8 | 39°24'50.8 | 80°49'59.5 | 0.08 | 222.259 | 0.15 | 0.12 | -18.02 |
| 518.5 | 0.43 | 191.52 | 518.5 | 0.54 | -0.69 | -0.29 | 1623337 | 335739.1 | 39°24'50.8 | 80°49'59.5 | 0.75 | 203.074 | 0.16 | 0.08 | -20.68 |
| 618.5 | 0.4 | 183.26 | 618.49 | 1.19 | -1.4 | -0.39 | 1623337 | 335738.4 | 39°24'50.8 | 80°49'59.5 | 1.45 | 195.432 | 0.07 | -0.03 | -8.26 |

| | | | | | | | | | | | | | | |
|--------|-------|--------|---------|--------|-------|-------|---------|----------|------------|------------|--------|---------|------|---------|
| 718.5 | 0.22 | 180.07 | 718.49 | 1.69 | -1.94 | -0.41 | 1623337 | 335737.9 | 39*24*50.8 | 80*49*59.5 | 1.99 | 191.838 | 0.18 | -0.18 |
| 718.5 | 0.33 | 167.63 | 818.49 | 2.15 | -2.42 | -0.35 | 1623337 | 335737.4 | 39*24*50.8 | 80*49*59.5 | 2.44 | 188.144 | 0.12 | 0.11 |
| 918.5 | 0.61 | 154.38 | 918.49 | 2.97 | -3.18 | -0.05 | 1623337 | 335736.7 | 39*24*50.8 | 80*49*59.5 | 3.18 | 180.972 | 0.3 | 0.28 |
| 1018.5 | 0.53 | 156.65 | 1018.48 | 3.96 | -4.08 | 0.36 | 1623338 | 335735.8 | 39*24*50.8 | 80*49*59.5 | 4.1 | 174.966 | 0.08 | -0.08 |
| 1118.5 | 0.46 | 176.97 | 1118.48 | 4.8 | -4.91 | 0.56 | 1623338 | 335734.9 | 39*24*50.8 | 80*49*59.5 | 4.94 | 173.443 | 0.19 | -0.07 |
| 1218.5 | 0.62 | 189.33 | 1218.47 | 5.66 | -5.84 | 0.5 | 1623338 | 335734 | 39*24*50.8 | 80*49*59.5 | 5.86 | 175.132 | 0.2 | 0.16 |
| 1318.5 | 0.42 | 187.17 | 1318.47 | 6.46 | -6.74 | 0.36 | 1623338 | 335733.1 | 39*24*50.8 | 80*49*59.5 | 6.75 | 176.907 | 0.2 | -0.2 |
| 1418.5 | 0.31 | 200.06 | 1418.47 | 6.99 | -7.36 | 0.23 | 1623337 | 335732.5 | 39*24*50.7 | 80*49*59.5 | 7.36 | 178.244 | 0.14 | -0.11 |
| 1518.5 | 0.25 | 183.57 | 1518.47 | 7.4 | -7.83 | 0.12 | 1623337 | 335732 | 39*24*50.7 | 80*49*59.5 | 7.83 | 179.128 | 0.1 | -0.06 |
| 1618.5 | 0.17 | 199.37 | 1618.47 | 7.71 | -8.19 | 0.06 | 1623337 | 335731.6 | 39*24*50.7 | 80*49*59.5 | 8.19 | 179.605 | 0.1 | -0.08 |
| 1718.5 | 0.16 | 241.98 | 1718.47 | 7.85 | -8.39 | -0.12 | 1623337 | 335731.4 | 39*24*50.7 | 80*49*59.5 | 8.39 | 180.792 | 0.12 | -0.01 |
| 1818.5 | 0.02 | 95.85 | 1818.47 | 7.87 | -8.46 | -0.22 | 1623337 | 335731.3 | 39*24*50.7 | 80*49*59.5 | 8.46 | 181.503 | 0.18 | -0.14 |
| 1918.5 | 0.14 | 181.05 | 1918.47 | 8 | -8.58 | -0.21 | 1623337 | 335731.3 | 39*24*50.7 | 80*49*59.5 | 8.59 | 181.38 | 0.14 | 0.12 |
| 2018.5 | 0.41 | 19.01 | 2018.46 | 7.83 | -8.37 | -0.09 | 1623337 | 335731.9 | 39*24*50.7 | 80*49*59.5 | 8.37 | 180.633 | 0.54 | 0.27 |
| 2118.5 | 0.14 | 7.08 | 2118.46 | 7.44 | -7.91 | 0.04 | 1623337 | 335731.9 | 39*24*50.7 | 80*49*59.5 | 7.91 | 179.717 | 0.27 | -0.27 |
| 2132.5 | 0.25 | 305.24 | 2132.46 | 7.4 | -7.87 | 0.02 | 1623337 | 335732 | 39*24*50.7 | 80*49*59.5 | 7.87 | 179.882 | 1.58 | 0.79 |
| 2265 | 0.42 | 255.5 | 2264.96 | 7.12 | -7.83 | -0.69 | 1623337 | 335732 | 39*24*50.7 | 80*49*59.5 | 7.86 | 185.037 | 0.24 | 0.13 |
| 2354 | 1.35 | 11.16 | 2353.95 | 6.19 | -6.88 | -0.8 | 1623336 | 335733 | 39*24*50.8 | 80*49*59.5 | 6.93 | 186.655 | 1.77 | 1.04 |
| 2444 | 2.98 | 19.81 | 2443.89 | 3.49 | -3.64 | 0.2 | 1623337 | 335736.2 | 39*24*50.8 | 80*49*59.5 | 3.65 | 176.93 | 1.84 | 1.81 |
| 2534 | 4.69 | 26.96 | 2533.68 | -0.82 | 1.84 | 2.66 | 1623340 | 335741.7 | 39*24*50.8 | 80*49*59.4 | 3.23 | 55.281 | 1.97 | 1.9 |
| 2623 | 5.89 | 27.04 | 2622.3 | -6.42 | 9.15 | 6.38 | 1623344 | 335749 | 39*24*50.9 | 80*49*59.4 | 11.16 | 34.892 | 1.35 | 1.35 |
| 2713 | 6.75 | 25.15 | 2711.75 | -13.29 | 18.05 | 10.73 | 1623348 | 335757.9 | 39*24*51.0 | 80*49*59.3 | 21 | 30.725 | 0.98 | -2.1 |
| 2802 | 7.54 | 19.2 | 2800.06 | -21.51 | 28.3 | 14.87 | 1623352 | 335768.1 | 39*24*51.1 | 80*49*59.3 | 31.97 | 27.722 | 1.22 | 0.89 |
| 2892 | 7.54 | 22.12 | 2889.28 | -30.46 | 39.35 | 19.04 | 1623356 | 335779.2 | 39*24*51.2 | 80*49*59.2 | 43.71 | 25.819 | 0.43 | 0 |
| 2982 | 5.71 | 23.65 | 2978.88 | -38.08 | 48.92 | 23.06 | 1623360 | 335788.8 | 39*24*51.3 | 80*49*59.2 | 54.08 | 25.236 | 2.04 | -2.03 |
| 3071 | 5.56 | 27.96 | 3067.25 | -44.17 | 56.78 | 26.86 | 1623364 | 335796.6 | 39*24*51.4 | 80*49*59.1 | 62.81 | 25.311 | 2.04 | 1.7 |
| 3161 | 4.2 | 21.94 | 3156.92 | -49.55 | 63.69 | 30.13 | 1623367 | 335803.5 | 39*24*51.5 | 80*49*59.1 | 70.46 | 25.317 | 1.61 | -1.51 |
| 3251 | 3.08 | 18.63 | 3246.74 | -53.89 | 69.04 | 32.14 | 1623369 | 335808.9 | 39*24*51.5 | 80*49*59.1 | 76.15 | 24.959 | 1.27 | -1.24 |
| 3341 | 2.29 | 13.73 | 3336.64 | -57.27 | 73.08 | 33.33 | 1623371 | 335812.9 | 39*24*51.5 | 80*49*59.1 | 80.32 | 24.52 | 0.91 | -0.88 |
| 3430 | 3.05 | 15.18 | 3425.54 | -60.69 | 77.09 | 34.38 | 1623372 | 335816.9 | 39*24*51.6 | 80*49*59.1 | 84.41 | 24.033 | 0.86 | 0.85 |
| 3520 | 2.59 | 21.73 | 3515.43 | -64.16 | 81.29 | 35.76 | 1623373 | 335824.4 | 39*24*51.6 | 80*49*59.0 | 92.25 | 23.616 | 0.84 | -0.83 |
| 3609 | 1.85 | 18.42 | 3604.37 | -66.79 | 84.52 | 36.95 | 1623374 | 335824.4 | 39*24*51.7 | 80*49*59.0 | 94.99 | 23.426 | 0.23 | -0.21 |
| 3699 | 1.66 | 15.56 | 3694.32 | -68.98 | 87.16 | 37.76 | 1623375 | 335827 | 39*24*51.7 | 80*49*59.0 | 94.99 | 23.426 | 0.23 | -0.21 |
| 3788 | 1.34 | 18.48 | 3783.29 | -70.85 | 89.39 | 38.44 | 1623376 | 335829.2 | 39*24*51.7 | 80*49*59.0 | 97.3 | 23.269 | 0.37 | -0.36 |
| 3878 | 0.83 | 20.15 | 3873.28 | -72.17 | 91 | 39 | 1623376 | 335830.8 | 39*24*51.7 | 80*49*59.0 | 99 | 23.198 | 0.57 | -0.57 |
| 3967 | 0.89 | 19.87 | 3962.27 | -73.19 | 92.25 | 39.45 | 1623377 | 335832.1 | 39*24*51.7 | 80*49*59.0 | 100.33 | 23.156 | 0.07 | 0.07 |
| 4057 | 0.54 | 37.53 | 4052.26 | -73.96 | 93.24 | 39.95 | 1623377 | 335833.1 | 39*24*51.7 | 80*49*59.0 | 101.44 | 23.192 | 0.46 | -0.39 |
| 4146 | 0.25 | 33.77 | 4141.26 | -74.3 | 93.74 | 40.31 | 1623378 | 335833.6 | 39*24*51.8 | 80*49*59.0 | 102.04 | 23.271 | 0.33 | -0.33 |
| 4236 | 0.31 | 97.21 | 4231.26 | -74.3 | 93.87 | 40.66 | 1623378 | 335833.7 | 39*24*51.8 | 80*49*59.0 | 102.3 | 23.422 | 0.33 | 0.07 |
| 4326 | 0.13 | 216.17 | 4321.26 | -74.13 | 93.76 | 40.85 | 1623378 | 335833.6 | 39*24*51.8 | 80*49*59.0 | 102.27 | 23.54 | 0.43 | -0.2 |
| 4415 | 0.25 | 215.99 | 4410.26 | -73.97 | 93.52 | 40.67 | 1623378 | 335833.3 | 39*24*51.8 | 80*49*59.0 | 101.98 | 23.504 | 0.13 | 0.13 |
| 4505 | 0.23 | 216.43 | 4500.26 | -73.76 | 93.22 | 40.45 | 1623378 | 335833.6 | 39*24*51.7 | 80*49*59.0 | 101.61 | 23.458 | 0.02 | -0.02 |
| 4594 | 0.33 | 224.98 | 4589.25 | -73.55 | 92.89 | 40.16 | 1623377 | 335832.4 | 39*24*51.7 | 80*49*59.0 | 100.71 | 23.282 | 0.12 | 0.11 |
| 4684 | 0.35 | 229.38 | 4679.25 | -73.35 | 92.53 | 39.77 | 1623377 | 335832.4 | 39*24*51.7 | 80*49*59.0 | 100.14 | 23.182 | 0.04 | 0.08 |
| 4773 | 0.42 | 205.89 | 4768.25 | -73.02 | 92.06 | 39.42 | 1623377 | 335831.9 | 39*24*51.7 | 80*49*59.0 | 99.72 | 23.146 | 0.34 | -0.32 |
| 4863 | 0.13 | 230.65 | 4858.25 | -72.76 | 91.7 | 39.2 | 1623376 | 335831.5 | 39*24*51.7 | 80*49*59.0 | 99.92 | 23.146 | 0.34 | -0.32 |
| 4953 | 0.46 | 257.67 | 4948.25 | -72.72 | 91.55 | 38.77 | 1623376 | 335831.4 | 39*24*51.7 | 80*49*59.0 | 99.42 | 22.949 | 0.39 | 0.37 |
| 5042 | 0.43 | 239.47 | 5037.25 | -72.76 | 91.31 | 38.13 | 1623375 | 335831.1 | 39*24*51.7 | 80*49*59.0 | 98.95 | 22.665 | 0.16 | -0.03 |
| 5132 | 0.55 | 244.45 | 5127.24 | -72.66 | 90.95 | 37.45 | 1623375 | 335830.8 | 39*24*51.7 | 80*49*59.0 | 98.36 | 22.38 | 0.14 | 0.13 |
| 5221 | 0.43 | 225.96 | 5216.24 | -72.48 | 90.53 | 36.82 | 1623374 | 335830.4 | 39*24*51.7 | 80*49*59.0 | 97.74 | 22.133 | 0.22 | -0.13 |
| 5311 | 0.34 | 355.58 | 5306.24 | -72.6 | 90.57 | 36.56 | 1623374 | 335830.4 | 39*24*51.7 | 80*49*59.0 | 97.67 | 21.983 | 0.78 | -0.1 |
| 5400 | 0.3 | 322.81 | 5395.24 | -73.08 | 91.01 | 36.4 | 1623374 | 335830.8 | 39*24*51.7 | 80*49*59.0 | 98.02 | 21.798 | 0.21 | -0.04 |
| 5499 | 0.55 | 196.6 | 5494.24 | -72.94 | 90.77 | 36.11 | 1623373 | 335830.6 | 39*24*51.7 | 80*49*59.0 | 97.68 | 21.693 | 0.77 | 0.25 |
| 5589 | 7.43 | 198.16 | 5583.96 | -68.01 | 84.82 | 34.17 | 1623371 | 335824.6 | 39*24*51.7 | 80*49*59.1 | 91.44 | 21.942 | 7.64 | -127.48 |
| 5678 | 10.97 | 200.66 | 5671.81 | -57.06 | 71.42 | 29.38 | 1623367 | 335811.3 | 39*24*51.5 | 80*49*59.1 | 77.23 | 22.364 | 4 | 3.98 |

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|-------|-------|--------|---------|---------|----------|---------|---------|----------|------------|------------|---------|---------|-------|-------|--------|----------|--------------|------|-------|
| 5768 | 15.05 | 202.15 | 5759.48 | -41.9 | 52.58 | 21.95 | 1623359 | 335792.4 | 39°24'51.3 | 80°49'59.2 | 56.98 | 22.664 | 4.55 | 4.53 | 1.66 | | | | |
| 5858 | 18.4 | 200.48 | 5845.66 | -22.42 | 28.44 | 12.58 | 1623350 | 335768.3 | 39°24'51.1 | 80°49'59.3 | 31.1 | 23.855 | 3.76 | 3.72 | -1.86 | | | | |
| 5947 | 22.23 | 199.06 | 5929.11 | 1.34 | -0.64 | 2.16 | 1623339 | 335739.2 | 39°24'50.8 | 80°49'59.5 | 2.25 | 106.546 | 4.34 | 4.3 | -1.6 | | | | |
| 6037 | 28.92 | 190.19 | 6010.27 | 33.42 | -38.21 | -7.26 | 1623330 | 335701.6 | 39°24'50.4 | 80°49'59.6 | 38.89 | 190.764 | 8.55 | 7.43 | -9.86 | | | | |
| 6127 | 35.83 | 180.88 | 6086.28 | 76.92 | -86.05 | -11.53 | 1623326 | 335653.8 | 39°24'50.0 | 80°49'59.6 | 86.82 | 187.629 | 9.45 | 7.68 | -10.34 | | | | |
| 6217 | 44.6 | 177.26 | 6154.95 | 131.82 | -144.07 | -10.42 | 1623327 | 335595.8 | 39°24'49.4 | 80°49'59.6 | 144.45 | 184.136 | 10.08 | 9.74 | -4.02 | | | | |
| 6306 | 54.13 | 175.66 | 6212.85 | 196.53 | -211.4 | -6.19 | 1623331 | 335528.4 | 39°24'48.7 | 80°49'59.5 | 211.49 | 181.676 | 10.79 | 10.71 | -1.8 | | | | |
| 6396 | 64.72 | 173.87 | 6258.57 | 271.37 | -288.44 | 0.94 | 1623338 | 335451.4 | 39°24'48.0 | 80°49'59.4 | 288.44 | 179.813 | 11.89 | 11.77 | -1.99 | Top perf | Bottom pe LL | | |
| 6485 | 73.87 | 171.51 | 6290 | 352.5 | -370.92 | 11.57 | 1623349 | 335368.9 | 39°24'47.2 | 80°49'59.3 | 371.1 | 178.213 | 10.57 | 10.28 | -2.65 | 6709 | 15381 | 8672 | 43.36 |
| 6575 | 74.86 | 168.87 | 6314.26 | 437.8 | -456.31 | 26.34 | 1623364 | 335283.6 | 39°24'46.3 | 80°49'59.1 | 457.07 | 176.696 | 3.03 | 1.1 | -2.93 | | | | |
| 6664 | 79.26 | 167.69 | 6334.19 | 523.61 | -541.21 | 43.96 | 1623381 | 335198.6 | 39°24'45.5 | 80°49'58.8 | 543 | 175.356 | 5.11 | 4.94 | -1.33 | | | | |
| 6754 | 88.43 | 165.24 | 6343.83 | 612.42 | -628.11 | 64.9 | 1623402 | 335111.8 | 39°24'44.6 | 80°49'58.5 | 631.45 | 174.101 | 10.54 | 10.19 | -2.72 | | | | |
| 6844 | 91.6 | 161.23 | 6343.81 | 702.25 | -714.25 | 90.85 | 1623428 | 335025.6 | 39°24'43.8 | 80°49'58.2 | 720.01 | 172.751 | 5.68 | 3.52 | -4.46 | | | | |
| 6933 | 90.52 | 157.17 | 6342.16 | 791.21 | -797.42 | 122.44 | 1623460 | 334942.5 | 39°24'43.0 | 80°49'57.8 | 806.77 | 171.27 | 4.72 | -1.21 | -4.56 | | | | |
| 7023 | 91.26 | 155.6 | 6340.76 | 881.01 | -879.87 | 158.49 | 1623496 | 334860 | 39°24'42.1 | 80°49'57.3 | 894.03 | 169.789 | 1.93 | 0.82 | -1.74 | | | | |
| 7112 | 91.23 | 154.07 | 6338.83 | 969.63 | -960.4 | 196.33 | 1623534 | 334779.5 | 39°24'41.4 | 80°49'56.8 | 980.26 | 168.447 | 1.72 | -0.03 | -1.72 | | | | |
| 7202 | 91.63 | 155.24 | 6336.58 | 1059.21 | -1041.71 | 234.84 | 1623572 | 334698.2 | 39°24'40.6 | 80°49'56.3 | 1067.85 | 167.296 | 1.37 | 0.44 | 1.3 | | | | |
| 7291 | 91.23 | 155.56 | 6334.36 | 1147.89 | -1122.61 | 271.88 | 1623609 | 334617.3 | 39°24'39.8 | 80°49'55.8 | 1155.06 | 166.386 | 0.58 | -0.45 | 0.36 | | | | |
| 7381 | 90.83 | 155.24 | 6332.74 | 1237.59 | -1204.43 | 309.34 | 1623647 | 334535.5 | 39°24'39.0 | 80°49'55.3 | 1243.52 | 165.596 | 0.57 | -0.44 | -0.36 | | | | |
| 7471 | 90.15 | 155.05 | 6331.97 | 1327.26 | -1286.09 | 347.16 | 1623684 | 334453.8 | 39°24'38.2 | 80°49'54.8 | 1332.12 | 164.894 | 0.78 | -0.76 | -0.21 | | | | |
| 7560 | 89.45 | 157.78 | 6332.28 | 1416.08 | -1367.64 | 382.77 | 1623720 | 334372.3 | 39°24'37.4 | 80°49'54.3 | 1420.2 | 164.364 | 3.17 | -0.79 | 3.07 | | | | |
| 7650 | 89.26 | 164.74 | 6333.3 | 1506 | -1452.81 | 411.66 | 1623749 | 334287.1 | 39°24'36.5 | 80°49'54.0 | 1510.01 | 164.18 | 7.74 | -0.21 | 7.73 | | | | |
| 7740 | 89.66 | 168.77 | 6334.15 | 1595.35 | -1540.4 | 432.28 | 1623770 | 334199.5 | 39°24'35.7 | 80°49'53.7 | 1599.9 | 164.324 | 4.5 | 0.44 | 4.48 | | | | |
| 7829 | 89.32 | 169.94 | 6334.94 | 1683.16 | -1627.86 | 448.72 | 1623786 | 334112.1 | 39°24'34.8 | 80°49'53.5 | 1688.57 | 164.589 | 1.37 | -0.38 | 1.31 | | | | |
| 7919 | 89.78 | 167.43 | 6335.64 | 1772.12 | -1716.1 | 466.37 | 1623804 | 334023.8 | 39°24'33.9 | 80°49'53.2 | 1778.34 | 164.796 | 2.84 | 0.51 | -2.79 | | | | |
| 8008 | 90.28 | 163.52 | 6335.6 | 1860.69 | -1802.24 | 488.69 | 1623826 | 333937.7 | 39°24'33.1 | 80°49'52.9 | 1867.32 | 164.829 | 4.43 | 0.56 | -4.39 | | | | |
| 8098 | 89.23 | 161.07 | 6335.98 | 1950.61 | -1887.97 | 516.06 | 1623853 | 333852 | 39°24'32.2 | 80°49'52.5 | 1957.23 | 164.712 | 2.96 | -1.17 | -2.72 | | | | |
| 8187 | 89.45 | 158.55 | 6337.01 | 2039.6 | -1971.49 | 546.77 | 1623884 | 333768.5 | 39°24'31.4 | 80°49'52.1 | 2045.9 | 164.499 | 2.84 | 0.25 | -2.83 | | | | |
| 8277 | 89.11 | 157.3 | 6338.14 | 2129.53 | -2054.88 | 580.59 | 1623918 | 333685.1 | 39°24'30.6 | 80°49'51.7 | 2135.33 | 164.223 | 1.44 | -0.38 | -1.39 | | | | |
| 8366 | 89.02 | 157.66 | 6339.59 | 2218.43 | -2137.08 | 614.67 | 1623952 | 333602.9 | 39°24'29.8 | 80°49'51.2 | 2223.72 | 163.954 | 0.42 | -0.1 | 0.4 | | | | |
| 8456 | 89.14 | 160.94 | 6341.04 | 2308.4 | -2221.25 | 646.48 | 1623984 | 333518.7 | 39°24'29.0 | 80°49'50.8 | 2313.42 | 163.773 | 3.65 | 0.13 | 3.64 | | | | |
| 8545 | 89.94 | 164.03 | 6341.75 | 2397.3 | -2306.11 | 673.26 | 1624010 | 333433.8 | 39°24'28.1 | 80°49'50.5 | 2402.38 | 163.725 | 3.59 | 0.9 | 3.47 | | | | |
| 8634 | 90.43 | 160.98 | 6341.46 | 2486.21 | -2390.98 | 700.01 | 1624037 | 333349 | 39°24'27.3 | 80°49'50.1 | 2491.35 | 163.681 | 3.47 | 0.55 | -3.43 | | | | |
| 8724 | 90.65 | 157.99 | 6340.62 | 2576.19 | -2475.26 | 731.55 | 1624069 | 333264.7 | 39°24'26.5 | 80°49'49.7 | 2581.1 | 163.535 | 3.33 | 0.24 | -3.32 | | | | |
| 8813 | 90.37 | 154.78 | 6339.82 | 2665 | -2556.8 | 767.19 | 1624104 | 333183.2 | 39°24'25.7 | 80°49'49.2 | 2669.42 | 163.298 | 3.62 | -0.31 | -3.61 | | | | |
| 8903 | 89.57 | 155.09 | 6339.87 | 2754.65 | -2638.32 | 805.32 | 1624143 | 333101.7 | 39°24'24.9 | 80°49'48.7 | 2758.49 | 163.026 | 0.95 | -0.89 | 0.34 | | | | |
| 8993 | 89.17 | 157.28 | 6340.86 | 2844.44 | -2720.65 | 841.66 | 1624179 | 333019.3 | 39°24'24.1 | 80°49'48.2 | 2847.86 | 162.81 | 2.47 | -0.44 | 2.43 | | | | |
| 9082 | 89.35 | 159.12 | 6342.01 | 2933.38 | -2803.27 | 874.71 | 1624212 | 332936.7 | 39°24'23.2 | 80°49'47.8 | 2936.57 | 162.67 | 2.08 | 0.2 | 2.07 | | | | |
| 9171 | 89.35 | 161.34 | 6343.02 | 3022.37 | -2887.01 | 904.81 | 1624242 | 332853 | 39°24'22.4 | 80°49'47.4 | 3025.48 | 162.599 | 2.49 | 0 | 2.49 | | | | |
| 9261 | 89.08 | 161.4 | 6344.25 | 3112.33 | -2972.29 | 933.55 | 1624271 | 332767.7 | 39°24'21.6 | 80°49'47.0 | 3115.45 | 162.563 | 0.31 | -0.3 | 0.07 | | | | |
| 9350 | 89.75 | 157.98 | 6345.16 | 3201.31 | -3055.74 | 964.44 | 1624302 | 332684.3 | 39°24'20.8 | 80°49'46.6 | 3204.32 | 162.483 | 3.92 | 0.75 | -3.84 | | | | |
| 9440 | 90.89 | 155.81 | 6344.66 | 3291.17 | -3138.51 | 999.75 | 1624337 | 332601.5 | 39°24'20.0 | 80°49'46.2 | 3293.9 | 162.331 | 2.72 | 1.27 | -2.41 | | | | |
| 9529 | 89.69 | 153.08 | 6344.21 | 3379.74 | -3218.8 | 1038.14 | 1624375 | 332521.2 | 39°24'19.2 | 80°49'45.6 | 3382.07 | 162.124 | 3.35 | -1.35 | -3.07 | | | | |
| 9619 | 88.71 | 156.03 | 6345.46 | 3469.32 | -3300.05 | 1076.8 | 1624414 | 332440 | 39°24'18.4 | 80°49'45.1 | 3471.28 | 161.929 | 3.45 | -1.09 | 3.28 | | | | |
| 9708 | 88.95 | 158.91 | 6347.28 | 3558.2 | -3382.23 | 1110.89 | 1624448 | 332357.8 | 39°24'17.6 | 80°49'44.7 | 3559.99 | 161.817 | 3.25 | 0.27 | 3.24 | | | | |
| 9798 | 89.23 | 160.47 | 6348.71 | 3648.19 | -3466.62 | 1142.13 | 1624479 | 332273.4 | 39°24'16.7 | 80°49'44.3 | 3649.92 | 161.765 | 1.76 | 0.31 | 1.73 | | | | |
| 9888 | 90.03 | 162.51 | 6349.29 | 3738.15 | -3551.96 | 1170.7 | 1624508 | 332188.1 | 39°24'15.9 | 80°49'43.9 | 3739.91 | 161.758 | 2.43 | 0.89 | 2.27 | | | | |
| 9977 | 90.31 | 163.14 | 6349.03 | 3827.04 | -3636.99 | 1196.98 | 1624534 | 332103 | 39°24'15.1 | 80°49'43.5 | 3828.9 | 161.783 | 0.77 | 0.31 | 0.71 | | | | |
| 10067 | 90.52 | 163.07 | 6348.38 | 3916.91 | -3723.1 | 1223.13 | 1624560 | 332016.9 | 39°24'14.2 | 80°49'43.2 | 3918.87 | 161.813 | 0.25 | 0.23 | -0.08 | | | | |
| 10157 | 90.65 | 164.22 | 6347.46 | 4006.72 | -3809.45 | 1248.47 | 1624586 | 331930.6 | 39°24'13.4 | 80°49'42.9 | 4008.82 | 161.854 | 1.29 | 0.14 | 1.28 | | | | |
| 10246 | 90.68 | 164.5 | 6346.43 | 4095.46 | -3895.15 | 1272.46 | 1624610 | 331844.9 | 39°24'12.5 | 80°49'42.5 | 4097.73 | 161.909 | 0.32 | 0.03 | 0.31 | | | | |
| 10335 | 90.46 | 164.7 | 6345.54 | 4184.16 | -3980.95 | 1296.1 | 1624633 | 331759.1 | 39°24'11.7 | 80°49'42.2 | 4186.63 | 161.966 | 0.33 | -0.25 | 0.22 | | | | |
| 10425 | 90.52 | 161 | 6344.77 | 4274.03 | -4066.93 | 1322.63 | 1624660 | 331673.1 | 39°24'10.8 | 80°49'41.9 | 4276.6 | 161.985 | 4.11 | 0.07 | -4.11 | | | | |
| 10515 | 90.03 | 158.14 | 6344.34 | 4364.02 | -4151.26 | 1354.04 | 1624691 | 331588.8 | 39°24'10.0 | 80°49'41.4 | 4366.51 | 161.935 | 3.22 | -0.54 | -3.18 | | | | |
| 10604 | 90.15 | 156.04 | 6344.2 | 4452.9 | -4233.24 | 1388.69 | 1624726 | 331506.8 | 39°24'09.2 | 80°49'41.0 | 4455.19 | 161.838 | 2.36 | 0.13 | -2.36 | | | | |

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|-------|-------|--------|---------|---------|----------|---------|---------|----------|------------|------------|---------|---------|------|-------|-------|
| 10694 | 90.22 | 151.2 | 6343.91 | 4542.32 | -4313.84 | 1428.66 | 1624766 | 331426.2 | 39°24'08.4 | 80°49'40.5 | 4544.26 | 161.676 | 5.38 | 0.08 | -5.38 |
| 10783 | 90.22 | 147.62 | 6343.57 | 4629.79 | -4390.44 | 1473.95 | 1624811 | 331349.6 | 39°24'07.6 | 80°49'39.9 | 4631.25 | 161.442 | 4.02 | 0 | -4.02 |
| 10873 | 89.82 | 153.89 | 6343.53 | 4718.57 | -4468.93 | 1517.9 | 1624855 | 331271.1 | 39°24'06.9 | 80°49'39.3 | 4719.68 | 161.24 | 6.98 | -0.44 | 6.97 |
| 10963 | 89.63 | 160.55 | 6343.97 | 4808.41 | -4551.86 | 1552.72 | 1624890 | 331188.2 | 39°24'06.1 | 80°49'38.8 | 4809.41 | 161.165 | 7.4 | -0.21 | 7.4 |
| 11052 | 90.49 | 162.78 | 6343.87 | 4897.37 | -4636.34 | 1580.72 | 1624918 | 331103.7 | 39°24'05.2 | 80°49'38.5 | 4898.4 | 161.174 | 2.69 | 0.97 | 2.51 |
| 11142 | 91.26 | 159.55 | 6342.5 | 4987.33 | -4721.5 | 1609.77 | 1624947 | 331018.6 | 39°24'04.4 | 80°49'38.1 | 4988.37 | 161.174 | 3.69 | 0.86 | -3.59 |
| 11232 | 91.85 | 157.67 | 6340.06 | 5077.26 | -4805.26 | 1642.58 | 1624980 | 330934.8 | 39°24'03.6 | 80°49'37.7 | 5078.25 | 161.128 | 2.19 | 0.66 | -2.09 |
| 11321 | 89.66 | 157.19 | 6338.88 | 5166.16 | -4887.43 | 1676.73 | 1625014 | 330852.7 | 39°24'02.8 | 80°49'37.2 | 5167.05 | 161.064 | 2.52 | -2.46 | -0.54 |
| 11411 | 89.72 | 158.48 | 6339.37 | 5256.09 | -4970.78 | 1710.68 | 1625048 | 330769.3 | 39°24'01.9 | 80°49'36.8 | 5256.91 | 161.009 | 1.43 | 0.07 | 1.43 |
| 11500 | 89.45 | 161.49 | 6340.02 | 5345.08 | -5054.39 | 1741.14 | 1625078 | 330685.7 | 39°24'01.1 | 80°49'36.3 | 5345.88 | 160.992 | 3.4 | -0.3 | 3.38 |
| 11590 | 89.6 | 166 | 6340.76 | 5434.86 | -5140.77 | 1766.33 | 1625103 | 330599.3 | 39°24'00.3 | 80°49'36.0 | 5435.75 | 161.038 | 5.01 | 0.17 | 5.01 |
| 11680 | 90 | 167.78 | 6341.08 | 5524.21 | -5228.42 | 1786.74 | 1625124 | 330511.7 | 39°23'59.4 | 80°49'35.7 | 5525.29 | 161.133 | 2.03 | 0.44 | 1.98 |
| 11769 | 90.22 | 168.84 | 6340.91 | 5612.27 | -5315.57 | 1804.77 | 1625142 | 330424.6 | 39°23'58.6 | 80°49'35.5 | 5613.6 | 161.246 | 1.22 | 0.25 | 1.19 |
| 11859 | 90.18 | 166.22 | 6340.59 | 5701.49 | -5403.44 | 1824.2 | 1625161 | 330336.7 | 39°23'57.7 | 80°49'35.2 | 5703.06 | 161.345 | 2.91 | -0.04 | -2.91 |
| 11948 | 91.42 | 164.7 | 6339.35 | 5790.07 | -5489.58 | 1846.54 | 1625184 | 330250.6 | 39°23'56.8 | 80°49'34.9 | 5791.82 | 161.408 | 2.2 | 1.39 | -1.71 |
| 12038 | 90 | 159.95 | 6338.23 | 5879.96 | -5575.3 | 1873.86 | 1625211 | 330164.8 | 39°23'56.0 | 80°49'34.6 | 5881.78 | 161.422 | 5.51 | -1.58 | -5.28 |
| 12127 | 89.45 | 158.72 | 6338.66 | 5968.95 | -5658.57 | 1905.27 | 1625242 | 330081.6 | 39°23'55.2 | 80°49'34.1 | 5970.71 | 161.391 | 1.51 | -0.62 | -1.38 |
| 12217 | 89.23 | 160.36 | 6339.7 | 6058.94 | -5742.88 | 1936.72 | 1625274 | 329997.3 | 39°23'54.4 | 80°49'33.7 | 6060.66 | 161.364 | 1.84 | -0.24 | 1.82 |
| 12307 | 89.23 | 160.26 | 6340.91 | 6148.93 | -5827.61 | 1967.04 | 1625304 | 329912.5 | 39°23'53.5 | 80°49'33.3 | 6150.64 | 161.348 | 0.11 | 0 | -0.11 |
| 12397 | 89.69 | 160.64 | 6341.75 | 6238.92 | -5912.42 | 1997.16 | 1625334 | 329827.7 | 39°23'52.7 | 80°49'32.9 | 6240.62 | 161.336 | 0.66 | 0.51 | 0.42 |
| 12486 | 91.02 | 158.85 | 6341.2 | 6327.92 | -5995.91 | 2027.97 | 1625365 | 329744.3 | 39°23'51.9 | 80°49'32.5 | 6329.58 | 161.313 | 2.51 | 1.49 | -2.01 |
| 12576 | 89.29 | 155.61 | 6340.96 | 6417.8 | -6078.88 | 2062.8 | 1625400 | 329661.3 | 39°23'51.0 | 80°49'32.1 | 6419.34 | 161.256 | 4.08 | -1.92 | -3.6 |
| 12665 | 89.48 | 156.57 | 6341.91 | 6506.58 | -6160.24 | 2098.86 | 1625436 | 329579.9 | 39°23'50.2 | 80°49'31.6 | 6507.98 | 161.185 | 1.1 | 0.21 | 1.08 |
| 12755 | 89.42 | 159.8 | 6342.78 | 6596.52 | -6243.78 | 2132.3 | 1625469 | 329496.4 | 39°23'49.4 | 80°49'31.1 | 6597.84 | 161.145 | 3.59 | -0.07 | 3.59 |
| 12844 | 89.42 | 161.46 | 6343.68 | 6685.51 | -6327.73 | 2161.82 | 1625499 | 329412.4 | 39°23'48.6 | 80°49'30.8 | 6686.83 | 161.138 | 1.87 | 0 | 1.87 |
| 12934 | 89.94 | 161.34 | 6344.18 | 6775.48 | -6413.03 | 2190.53 | 1625528 | 329327.2 | 39°23'47.8 | 80°49'30.4 | 6776.82 | 161.141 | 0.59 | 0.58 | -0.13 |
| 13023 | 90.46 | 161.54 | 6343.87 | 6864.45 | -6497.4 | 2218.85 | 1625556 | 329242.8 | 39°23'46.9 | 80°49'30.0 | 6865.82 | 161.145 | 0.63 | 0.58 | 0.22 |
| 13113 | 90.52 | 161.48 | 6343.1 | 6954.42 | -6582.75 | 2247.39 | 1625585 | 329157.4 | 39°23'46.1 | 80°49'29.6 | 6955.82 | 161.15 | 0.09 | 0.07 | -0.07 |
| 13202 | 90.65 | 161.61 | 6342.19 | 7043.38 | -6667.17 | 2275.57 | 1625613 | 329073 | 39°23'45.3 | 80°49'29.2 | 7044.81 | 161.155 | 0.21 | 0.15 | 0.15 |
| 13292 | 90.77 | 160.87 | 6341.08 | 7133.35 | -6752.38 | 2304.51 | 1625642 | 328987.8 | 39°23'44.4 | 80°49'28.9 | 7134.8 | 161.156 | 0.83 | 0.13 | -0.82 |
| 13382 | 90.25 | 160.04 | 6340.28 | 7223.34 | -6837.19 | 2334.62 | 1625672 | 328903 | 39°23'43.6 | 80°49'28.5 | 7224.79 | 161.147 | 1.09 | -0.58 | -0.92 |
| 13471 | 90.12 | 159.41 | 6339.99 | 7312.34 | -6920.67 | 2365.46 | 1625703 | 328819.5 | 39°23'42.8 | 80°49'28.0 | 7313.76 | 161.13 | 0.72 | -0.15 | -0.71 |
| 13561 | 90.18 | 158.49 | 6339.75 | 7402.32 | -7004.67 | 2397.78 | 1625735 | 328735.5 | 39°23'41.9 | 80°49'27.6 | 7403.7 | 161.103 | 1.02 | 0.07 | -1.02 |
| 13650 | 89.51 | 158.38 | 6339.99 | 7491.29 | -7087.44 | 2430.5 | 1625768 | 328652.8 | 39°23'41.1 | 80°49'27.2 | 7492.6 | 161.072 | 0.76 | -0.75 | -0.12 |
| 13740 | 89.54 | 158.92 | 6340.74 | 7581.26 | -7171.26 | 2463.26 | 1625800 | 328569 | 39°23'40.3 | 80°49'26.8 | 7582.52 | 161.043 | 0.6 | 0.03 | 0.6 |
| 13830 | 89.85 | 160.53 | 6341.22 | 7671.26 | -7255.68 | 2494.45 | 1625832 | 328484.6 | 39°23'39.5 | 80°49'26.3 | 7672.49 | 161.027 | 1.82 | 0.34 | 1.79 |
| 13919 | 89.94 | 161.7 | 6341.38 | 7760.24 | -7339.88 | 2523.25 | 1625860 | 328400.4 | 39°23'38.7 | 80°49'26.0 | 7761.49 | 161.028 | 1.32 | 0.1 | 1.31 |
| 14009 | 90.15 | 163.88 | 6341.31 | 7850.13 | -7425.85 | 2549.88 | 1625887 | 328314.4 | 39°23'37.8 | 80°49'25.6 | 7851.44 | 161.049 | 2.43 | 0.23 | 2.42 |
| 14098 | 90.37 | 164.25 | 6340.91 | 7938.9 | -7511.43 | 2574.31 | 1625911 | 328228.8 | 39°23'37.0 | 80°49'25.3 | 7940.32 | 161.082 | 0.48 | 0.25 | 0.42 |
| 14188 | 90.25 | 163.49 | 6340.42 | 8028.69 | -7597.88 | 2599.32 | 1625936 | 328142.4 | 39°23'36.1 | 80°49'24.9 | 8030.21 | 161.114 | 0.85 | -0.13 | -0.84 |
| 14278 | 90.37 | 161.71 | 6339.93 | 8118.6 | -7683.76 | 2626.23 | 1625963 | 328056.5 | 39°23'35.3 | 80°49'24.6 | 8120.18 | 161.13 | 1.98 | 0.13 | -1.98 |
| 14367 | 90.09 | 158.53 | 6339.58 | 8207.58 | -7767.45 | 2656.49 | 1625994 | 327972.8 | 39°23'34.4 | 80°49'24.2 | 8209.15 | 161.119 | 3.59 | -0.31 | -3.57 |
| 14457 | 90.06 | 155.86 | 6339.46 | 8297.47 | -7850.4 | 2691.37 | 1626028 | 327889.9 | 39°23'33.6 | 80°49'23.7 | 8298.93 | 161.077 | 2.97 | -0.03 | -2.97 |
| 14546 | 90.03 | 154.69 | 6339.39 | 8386.16 | -7931.24 | 2728.59 | 1626066 | 327809 | 39°23'32.8 | 80°49'23.2 | 8387.48 | 161.015 | 1.32 | -0.03 | -1.31 |
| 14636 | 90.03 | 156.45 | 6339.34 | 8475.89 | -8013.18 | 2765.82 | 1626103 | 327727.1 | 39°23'32.0 | 80°49'22.7 | 8477.07 | 160.957 | 1.96 | 0 | 1.96 |
| 14726 | 90.09 | 156.57 | 6339.25 | 8565.72 | -8095.72 | 2801.69 | 1626139 | 327644.6 | 39°23'31.2 | 80°49'22.3 | 8566.81 | 160.911 | 0.15 | 0.07 | 0.13 |
| 14815 | 89.82 | 157.78 | 6339.32 | 8654.61 | -8177.75 | 2836.21 | 1626173 | 327562.5 | 39°23'30.4 | 80°49'21.8 | 8655.62 | 160.872 | 1.39 | -0.3 | 1.36 |
| 14905 | 90 | 158.95 | 6339.46 | 8744.58 | -8261.41 | 2869.39 | 1626206 | 327478.9 | 39°23'29.6 | 80°49'21.4 | 8745.53 | 160.847 | 1.32 | 0.2 | 1.3 |
| 14994 | 89.97 | 161.49 | 6339.48 | 8833.57 | -8345.15 | 2899.51 | 1626237 | 327395.1 | 39°23'28.8 | 80°49'21.0 | 8834.52 | 160.84 | 2.85 | -0.03 | 2.85 |
| 15084 | 90.12 | 163.3 | 6339.41 | 8923.49 | -8430.93 | 2926.73 | 1626264 | 327309.4 | 39°23'27.9 | 80°49'20.6 | 8924.48 | 160.856 | 2.02 | 0.17 | 2.01 |
| 15173 | 90.03 | 163.38 | 6339.3 | 9012.33 | -8516.2 | 2952.25 | 1626289 | 327224.1 | 39°23'27.1 | 80°49'20.3 | 9013.4 | 160.88 | 0.14 | -0.1 | 0.09 |
| 15263 | 90.22 | 162.18 | 6339.1 | 9102.23 | -8602.16 | 2978.89 | 1626316 | 327138.1 | 39°23'26.2 | 80°49'19.9 | 9103.35 | 160.899 | 1.35 | 0.21 | -1.33 |
| 15356 | 90.06 | 159.58 | 6338.87 | 9195.21 | -8690.02 | 3009.35 | 1626346 | 327050.3 | 39°23'25.4 | 80°49'19.5 | 9196.34 | 160.899 | 2.8 | -0.17 | -2.8 |
| 15381 | 90.06 | 159.58 | 6338.85 | 9220.21 | -8713.45 | 3018.07 | 1626355 | 327026.9 | 39°23'25.2 | 80°49'19.4 | 9221.33 | 160.895 | 0 | 0 | 0 |

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TARGETS

| Name | MD | TVD | North | East | Grid East | Grid North | Latitude | Longitude | Shape | Comment |
|---------------------|------|------|-------|------|-----------|------------|----------|-----------|-------|---------|
| SHR-3C-HS BHL Rev-1 | (ft) | (ft) | (ft) | (ft) | (US ft) | (US ft) | | | | |
| SHR-3C-HS LP Plat | | | | | | | | | | |
| SHR-3C-HS LP Rev-1 | | | | | | | | | | |

WELLPATH COMPOSITION Ref Wellbore: SHR-3C-HS AWB Ref Wellpath: SHR-3C-HS AWP Proj: 15381'

| Log Name/ | Start MD | End MD | Pos | Unc | Model |
|------------|----------|--------|----------------|-------------------------|-------------------------|
| 01_MS Gyro | 18.5 | 2132.5 | Generic gyro | - | northseeking (Standard) |
| 02_BHI MW | 2132.5 | 5400 | NavTrak | (MagCorr) | |
| 03_BHI AT | 5400 | 6127 | NavTrak | (MagCorr) | |
| 04_BHI AT | 6127 | 15356 | NavTrak | (AT Curve Short Spaced) | |
| Projection | 15356 | 15381 | Blind Drilling | (std) | |

COMMENTS

Wellpath general comments
 API: 47-095-02194-0000
 BHI Job #: 7024699
 Rig: Precision 542
 Duration: 4/3/2015-4/9/2015
 MS Gyro <12-1/4> (100'-2114')"
 BHI MWD <8-3/4> (2132.5')(2265'-5400')"
 BHI AT Curve (MagCorr) <8-3/4> (5400')(5499'-6127')"
 BHI AT Curve (SS) <8-3/4> (6127')(6217'-15356')"
 Projected MD at TD: 15381'

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