



**Total Directional**  
Services, LLC

USA Operations

## Final MWD Survey Certification

Lea County, New Mexico

Client: Devon Energy

Well Name: Chincoteague 8-5 Fed Com 233H

Total Job No: 2019-444-126

API No: 30-025-45701

Start Date: 7/04/2019

End Date: 7/21/2019

Measured Start Depth: 80 feet

Measured End Depth: 18,352 feet

Vertical Section from well center at TD: 7,503.70 feet (PTB)

**HOBBS OCD**  
JAN 06 2020  
**RECEIVED**

I, Nathan Peoples, certify that; I am employed by Total Directional Services, LLC and we conducted or supervised the taking of these open hole MWD surveys at the request of this client. This data is true, correct, complete and within the limitations of the tool as set forth by Total Directional Services, LLC. I am authorized and qualified to make this report and have reviewed this report and find that it conforms to the principals and procedures as set forth by Total Directional Services, LLC.

Date: 21/Jul/2019

Signed: *Nathan Peoples*



# Chincoteague 8-5 Fed Com 233H

## Directional Survey Report

Start date: 07/04/2019

End date: 07/21/2019

Company Name: Devon Energy

Well Name: Chincoteague 8-5 Fed Com 233H

Field: Cotton Draw Central

Rig ID: Cactus 126

API/UWI: 30-025-45701

State/Prov: New Mexico

County: Lea County

Country: USA

Location: G-08-25S-32E 2314FNL 2150FEL

Survey Company: Total Directional Services

Job Number: 2019-444-126

Proposed Azimuth: 359.58

Declination: 6.45 KB: 3463.6

North Reference: Grid

Latitude/Longitude: 32.145761 / -103.695556

| Svy   | TYPE | Depth    | Inc  | Azm    | TVD      | NS      | EW     | VS      | CD     | CA     | DLS  | CL     |
|-------|------|----------|------|--------|----------|---------|--------|---------|--------|--------|------|--------|
| TieIn |      | 0.00     | 0.00 | 0.00   | 0.00     | 0.00    | 0.00   | 0.00    | 0.00   | 90.00  | 0.00 |        |
| 1     |      | 181.00   | 0.70 | 308.40 | 181.00   | 0.69    | -0.87  | 0.69    | 1.11   | 308.40 | 0.39 | 181.00 |
| 2     |      | 273.00   | 0.80 | 312.10 | 272.99   | 1.47    | -1.78  | 1.48    | 2.31   | 309.43 | 0.12 | 92.00  |
| 3     |      | 364.00   | 1.00 | 312.10 | 363.98   | 2.42    | -2.84  | 2.45    | 3.74   | 310.45 | 0.22 | 91.00  |
| 4     |      | 456.00   | 1.10 | 311.20 | 455.96   | 3.54    | -4.10  | 3.57    | 5.42   | 310.82 | 0.11 | 92.00  |
| 5     |      | 547.00   | 1.40 | 307.90 | 546.94   | 4.80    | -5.64  | 4.84    | 7.41   | 310.42 | 0.34 | 91.00  |
| 6     |      | 639.00   | 1.40 | 307.90 | 638.91   | 6.18    | -7.41  | 6.24    | 9.65   | 309.84 | 0.00 | 92.00  |
| 7     |      | 730.00   | 1.40 | 307.60 | 729.88   | 7.54    | -9.17  | 7.61    | 11.88  | 309.45 | 0.01 | 91.00  |
| 8     |      | 797.00   | 1.50 | 304.80 | 796.86   | 8.54    | -10.54 | 8.62    | 13.57  | 309.03 | 0.18 | 67.00  |
| 9     |      | 876.00   | 1.60 | 298.80 | 875.83   | 9.67    | -12.35 | 9.76    | 15.69  | 308.04 | 0.24 | 79.00  |
| 10    |      | 967.00   | 1.70 | 303.90 | 966.80   | 11.03   | -14.59 | 11.14   | 18.29  | 307.10 | 0.20 | 91.00  |
| 11    |      | 1,058.00 | 1.30 | 282.30 | 1,057.77 | 12.00   | -16.72 | 12.13   | 20.58  | 305.68 | 0.75 | 91.00  |
| 12    |      | 1,149.00 | 1.10 | 262.60 | 1,148.75 | 12.11   | -18.59 | 12.25   | 22.19  | 303.08 | 0.50 | 91.00  |
| 13    |      | 1,240.00 | 1.00 | 265.30 | 1,239.73 | 11.93   | -20.25 | 12.08   | 23.50  | 300.51 | 0.12 | 91.00  |
| 14    |      | 1,331.00 | 1.20 | 269.50 | 1,330.71 | 11.86   | -21.99 | 12.02   | 24.99  | 298.34 | 0.24 | 91.00  |
| 15    |      | 1,422.00 | 1.10 | 275.40 | 1,421.70 | 11.93   | -23.82 | 12.11   | 26.64  | 296.62 | 0.17 | 91.00  |
| 16    |      | 1,516.00 | 1.10 | 268.20 | 1,515.68 | 11.99   | -25.62 | 12.18   | 28.28  | 295.08 | 0.15 | 94.00  |
| 17    |      | 1,609.00 | 1.00 | 265.10 | 1,608.66 | 11.89   | -27.32 | 12.09   | 29.79  | 293.53 | 0.12 | 93.00  |
| 18    |      | 1,703.00 | 0.80 | 261.80 | 1,702.65 | 11.73   | -28.78 | 11.94   | 31.08  | 292.17 | 0.22 | 94.00  |
| 19    |      | 1,797.00 | 0.80 | 254.70 | 1,796.64 | 11.46   | -30.07 | 11.68   | 32.18  | 290.87 | 0.11 | 94.00  |
| 20    |      | 1,891.00 | 0.70 | 250.90 | 1,890.63 | 11.10   | -31.24 | 11.33   | 33.16  | 289.56 | 0.12 | 94.00  |
| 21    |      | 1,985.00 | 0.80 | 178.20 | 1,984.63 | 10.26   | -31.76 | 10.49   | 33.38  | 287.90 | 0.95 | 94.00  |
| 22    |      | 2,079.00 | 1.90 | 161.30 | 2,078.60 | 8.13    | -31.24 | 8.35    | 32.28  | 284.58 | 1.23 | 94.00  |
| 23    |      | 2,173.00 | 3.00 | 158.70 | 2,172.51 | 4.36    | -29.85 | 4.58    | 30.17  | 278.31 | 1.18 | 94.00  |
| 24    |      | 2,267.00 | 3.70 | 155.40 | 2,266.35 | -0.69   | -27.69 | -0.49   | 27.70  | 268.57 | 0.77 | 94.00  |
| 25    |      | 2,361.00 | 4.40 | 151.70 | 2,360.12 | -6.62   | -24.72 | -6.44   | 25.59  | 255.00 | 0.79 | 94.00  |
| 26    |      | 2,456.00 | 5.40 | 151.70 | 2,454.77 | -13.77  | -20.88 | -13.62  | 25.01  | 236.59 | 1.05 | 95.00  |
| 27    |      | 2,550.00 | 6.00 | 154.00 | 2,548.30 | -22.08  | -16.62 | -21.96  | 27.64  | 216.98 | 0.68 | 94.00  |
| 28    |      | 2,644.00 | 5.90 | 152.40 | 2,641.80 | -30.78  | -12.23 | -30.69  | 33.12  | 201.68 | 0.21 | 94.00  |
| 29    |      | 2,738.00 | 5.80 | 149.20 | 2,735.31 | -39.14  | -7.56  | -39.08  | 39.86  | 190.94 | 0.36 | 94.00  |
| 30    |      | 2,832.00 | 6.40 | 152.20 | 2,828.78 | -47.85  | -2.69  | -47.83  | 47.93  | 183.21 | 0.72 | 94.00  |
| 31    |      | 2,926.00 | 6.40 | 153.90 | 2,922.19 | -57.19  | 2.06   | -57.20  | 57.23  | 177.94 | 0.20 | 94.00  |
| 32    |      | 3,020.00 | 6.20 | 152.40 | 3,015.62 | -66.39  | 6.72   | -66.44  | 66.73  | 174.22 | 0.28 | 94.00  |
| 33    |      | 3,114.00 | 6.10 | 158.90 | 3,109.08 | -75.55  | 10.87  | -75.63  | 76.33  | 171.81 | 0.75 | 94.00  |
| 34    |      | 3,208.00 | 6.30 | 160.60 | 3,202.53 | -85.08  | 14.38  | -85.18  | 86.28  | 170.41 | 0.29 | 94.00  |
| 35    |      | 3,302.00 | 5.90 | 161.60 | 3,296.00 | -94.53  | 17.62  | -94.65  | 96.15  | 169.44 | 0.44 | 94.00  |
| 36    |      | 3,397.00 | 6.10 | 163.70 | 3,390.48 | -104.00 | 20.57  | -104.15 | 106.02 | 168.81 | 0.31 | 95.00  |
| 37    |      | 3,490.00 | 6.10 | 165.80 | 3,482.95 | -113.54 | 23.17  | -113.70 | 115.88 | 168.46 | 0.24 | 93.00  |
| 38    |      | 3,585.00 | 5.80 | 164.20 | 3,577.44 | -123.05 | 25.72  | -123.23 | 125.71 | 168.19 | 0.36 | 95.00  |
| 39    |      | 3,678.00 | 5.70 | 166.90 | 3,669.97 | -132.07 | 28.05  | -132.27 | 135.01 | 168.01 | 0.31 | 93.00  |
| 40    |      | 3,772.00 | 6.20 | 164.50 | 3,763.47 | -141.51 | 30.46  | -141.73 | 144.75 | 167.85 | 0.59 | 94.00  |
| 41    |      | 3,866.00 | 6.70 | 162.60 | 3,856.87 | -151.63 | 33.46  | -151.87 | 155.28 | 167.56 | 0.58 | 94.00  |
| 42    |      | 3,960.00 | 6.50 | 160.60 | 3,950.25 | -161.88 | 36.86  | -162.15 | 166.02 | 167.17 | 0.32 | 94.00  |
| 43    |      | 4,054.00 | 6.00 | 158.70 | 4,043.69 | -171.48 | 40.42  | -171.77 | 176.17 | 166.74 | 0.58 | 94.00  |
| 44    |      | 4,149.00 | 6.20 | 159.20 | 4,138.15 | -180.90 | 44.04  | -181.22 | 186.18 | 166.32 | 0.22 | 95.00  |
| 45    |      | 4,242.00 | 6.70 | 161.40 | 4,230.56 | -190.73 | 47.55  | -191.08 | 196.57 | 166.00 | 0.60 | 93.00  |
| 46    |      | 4,336.00 | 6.70 | 161.50 | 4,323.92 | -201.13 | 51.04  | -201.50 | 207.51 | 165.76 | 0.01 | 94.00  |
| 47    |      | 4,430.00 | 6.10 | 161.90 | 4,417.34 | -211.08 | 54.33  | -211.47 | 217.96 | 165.56 | 0.64 | 94.00  |
| 48    |      | 4,524.00 | 5.70 | 159.30 | 4,510.84 | -220.19 | 57.54  | -220.61 | 227.59 | 165.36 | 0.51 | 94.00  |
| 49    |      | 4,604.00 | 5.40 | 159.80 | 4,590.46 | -227.44 | 60.24  | -227.88 | 235.29 | 165.17 | 0.38 | 80.00  |

| Svy | TYPE | Depth     | Inc   | Azm    | TVD       | NS      | EW     | VS      | CD     | CA     | DLS   | CL     |
|-----|------|-----------|-------|--------|-----------|---------|--------|---------|--------|--------|-------|--------|
| 50  |      | 4,705.00  | 5.10  | 156.60 | 4,691.04  | -236.02 | 63.66  | -236.48 | 244.46 | 164.90 | 0.41  | 101.00 |
| 51  |      | 4,799.00  | 6.50  | 156.70 | 4,784.56  | -244.74 | 67.43  | -245.23 | 253.86 | 164.60 | 1.49  | 94.00  |
| 52  |      | 4,893.00  | 6.90  | 158.00 | 4,877.91  | -254.87 | 71.65  | -255.38 | 264.75 | 164.30 | 0.46  | 94.00  |
| 53  |      | 4,987.00  | 6.40  | 155.80 | 4,971.28  | -264.88 | 75.91  | -265.43 | 275.54 | 164.01 | 0.60  | 94.00  |
| 54  |      | 5,081.00  | 6.20  | 161.10 | 5,064.71  | -274.46 | 79.70  | -275.04 | 285.80 | 163.81 | 0.65  | 94.00  |
| 55  |      | 5,175.00  | 6.10  | 164.60 | 5,158.17  | -284.08 | 82.67  | -284.68 | 295.86 | 163.77 | 0.41  | 94.00  |
| 56  |      | 5,269.00  | 6.00  | 162.20 | 5,251.65  | -293.57 | 85.50  | -294.19 | 305.77 | 163.76 | 0.29  | 94.00  |
| 57  |      | 5,363.00  | 5.70  | 162.30 | 5,345.16  | -302.70 | 88.42  | -303.34 | 315.35 | 163.72 | 0.32  | 94.00  |
| 58  |      | 5,457.00  | 5.20  | 164.40 | 5,438.73  | -311.25 | 90.99  | -311.90 | 324.27 | 163.70 | 0.57  | 94.00  |
| 59  |      | 5,551.00  | 5.10  | 164.20 | 5,532.36  | -319.37 | 93.27  | -320.04 | 332.71 | 163.72 | 0.11  | 94.00  |
| 60  |      | 5,645.00  | 5.10  | 161.20 | 5,625.98  | -327.34 | 95.75  | -328.04 | 341.06 | 163.69 | 0.28  | 94.00  |
| 61  |      | 5,739.00  | 4.90  | 158.80 | 5,719.63  | -335.04 | 98.55  | -335.76 | 349.24 | 163.61 | 0.31  | 94.00  |
| 62  |      | 5,833.00  | 4.60  | 157.70 | 5,813.30  | -342.27 | 101.43 | -343.01 | 356.99 | 163.49 | 0.33  | 94.00  |
| 63  |      | 5,926.00  | 4.70  | 153.10 | 5,906.00  | -349.12 | 104.57 | -349.88 | 364.45 | 163.33 | 0.42  | 93.00  |
| 64  |      | 6,020.00  | 4.00  | 150.10 | 5,999.73  | -355.40 | 107.95 | -356.18 | 371.43 | 163.10 | 0.78  | 94.00  |
| 65  |      | 6,114.00  | 2.40  | 177.80 | 6,093.58  | -360.21 | 109.66 | -361.00 | 376.53 | 163.07 | 2.32  | 94.00  |
| 66  |      | 6,208.00  | 2.10  | 206.10 | 6,187.51  | -363.72 | 108.98 | -364.51 | 379.70 | 163.32 | 1.21  | 94.00  |
| 67  |      | 6,302.00  | 2.20  | 247.10 | 6,281.45  | -365.97 | 106.56 | -366.74 | 381.17 | 163.77 | 1.60  | 94.00  |
| 68  |      | 6,396.00  | 1.80  | 247.00 | 6,375.39  | -367.25 | 103.54 | -368.00 | 381.56 | 164.26 | 0.43  | 94.00  |
| 69  |      | 6,491.00  | 1.00  | 260.60 | 6,470.36  | -367.97 | 101.35 | -368.70 | 381.67 | 164.60 | 0.91  | 95.00  |
| 70  |      | 6,585.00  | 0.80  | 266.30 | 6,564.35  | -368.14 | 99.88  | -368.87 | 381.45 | 164.82 | 0.23  | 94.00  |
| 71  |      | 6,679.00  | 1.00  | 248.70 | 6,658.34  | -368.48 | 98.46  | -369.20 | 381.41 | 165.04 | 0.36  | 94.00  |
| 72  |      | 6,773.00  | 1.10  | 232.20 | 6,752.33  | -369.33 | 96.99  | -370.04 | 381.86 | 165.29 | 0.34  | 94.00  |
| 73  |      | 6,867.00  | 1.30  | 226.30 | 6,846.31  | -370.62 | 95.50  | -371.31 | 382.73 | 165.55 | 0.25  | 94.00  |
| 74  |      | 6,961.00  | 1.50  | 216.30 | 6,940.28  | -372.35 | 94.00  | -373.03 | 384.03 | 165.83 | 0.34  | 94.00  |
| 75  |      | 7,055.00  | 1.70  | 216.50 | 7,034.24  | -374.46 | 92.45  | -375.13 | 385.71 | 166.13 | 0.21  | 94.00  |
| 76  |      | 7,149.00  | 2.40  | 202.80 | 7,128.18  | -377.40 | 90.85  | -378.06 | 388.18 | 166.46 | 0.90  | 94.00  |
| 77  |      | 7,243.00  | 1.60  | 203.70 | 7,222.12  | -380.42 | 89.56  | -381.06 | 390.82 | 166.75 | 0.85  | 94.00  |
| 78  |      | 7,337.00  | 0.50  | 255.90 | 7,316.11  | -381.72 | 88.64  | -382.36 | 391.87 | 166.93 | 1.44  | 94.00  |
| 79  |      | 7,432.00  | 0.50  | 239.40 | 7,411.10  | -382.03 | 87.88  | -382.66 | 392.01 | 167.05 | 0.15  | 95.00  |
| 80  |      | 7,526.00  | 1.00  | 227.50 | 7,505.09  | -382.79 | 86.92  | -383.42 | 392.54 | 167.21 | 0.55  | 94.00  |
| 81  |      | 7,620.00  | 1.40  | 216.90 | 7,599.07  | -384.26 | 85.63  | -384.88 | 393.69 | 167.44 | 0.48  | 94.00  |
| 82  |      | 7,713.00  | 1.40  | 206.70 | 7,692.05  | -386.19 | 84.43  | -386.80 | 395.31 | 167.67 | 0.27  | 93.00  |
| 83  |      | 7,808.00  | 0.70  | 188.40 | 7,787.03  | -387.80 | 83.83  | -388.40 | 396.76 | 167.80 | 0.81  | 95.00  |
| 84  |      | 7,902.00  | 0.50  | 164.60 | 7,881.02  | -388.76 | 83.85  | -389.37 | 397.70 | 167.83 | 0.34  | 94.00  |
| 85  |      | 7,996.00  | 0.90  | 163.90 | 7,975.02  | -389.87 | 84.17  | -390.47 | 398.85 | 167.82 | 0.43  | 94.00  |
| 86  |      | 8,091.00  | 1.50  | 174.70 | 8,070.00  | -391.82 | 84.49  | -392.43 | 400.83 | 167.83 | 0.67  | 95.00  |
| 87  |      | 8,185.00  | 0.80  | 194.90 | 8,163.98  | -393.68 | 84.43  | -394.29 | 402.63 | 167.90 | 0.85  | 94.00  |
| 88  |      | 8,278.00  | 0.50  | 245.30 | 8,256.97  | -394.48 | 83.90  | -395.08 | 403.30 | 167.99 | 0.66  | 93.00  |
| 89  |      | 8,373.00  | 0.70  | 226.30 | 8,351.97  | -395.05 | 83.10  | -395.65 | 403.70 | 168.12 | 0.29  | 95.00  |
| 90  |      | 8,467.00  | 0.90  | 208.70 | 8,445.96  | -396.10 | 82.33  | -396.69 | 404.56 | 168.26 | 0.33  | 94.00  |
| 91  |      | 8,562.00  | 1.30  | 214.80 | 8,540.94  | -397.64 | 81.36  | -398.22 | 405.87 | 168.44 | 0.44  | 95.00  |
| 92  |      | 8,656.00  | 0.60  | 254.70 | 8,634.93  | -398.64 | 80.28  | -399.22 | 406.64 | 168.61 | 0.98  | 94.00  |
| 93  |      | 8,750.00  | 0.30  | 43.30  | 8,728.93  | -398.59 | 79.97  | -399.17 | 406.54 | 168.66 | 0.93  | 94.00  |
| 94  |      | 8,844.00  | 0.30  | 162.20 | 8,822.93  | -398.65 | 80.21  | -399.23 | 406.64 | 168.62 | 0.55  | 94.00  |
| 95  |      | 8,938.00  | 1.00  | 197.40 | 8,916.92  | -399.66 | 80.04  | -400.24 | 407.60 | 168.67 | 0.82  | 94.00  |
| 96  |      | 9,032.00  | 0.30  | 320.30 | 9,010.91  | -400.26 | 79.64  | -400.83 | 408.10 | 168.75 | 1.27  | 94.00  |
| 97  |      | 9,126.00  | 0.30  | 165.60 | 9,104.91  | -400.31 | 79.54  | -400.88 | 408.13 | 168.76 | 0.62  | 94.00  |
| 98  |      | 9,221.00  | 0.80  | 193.50 | 9,199.91  | -401.19 | 79.45  | -401.76 | 408.98 | 168.80 | 0.58  | 95.00  |
| 99  |      | 9,316.00  | 0.20  | 140.80 | 9,294.91  | -401.97 | 79.40  | -402.54 | 409.73 | 168.83 | 0.73  | 95.00  |
| 100 |      | 9,411.00  | 0.70  | 200.70 | 9,389.90  | -402.64 | 79.30  | -403.21 | 410.37 | 168.86 | 0.66  | 95.00  |
| 101 |      | 9,506.00  | 0.80  | 188.60 | 9,484.89  | -403.84 | 79.00  | -404.40 | 411.49 | 168.93 | 0.20  | 95.00  |
| 102 |      | 9,601.00  | 1.10  | 209.20 | 9,579.88  | -405.29 | 78.45  | -405.85 | 412.81 | 169.04 | 0.47  | 95.00  |
| 103 |      | 9,695.00  | 0.30  | 34.80  | 9,673.88  | -405.87 | 78.15  | -406.44 | 413.33 | 169.10 | 1.49  | 94.00  |
| 104 |      | 9,790.00  | 0.60  | 327.90 | 9,768.87  | -405.25 | 78.03  | -405.81 | 412.69 | 169.10 | 0.58  | 95.00  |
| 105 |      | 9,884.00  | 2.80  | 258.30 | 9,862.83  | -405.30 | 75.52  | -405.84 | 412.27 | 169.44 | 2.82  | 94.00  |
| 106 |      | 9,978.00  | 3.60  | 261.50 | 9,956.69  | -406.20 | 70.35  | -406.70 | 412.25 | 170.17 | 0.87  | 94.00  |
| 107 |      | 10,044.00 | 1.70  | 232.00 | 10,022.61 | -407.11 | 67.53  | -407.59 | 412.67 | 170.58 | 3.45  | 66.00  |
| 108 |      | 10,073.00 | 1.70  | 216.30 | 10,051.60 | -407.72 | 66.94  | -408.20 | 413.18 | 170.68 | 1.60  | 29.00  |
| 109 |      | 10,168.00 | 5.20  | 354.10 | 10,146.49 | -404.57 | 65.66  | -405.04 | 409.86 | 170.78 | 6.90  | 95.00  |
| 110 |      | 10,262.00 | 16.00 | 3.80   | 10,238.75 | -387.35 | 66.08  | -387.83 | 392.95 | 170.32 | 11.60 | 94.00  |
| 111 |      | 10,356.00 | 21.90 | 358.50 | 10,327.63 | -356.87 | 66.48  | -357.35 | 363.01 | 169.45 | 6.53  | 94.00  |
| 112 |      | 10,450.00 | 27.20 | 355.50 | 10,413.10 | -317.90 | 64.34  | -318.37 | 324.35 | 168.56 | 5.79  | 94.00  |
| 113 |      | 10,498.00 | 32.00 | 357.10 | 10,454.83 | -294.25 | 62.83  | -294.70 | 300.88 | 167.95 | 10.13 | 48.00  |
| 114 |      | 10,544.00 | 39.10 | 357.80 | 10,492.23 | -267.55 | 61.66  | -267.99 | 274.56 | 167.02 | 15.46 | 46.00  |

| Svy | TYPE | Depth     | Inc   | Azm    | TVD       | NS       | EW    | VS       | CD       | CA     | DLS   | CL    |
|-----|------|-----------|-------|--------|-----------|----------|-------|----------|----------|--------|-------|-------|
| 115 |      | 10,591.00 | 49.00 | 358.70 | 10,525.97 | -234.93  | 60.68 | -235.36  | 242.64   | 165.52 | 21.11 | 47.00 |
| 116 |      | 10,638.00 | 57.00 | 359.20 | 10,554.23 | -197.43  | 60.00 | -197.86  | 206.34   | 163.09 | 17.04 | 47.00 |
| 117 |      | 10,732.00 | 76.50 | 1.50   | 10,591.16 | -111.49  | 60.66 | -111.93  | 126.92   | 151.45 | 20.86 | 94.00 |
| 118 |      | 10,760.00 | 82.90 | 2.30   | 10,596.16 | -83.97   | 61.57 | -84.42   | 104.12   | 143.75 | 23.03 | 28.00 |
| 119 |      | 10,854.00 | 88.60 | 2.90   | 10,603.13 | 9.64     | 65.82 | 9.16     | 66.53    | 81.67  | 6.10  | 94.00 |
| 120 |      | 10,948.00 | 91.40 | 2.80   | 10,603.13 | 103.51   | 70.50 | 102.99   | 125.24   | 34.26  | 2.98  | 94.00 |
| 121 |      | 11,042.00 | 92.30 | 3.00   | 10,600.09 | 197.34   | 75.25 | 196.79   | 211.20   | 20.87  | 0.98  | 94.00 |
| 122 |      | 11,136.00 | 92.00 | 1.10   | 10,596.57 | 291.21   | 78.61 | 290.63   | 301.64   | 15.11  | 2.04  | 94.00 |
| 123 |      | 11,230.00 | 92.70 | 0.60   | 10,592.71 | 385.12   | 80.00 | 384.52   | 393.34   | 11.74  | 0.91  | 94.00 |
| 124 |      | 11,324.00 | 91.60 | 0.70   | 10,589.19 | 479.05   | 81.07 | 478.44   | 485.86   | 9.61   | 1.18  | 94.00 |
| 125 |      | 11,416.00 | 92.60 | 0.40   | 10,585.81 | 570.98   | 81.95 | 570.36   | 576.83   | 8.17   | 1.13  | 92.00 |
| 126 |      | 11,510.00 | 90.50 | 359.60 | 10,583.27 | 664.94   | 81.95 | 664.32   | 669.97   | 7.03   | 2.39  | 94.00 |
| 127 |      | 11,604.00 | 91.70 | 359.60 | 10,581.47 | 758.92   | 81.30 | 758.30   | 763.26   | 6.11   | 1.28  | 94.00 |
| 128 |      | 11,698.00 | 89.60 | 358.60 | 10,580.40 | 852.89   | 79.82 | 852.29   | 856.62   | 5.35   | 2.47  | 94.00 |
| 129 |      | 11,792.00 | 90.70 | 357.50 | 10,580.16 | 946.84   | 76.62 | 946.25   | 949.93   | 4.63   | 1.65  | 94.00 |
| 130 |      | 11,886.00 | 90.60 | 359.30 | 10,579.09 | 1,040.79 | 74.00 | 1,040.22 | 1,043.42 | 4.07   | 1.92  | 94.00 |
| 131 |      | 11,980.00 | 90.00 | 359.70 | 10,578.60 | 1,134.79 | 73.18 | 1,134.22 | 1,137.14 | 3.69   | 0.77  | 94.00 |
| 132 |      | 12,074.00 | 91.50 | 359.40 | 10,577.37 | 1,228.77 | 72.44 | 1,228.21 | 1,230.90 | 3.37   | 1.63  | 94.00 |
| 133 |      | 12,168.00 | 88.60 | 359.90 | 10,577.28 | 1,322.76 | 71.86 | 1,322.20 | 1,324.71 | 3.11   | 3.13  | 94.00 |
| 134 |      | 12,262.00 | 89.40 | 0.60   | 10,578.92 | 1,416.74 | 72.27 | 1,416.17 | 1,418.58 | 2.92   | 1.13  | 94.00 |
| 135 |      | 12,356.00 | 87.60 | 0.30   | 10,581.39 | 1,510.70 | 73.01 | 1,510.13 | 1,512.47 | 2.77   | 1.94  | 94.00 |
| 136 |      | 12,450.00 | 88.50 | 0.60   | 10,584.58 | 1,604.65 | 73.75 | 1,604.06 | 1,606.34 | 2.63   | 1.01  | 94.00 |
| 137 |      | 12,544.00 | 90.10 | 0.60   | 10,585.73 | 1,698.63 | 74.73 | 1,698.04 | 1,700.27 | 2.52   | 1.70  | 94.00 |
| 138 |      | 12,638.00 | 88.90 | 0.70   | 10,586.55 | 1,792.62 | 75.80 | 1,792.01 | 1,794.22 | 2.42   | 1.28  | 94.00 |
| 139 |      | 12,732.00 | 89.80 | 0.50   | 10,587.62 | 1,886.61 | 76.78 | 1,885.99 | 1,888.17 | 2.33   | 0.98  | 94.00 |
| 140 |      | 12,826.00 | 90.50 | 359.30 | 10,587.37 | 1,980.60 | 76.62 | 1,979.99 | 1,982.09 | 2.22   | 1.48  | 94.00 |
| 141 |      | 12,920.00 | 88.70 | 357.00 | 10,588.03 | 2,074.54 | 73.59 | 2,073.95 | 2,075.85 | 2.03   | 3.11  | 94.00 |
| 142 |      | 13,014.00 | 89.90 | 358.10 | 10,589.18 | 2,168.45 | 69.57 | 2,167.88 | 2,169.56 | 1.84   | 1.73  | 94.00 |
| 143 |      | 13,109.00 | 90.90 | 357.80 | 10,588.51 | 2,263.38 | 66.17 | 2,262.84 | 2,264.35 | 1.67   | 1.10  | 95.00 |
| 144 |      | 13,203.00 | 90.30 | 359.90 | 10,587.53 | 2,357.35 | 64.28 | 2,356.82 | 2,358.23 | 1.56   | 2.32  | 94.00 |
| 145 |      | 13,298.00 | 88.60 | 360.00 | 10,588.44 | 2,452.34 | 64.20 | 2,451.81 | 2,453.18 | 1.50   | 1.79  | 95.00 |
| 146 |      | 13,392.00 | 90.20 | 359.50 | 10,589.43 | 2,546.33 | 63.79 | 2,545.80 | 2,547.13 | 1.44   | 1.78  | 94.00 |
| 147 |      | 13,487.00 | 87.90 | 359.60 | 10,591.00 | 2,641.31 | 63.05 | 2,640.78 | 2,642.06 | 1.37   | 2.42  | 95.00 |
| 148 |      | 13,581.00 | 88.40 | 359.30 | 10,594.04 | 2,735.26 | 62.14 | 2,734.73 | 2,735.96 | 1.30   | 0.62  | 94.00 |
| 149 |      | 13,675.00 | 88.70 | 359.40 | 10,596.41 | 2,829.22 | 61.08 | 2,828.70 | 2,829.88 | 1.24   | 0.34  | 94.00 |
| 150 |      | 13,769.00 | 88.90 | 358.70 | 10,598.38 | 2,923.19 | 59.52 | 2,922.67 | 2,923.79 | 1.17   | 0.77  | 94.00 |
| 151 |      | 13,863.00 | 88.80 | 358.10 | 10,600.27 | 3,017.13 | 56.90 | 3,016.63 | 3,017.67 | 1.08   | 0.65  | 94.00 |
| 152 |      | 13,958.00 | 89.60 | 359.50 | 10,601.60 | 3,112.10 | 54.91 | 3,111.61 | 3,112.58 | 1.01   | 1.70  | 95.00 |
| 153 |      | 14,052.00 | 89.40 | 358.60 | 10,602.42 | 3,206.08 | 53.35 | 3,205.60 | 3,206.53 | 0.95   | 0.98  | 94.00 |
| 154 |      | 14,146.00 | 89.20 | 358.30 | 10,603.56 | 3,300.04 | 50.81 | 3,299.58 | 3,300.43 | 0.88   | 0.38  | 94.00 |
| 155 |      | 14,240.00 | 91.30 | 0.40   | 10,603.15 | 3,394.02 | 49.74 | 3,393.57 | 3,394.39 | 0.84   | 3.16  | 94.00 |
| 156 |      | 14,334.00 | 92.00 | 360.00 | 10,600.45 | 3,487.98 | 50.07 | 3,487.52 | 3,488.34 | 0.82   | 0.86  | 94.00 |
| 157 |      | 14,427.00 | 90.60 | 0.60   | 10,598.34 | 3,580.95 | 50.55 | 3,580.49 | 3,581.31 | 0.81   | 1.64  | 93.00 |
| 158 |      | 14,521.00 | 91.60 | 0.60   | 10,596.53 | 3,674.93 | 51.54 | 3,674.45 | 3,675.29 | 0.80   | 1.06  | 94.00 |
| 159 |      | 14,615.00 | 90.40 | 0.90   | 10,594.89 | 3,768.91 | 52.77 | 3,768.42 | 3,769.28 | 0.80   | 1.32  | 94.00 |
| 160 |      | 14,709.00 | 88.60 | 0.80   | 10,595.71 | 3,862.89 | 54.16 | 3,862.39 | 3,863.27 | 0.80   | 1.92  | 94.00 |
| 161 |      | 14,804.00 | 89.50 | 0.60   | 10,597.29 | 3,957.87 | 55.32 | 3,957.36 | 3,958.25 | 0.80   | 0.97  | 95.00 |
| 162 |      | 14,898.00 | 90.00 | 0.90   | 10,597.70 | 4,051.86 | 56.55 | 4,051.33 | 4,052.25 | 0.80   | 0.62  | 94.00 |
| 163 |      | 14,992.00 | 88.80 | 0.70   | 10,598.68 | 4,145.84 | 57.87 | 4,145.31 | 4,146.25 | 0.80   | 1.29  | 94.00 |
| 164 |      | 15,086.00 | 88.80 | 0.30   | 10,600.65 | 4,239.82 | 58.69 | 4,239.27 | 4,240.22 | 0.79   | 0.43  | 94.00 |
| 165 |      | 15,180.00 | 88.90 | 359.70 | 10,602.54 | 4,333.80 | 58.69 | 4,333.25 | 4,334.20 | 0.78   | 0.65  | 94.00 |
| 166 |      | 15,275.00 | 89.60 | 359.60 | 10,603.78 | 4,428.79 | 58.11 | 4,428.24 | 4,429.17 | 0.75   | 0.74  | 95.00 |
| 167 |      | 15,369.00 | 90.80 | 0.60   | 10,603.45 | 4,522.78 | 58.27 | 4,522.24 | 4,523.16 | 0.74   | 1.66  | 94.00 |
| 168 |      | 15,462.00 | 89.40 | 0.10   | 10,603.29 | 4,615.78 | 58.84 | 4,615.22 | 4,616.15 | 0.73   | 1.60  | 93.00 |
| 169 |      | 15,556.00 | 90.50 | 0.70   | 10,603.37 | 4,709.78 | 59.49 | 4,709.21 | 4,710.15 | 0.72   | 1.33  | 94.00 |
| 170 |      | 15,650.00 | 90.10 | 0.60   | 10,602.88 | 4,803.77 | 60.56 | 4,803.19 | 4,804.15 | 0.72   | 0.44  | 94.00 |
| 171 |      | 15,745.00 | 87.90 | 359.20 | 10,604.54 | 4,898.74 | 60.39 | 4,898.17 | 4,899.12 | 0.71   | 2.74  | 95.00 |
| 172 |      | 15,839.00 | 88.80 | 359.20 | 10,607.25 | 4,992.70 | 59.08 | 4,992.13 | 4,993.05 | 0.68   | 0.96  | 94.00 |
| 173 |      | 15,933.00 | 89.40 | 359.20 | 10,608.72 | 5,086.67 | 57.77 | 5,086.11 | 5,087.00 | 0.65   | 0.64  | 94.00 |
| 174 |      | 16,027.00 | 89.30 | 358.50 | 10,609.79 | 5,180.65 | 55.88 | 5,180.10 | 5,180.95 | 0.62   | 0.75  | 94.00 |
| 175 |      | 16,121.00 | 88.90 | 357.70 | 10,611.26 | 5,274.58 | 52.77 | 5,274.06 | 5,274.85 | 0.57   | 0.95  | 94.00 |
| 176 |      | 16,215.00 | 88.80 | 357.60 | 10,613.15 | 5,368.49 | 48.91 | 5,367.98 | 5,368.71 | 0.52   | 0.15  | 94.00 |
| 177 |      | 16,309.00 | 89.20 | 357.60 | 10,614.79 | 5,462.39 | 44.98 | 5,461.91 | 5,462.57 | 0.47   | 0.43  | 94.00 |
| 178 |      | 16,403.00 | 91.60 | 357.90 | 10,614.14 | 5,556.31 | 41.29 | 5,555.86 | 5,556.46 | 0.43   | 2.57  | 94.00 |
| 179 |      | 16,497.00 | 89.80 | 359.00 | 10,612.99 | 5,650.26 | 38.75 | 5,649.83 | 5,650.39 | 0.39   | 2.24  | 94.00 |

| Svy | TYPE | Depth     | Inc   | Azm  | TVD       | NS       | EW    | VS       | CD       | CA   | DLS  | CL    |
|-----|------|-----------|-------|------|-----------|----------|-------|----------|----------|------|------|-------|
| 180 |      | 16,591.00 | 89.10 | 0.60 | 10,613.89 | 5,744.25 | 38.42 | 5,743.82 | 5,744.38 | 0.38 | 1.86 | 94.00 |
| 181 |      | 16,685.00 | 90.10 | 0.80 | 10,614.55 | 5,838.24 | 39.57 | 5,837.80 | 5,838.38 | 0.39 | 1.08 | 94.00 |
| 182 |      | 16,779.00 | 88.90 | 0.80 | 10,615.37 | 5,932.23 | 40.88 | 5,931.77 | 5,932.37 | 0.39 | 1.28 | 94.00 |
| 183 |      | 16,874.00 | 89.20 | 0.80 | 10,616.94 | 6,027.21 | 42.21 | 6,026.73 | 6,027.35 | 0.40 | 0.32 | 95.00 |
| 184 |      | 16,968.00 | 89.60 | 0.80 | 10,617.93 | 6,121.19 | 43.52 | 6,120.71 | 6,121.35 | 0.41 | 0.43 | 94.00 |
| 185 |      | 17,062.00 | 90.20 | 0.60 | 10,618.09 | 6,215.18 | 44.67 | 6,214.69 | 6,215.34 | 0.41 | 0.67 | 94.00 |
| 186 |      | 17,157.00 | 88.80 | 0.70 | 10,618.92 | 6,310.17 | 45.74 | 6,309.67 | 6,310.34 | 0.42 | 1.48 | 95.00 |
| 187 |      | 17,250.00 | 90.60 | 0.90 | 10,619.41 | 6,403.16 | 47.04 | 6,402.64 | 6,403.33 | 0.42 | 1.95 | 93.00 |
| 188 |      | 17,344.00 | 89.40 | 0.70 | 10,619.41 | 6,497.15 | 48.35 | 6,496.62 | 6,497.33 | 0.43 | 1.29 | 94.00 |
| 189 |      | 17,438.00 | 89.80 | 0.30 | 10,620.06 | 6,591.14 | 49.17 | 6,590.60 | 6,591.32 | 0.43 | 0.60 | 94.00 |
| 190 |      | 17,533.00 | 88.60 | 0.40 | 10,621.39 | 6,686.13 | 49.76 | 6,685.58 | 6,686.31 | 0.43 | 1.27 | 95.00 |
| 191 |      | 17,627.00 | 88.20 | 0.00 | 10,624.01 | 6,780.09 | 50.08 | 6,779.54 | 6,780.27 | 0.42 | 0.60 | 94.00 |
| 192 |      | 17,721.00 | 89.10 | 1.40 | 10,626.23 | 6,874.05 | 51.23 | 6,873.49 | 6,874.24 | 0.43 | 1.77 | 94.00 |
| 193 |      | 17,815.00 | 89.50 | 1.30 | 10,627.38 | 6,968.02 | 53.45 | 6,967.44 | 6,968.22 | 0.44 | 0.44 | 94.00 |
| 194 |      | 17,909.00 | 90.40 | 1.10 | 10,627.46 | 7,062.00 | 55.41 | 7,061.40 | 7,062.22 | 0.45 | 0.98 | 94.00 |
| 195 |      | 18,003.00 | 91.10 | 1.30 | 10,626.23 | 7,155.97 | 57.38 | 7,155.36 | 7,156.20 | 0.46 | 0.77 | 94.00 |
| 196 |      | 18,097.00 | 91.90 | 1.40 | 10,623.77 | 7,249.91 | 59.60 | 7,249.28 | 7,250.15 | 0.47 | 0.86 | 94.00 |
| 197 |      | 18,192.00 | 93.00 | 1.30 | 10,619.71 | 7,344.79 | 61.83 | 7,344.14 | 7,345.06 | 0.48 | 1.16 | 95.00 |
| 198 |      | 18,286.00 | 94.10 | 1.40 | 10,613.89 | 7,438.59 | 64.04 | 7,437.92 | 7,438.86 | 0.49 | 1.18 | 94.00 |
| 199 |      | 18,296.00 | 94.30 | 1.40 | 10,613.15 | 7,448.56 | 64.29 | 7,447.89 | 7,448.83 | 0.49 | 2.00 | 10.00 |
| PTB | PTB  | 18,352.00 | 94.30 | 1.40 | 10,608.95 | 7,504.38 | 65.65 | 7,503.70 | 7,504.67 | 0.50 | 0.00 | 56.00 |