



Devon Energy  
Thistle Unit 132H  
Lea Co, NM



KB: 3667.30  
GL: 3643.80

#### Plan Data for Thistle Unit 132H

| Plan Point Information:                                            |       |        |         |         |         |           |           |         |                      |
|--------------------------------------------------------------------|-------|--------|---------|---------|---------|-----------|-----------|---------|----------------------|
| Dogleg Severity Unit: %/100.00ft Position offsets from Slot centre |       |        |         |         |         |           |           |         |                      |
| MD                                                                 | Inc   | Az     | TVD     | +N/-S   | +E/-W   | Northing  | Easting   | VSec    | DLS Comments         |
| (USft)                                                             | (°)   | (°)    | (USft)  | (USft)  | (USft)  | (USft)    | (USft)    | (USft)  | (DLSU)               |
| 9156.00                                                            | 2.85  | 237.76 | 9120.14 | -70.42  | -653.74 | 457140.74 | 780301.31 | -69.28  | 0.32 Tie-on Svy      |
| 9221.00                                                            | 2.85  | 237.76 | 9185.06 | -72.15  | -656.47 | 457139.01 | 780298.58 | -71.00  | 0.00 Proj to Bit/KOP |
| 9991.23                                                            | 89.54 | 359.50 | 9682.03 | 408.35  | -681.51 | 457619.51 | 780273.54 | 409.54  | 11.82 LP             |
| 13740.80                                                           | 89.54 | 359.50 | 9712.00 | 4157.66 | -714.00 | 461368.82 | 780241.05 | 4158.90 | 0.00 Build/Turn      |
| 13850.47                                                           | 90.00 | 0.50   | 9712.44 | 4267.33 | -714.00 | 461478.49 | 780241.05 | 4268.57 | 1.00 Hold            |
| 16150.47                                                           | 90.00 | 0.50   | 9712.44 | 6567.24 | -693.93 | 463778.40 | 780261.12 | 6568.44 | 0.00 Build           |
| 16228.48                                                           | 90.78 | 0.50   | 9711.91 | 6645.24 | -693.25 | 463856.40 | 780261.80 | 6646.44 | 1.00 Hold            |
| 17249.97                                                           | 90.78 | 0.50   | 9698.00 | 7666.60 | -684.40 | 464877.76 | 780270.65 | 7667.78 | 0.00 PBHL 132H       |

#### Plan Data for Thistle Unit 132H

Field: Lea Co, NM Nad 83 NMEZ  
Map Unit: USFt Vertical Reference Datum (VRD): Mean Sea Level  
Projected Coordinate System: NAD83 / New Mexico East (ftUS)

Site: Thistle Unit 132H  
Unit: USFt TVD Reference:  
Company Name: Devon Energy  
Position: Northing: 457211.16USFt Latitude: 32.254571°  
Easting: 780955.05USFt Longitude: -103.558205°  
North Reference: Grid Grid Convergence: 0.41°  
Elevation Above VRD: 3643.80USFt

Slot: Thistle Unit 132H  
Position:  
Offset is from Site centre  
+N/-S: 0.00USFt Northing: 457211.16USFt Latitude: 32.254571°  
+E/-W: 0.00USFt Easting: 780955.05USFt Longitude: -103.558205°  
Elevation Above VRD: 3643.80USFt

Well: Thistle Unit 132H  
Type: Main-Well  
File Number:  
Plan Folder: P3 Plan: P3:V1  
Vertical Section: Position offset of origin from Slot centre:  
+N/-S: -0.00USFt Azimuth: 359.90°  
+E/-W: 0.00USFt  
Magnetic Parameters:  
Model: Field Strength: Declination: Dip: Date:  
bggm2016 48103(nT) 7.05° 60.11° 2016-12-31

#### Plan Data for Thistle Unit 132H

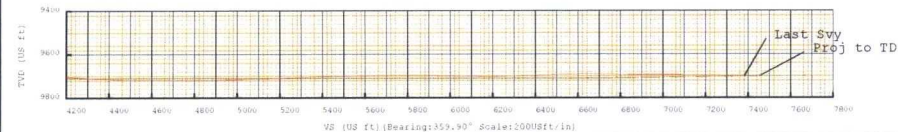
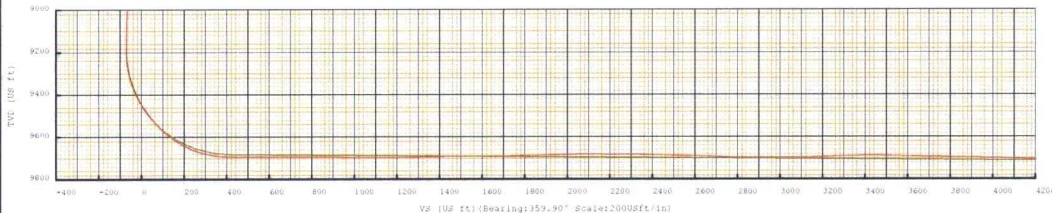
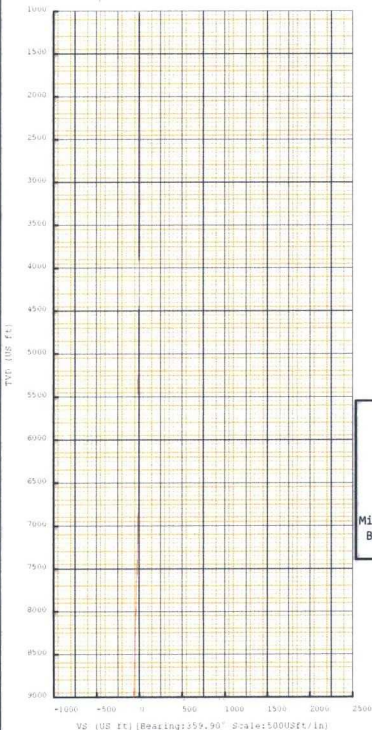
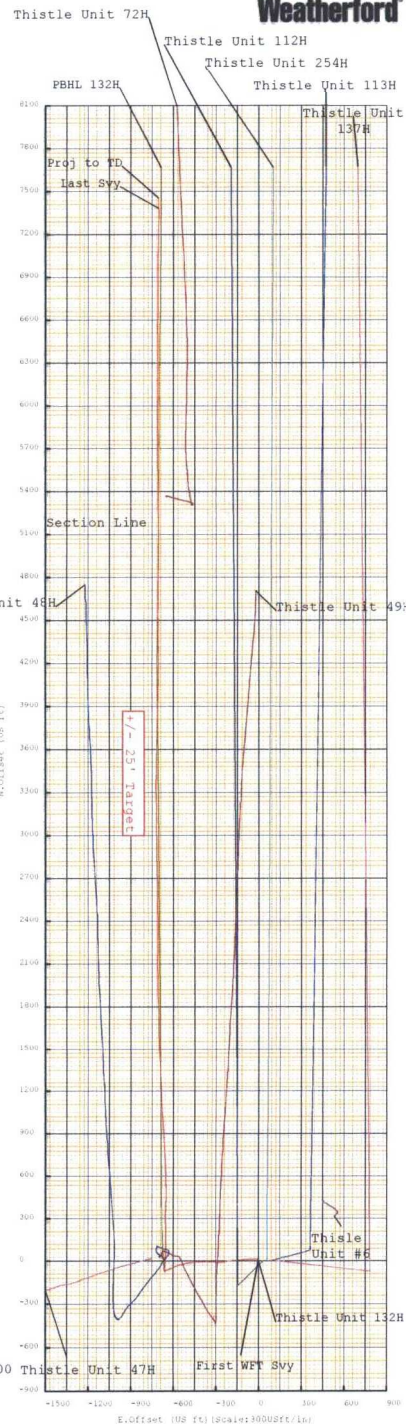
| Target Set Information:           |               |          |         |          |           |           |        |        |        |
|-----------------------------------|---------------|----------|---------|----------|-----------|-----------|--------|--------|--------|
| Name: Thistle Unit 132H Tgts      |               |          |         |          |           |           |        |        |        |
| Position offsets from Slot centre |               |          |         |          |           |           |        |        |        |
| Name                              | TVD Elevation | +N/-S    | +E/-W   | Northing | Easting   | (USft)    | (USft) | (USft) | (USft) |
| Midpoint                          | 9712.00       | -6044.70 | 4157.66 | -714.00  | 461368.82 | 780241.05 |        |        |        |
| BHL 132H                          | 9698.00       | -6030.70 | 7666.67 | -639.98  | 464877.83 | 780315.07 |        |        |        |



Thistle Unit 132H  
Thistle Unit 49H  
Thistle Unit 72H

ST00 Thistle Unit 47H  
ST00 Thistle Unit 47H  
Thistle Unit 48H  
Thistle Unit 112H  
Thistle Unit 254H  
Thistle Unit 113H  
Thistle Unit 137H

Exist. Thistle Unit #6  
Thistle Unit 132H



**5D Survey Report**

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**Devon Energy****Field Name:** *Lea Co, NM Nad 83 NMEZ***Site Name:** *Thistle Unit 132H***Well Name:** *Thistle Unit 132H***Survey:** *Definitive survey*

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12 January 2017







## Thistle Unit 132H

|                                                                |                                                             |                           |                             |  |
|----------------------------------------------------------------|-------------------------------------------------------------|---------------------------|-----------------------------|--|
| Field Name:                                                    | Map Units: US ft                                            |                           | Company Name: Devon Energy  |  |
|                                                                | Vertical Reference Datum (VRD): Mean Sea Level              |                           |                             |  |
|                                                                | Projected Coordinate System: NAD83 / New Mexico East (ftUS) |                           |                             |  |
|                                                                | Comment:                                                    |                           |                             |  |
| Site:                                                          | Units: US ft                                                | North Reference: Grid     | Convergence Angle: 0.41     |  |
|                                                                | Position:                                                   | Northing: 457211.16 US ft | Latitude: 32° 15' 16.45"    |  |
|                                                                |                                                             | Easting: 780955.05 US ft  | Longitude: -103° 33' 29.54" |  |
|                                                                | Elevation above MSL:3643.80 US ft                           |                           |                             |  |
| Thistle Unit 132H                                              | Comment:                                                    |                           |                             |  |
| Slot:                                                          | Position (Relative to Site Centre)                          |                           |                             |  |
|                                                                | +N/-S: 0.00 US ft                                           | Northing: 457211.16 US ft | Latitude: 32°15'16.45"      |  |
|                                                                | +E/-W: 0.00 US ft                                           | Easting: 780955.05 US ft  | Longitude: -103°33'29.54"   |  |
|                                                                | Slot TVD Reference: Ground Elevation                        |                           |                             |  |
| Thistle Unit 132H                                              | Elevation above MSL: 3643.80 US ft                          |                           |                             |  |
|                                                                | Comment:                                                    |                           |                             |  |
|                                                                |                                                             |                           |                             |  |
|                                                                | Well:                                                       | Type:Main well            | UWI:                        |  |
| File Number:                                                   |                                                             | Comment:                  |                             |  |
| Closure Distance:7486.46US ft                                  |                                                             | Closure Azimuth:354.60°   |                             |  |
| Vertical Section: Position of Origin (Relative to Slot centre) |                                                             |                           |                             |  |
| Thistle Unit 132H                                              | +N/-S: -0.00 US ft                                          |                           | +E/-W: 0.00 US ft           |  |
|                                                                |                                                             |                           | Az: 359.90°                 |  |

|                                                    |                                              |                           |                       |
|----------------------------------------------------|----------------------------------------------|---------------------------|-----------------------|
| <b>Drill floor: Survey Name:</b> Definitive Survey |                                              |                           |                       |
| <b>Rig Height (Drill Floor):</b><br>23.50 US ft    | <b>Elevation above MSL:</b><br>3667.30 US ft | <b>Inclination:</b> 0.00° | <b>Azimuth:</b> 0.00° |

|                                       |                                                   |                 |                 |
|---------------------------------------|---------------------------------------------------|-----------------|-----------------|
| <b>Survey Name:</b> Definitive Survey |                                                   |                 |                 |
| <b>Date:</b> 03/Nov/2016              | <b>Survey Tool:</b> See Survey Tool Ranges below. | <b>Comment:</b> | <b>Company:</b> |

|                                |                          |                                      |                           |                    |
|--------------------------------|--------------------------|--------------------------------------|---------------------------|--------------------|
| <b>Magnetic Model:</b>         |                          |                                      |                           |                    |
| <b>Model Name:</b><br>bggm2016 | <b>Date:</b> 31/Dec/2016 | <b>Field Strength:</b><br>48103.0 nT | <b>Declination:</b> 7.05° | <b>Dip:</b> 60.11° |

|                       |                              |                       |                         |                                  |                                |  |
|-----------------------|------------------------------|-----------------------|-------------------------|----------------------------------|--------------------------------|--|
| <b>Tie Point:</b>     |                              |                       |                         |                                  |                                |  |
| <b>MD:</b> 0.00 US ft | <b>Inclination:</b><br>0.00° | <b>Azimuth:</b> 0.00° | <b>TVD:</b> -0.00 US ft | <b>North Offset:</b> -0.00 US ft | <b>East Offset:</b> 0.00 US ft |  |

| <b>Survey Tool Ranges:</b> |                  |                |               |
|----------------------------|------------------|----------------|---------------|
| Name                       | Start MD (US ft) | End MD (US ft) | Source Survey |
| MWD                        | 0.00             | 1280.00        | WFT MWD Svy 1 |
| MWD                        | 1280.00          | 5082.00        | WFT MWD Svy 2 |
| MWD                        | 5082.00          | 9156.00        | WFT MWD Svy 3 |
| MWD                        | 9156.00          | 9703.00        | WFT MWD Svy 4 |

## 5D Survey Report

| Survey Tool Ranges: |                |              |               |
|---------------------|----------------|--------------|---------------|
| Name                | Start MD(USft) | End MD(USft) | Source Survey |
| MWD                 | 9703.00        | 9861.00      | WFT MWD Svy 5 |
| MWD                 | 9861.00        | 17044.00     | WFT MWD Svy 6 |

Wellpath created using minimum curvature.

| Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor) |            |           |                |                     |                     |               |                     |                     |                    |                  |
|-----------------------------------------------------------------------|------------|-----------|----------------|---------------------|---------------------|---------------|---------------------|---------------------|--------------------|------------------|
| MD<br>(US ft)                                                         | Inc<br>(°) | Az<br>(°) | TVD<br>(US ft) | N.Offset<br>(US ft) | E.Offset<br>(US ft) | VS<br>(US ft) | DLS<br>(°/100US ft) | Northing<br>(US ft) | Easting<br>(US ft) | Comment          |
| 0.00                                                                  | 0.00       | 0.00      | -0.00          | -0.00               | 0.00                | 0.00          | 0.00                | 457211.16           | 780955.05          | First WFT<br>Svy |
| 23.50                                                                 | 0.00       | 0.00      | 23.50          | -0.00               | 0.00                | 0.00          | 0.00                | 457211.16           | 780955.05          |                  |
| 216.00                                                                | 0.40       | 319.54    | 216.00         | 0.51                | -0.44               | 0.51          | 0.21                | 457211.67           | 780954.61          |                  |
| 277.00                                                                | 0.50       | 336.13    | 277.00         | 0.92                | -0.68               | 0.92          | 0.27                | 457212.08           | 780954.37          |                  |
| 369.00                                                                | 0.43       | 341.97    | 368.99         | 1.61                | -0.95               | 1.61          | 0.09                | 457212.77           | 780954.10          |                  |
| 461.00                                                                | 0.58       | 339.18    | 460.99         | 2.38                | -1.22               | 2.38          | 0.17                | 457213.54           | 780953.83          |                  |
| 553.00                                                                | 0.51       | 339.43    | 552.99         | 3.19                | -1.53               | 3.20          | 0.08                | 457214.35           | 780953.52          |                  |
| 645.00                                                                | 0.38       | 340.19    | 644.98         | 3.86                | -1.78               | 3.87          | 0.14                | 457215.02           | 780953.27          |                  |
| 737.00                                                                | 0.21       | 338.86    | 736.98         | 4.31                | -1.94               | 4.31          | 0.18                | 457215.47           | 780953.11          |                  |
| 828.00                                                                | 0.14       | 337.68    | 827.98         | 4.57                | -2.05               | 4.57          | 0.08                | 457215.73           | 780953.00          |                  |
| 919.00                                                                | 0.20       | 349.69    | 918.98         | 4.83                | -2.12               | 4.83          | 0.08                | 457215.99           | 780952.93          |                  |
| 1010.00                                                               | 0.28       | 341.14    | 1009.98        | 5.19                | -2.22               | 5.20          | 0.10                | 457216.35           | 780952.83          |                  |
| 1102.00                                                               | 0.22       | 345.75    | 1101.98        | 5.58                | -2.33               | 5.58          | 0.07                | 457216.74           | 780952.72          |                  |
| 1197.00                                                               | 0.20       | 10.73     | 1196.98        | 5.92                | -2.35               | 5.92          | 0.10                | 457217.08           | 780952.70          |                  |
| 1280.00                                                               | 0.16       | 19.45     | 1279.98        | 6.17                | -2.28               | 6.17          | 0.06                | 457217.33           | 780952.77          |                  |
| 1468.00                                                               | 0.22       | 18.71     | 1467.98        | 6.76                | -2.08               | 6.76          | 0.03                | 457217.92           | 780952.97          |                  |
| 1562.00                                                               | 0.21       | 359.56    | 1561.98        | 7.10                | -2.02               | 7.10          | 0.08                | 457218.26           | 780953.03          |                  |
| 1656.00                                                               | 0.22       | 344.00    | 1655.98        | 7.45                | -2.07               | 7.45          | 0.06                | 457218.61           | 780952.98          |                  |
| 1750.00                                                               | 0.28       | 323.05    | 1749.97        | 7.80                | -2.26               | 7.81          | 0.12                | 457218.96           | 780952.79          |                  |
| 1845.00                                                               | 0.27       | 322.53    | 1844.97        | 8.17                | -2.54               | 8.17          | 0.01                | 457219.33           | 780952.51          |                  |
| 1939.00                                                               | 0.31       | 323.72    | 1938.97        | 8.55                | -2.82               | 8.55          | 0.04                | 457219.71           | 780952.23          |                  |
| 2034.00                                                               | 0.30       | 331.26    | 2033.97        | 8.97                | -3.09               | 8.98          | 0.04                | 457220.13           | 780951.96          |                  |
| 2129.00                                                               | 0.21       | 340.54    | 2128.97        | 9.35                | -3.27               | 9.36          | 0.10                | 457220.51           | 780951.78          |                  |
| 2223.00                                                               | 0.21       | 352.35    | 2222.97        | 9.69                | -3.35               | 9.69          | 0.05                | 457220.85           | 780951.70          |                  |
| 2318.00                                                               | 0.33       | 330.18    | 2317.97        | 10.10               | -3.51               | 10.10         | 0.17                | 457221.26           | 780951.54          |                  |
| 2413.00                                                               | 0.36       | 305.45    | 2412.97        | 10.51               | -3.89               | 10.52         | 0.16                | 457221.67           | 780951.16          |                  |
| 2506.00                                                               | 0.63       | 292.58    | 2505.96        | 10.87               | -4.60               | 10.88         | 0.31                | 457222.03           | 780950.45          |                  |
| 2602.00                                                               | 1.20       | 285.21    | 2601.95        | 11.34               | -6.06               | 11.35         | 0.61                | 457222.50           | 780948.99          |                  |
| 2696.00                                                               | 1.77       | 273.25    | 2695.92        | 11.68               | -8.46               | 11.70         | 0.69                | 457222.84           | 780946.59          |                  |
| 2791.00                                                               | 2.51       | 266.93    | 2790.85        | 11.65               | -12.00              | 11.67         | 0.82                | 457222.81           | 780943.05          |                  |
| 2886.00                                                               | 3.29       | 266.52    | 2885.73        | 11.38               | -16.80              | 11.41         | 0.82                | 457222.54           | 780938.25          |                  |
| 2980.00                                                               | 4.19       | 266.08    | 2979.53        | 10.98               | -22.92              | 11.02         | 0.96                | 457222.14           | 780932.13          |                  |
| 3075.00                                                               | 4.81       | 268.52    | 3074.24        | 10.64               | -30.36              | 10.69         | 0.68                | 457221.80           | 780924.69          |                  |
| 3170.00                                                               | 5.49       | 268.13    | 3168.85        | 10.39               | -38.88              | 10.45         | 0.72                | 457221.55           | 780916.17          |                  |
| 3265.00                                                               | 6.27       | 268.58    | 3263.35        | 10.11               | -48.61              | 10.19         | 0.82                | 457221.27           | 780906.44          |                  |
| 3359.00                                                               | 7.23       | 268.65    | 3356.70        | 9.84                | -59.66              | 9.95          | 1.02                | 457221.00           | 780895.39          |                  |
| 3454.00                                                               | 7.22       | 269.59    | 3450.94        | 9.66                | -71.60              | 9.78          | 0.12                | 457220.82           | 780883.45          |                  |
| 3549.00                                                               | 7.20       | 265.75    | 3545.19        | 9.18                | -83.51              | 9.32          | 0.51                | 457220.34           | 780871.54          |                  |
| 3643.00                                                               | 6.84       | 266.69    | 3638.49        | 8.42                | -94.97              | 8.58          | 0.40                | 457219.58           | 780860.08          |                  |
| 3738.00                                                               | 7.07       | 263.01    | 3732.79        | 7.38                | -106.42             | 7.56          | 0.53                | 457218.54           | 780848.63          |                  |
| 3832.00                                                               | 7.00       | 262.77    | 3826.08        | 5.95                | -117.85             | 6.16          | 0.08                | 457217.11           | 780837.20          |                  |
| 3927.00                                                               | 6.64       | 262.56    | 3920.41        | 4.51                | -129.04             | 4.74          | 0.38                | 457215.67           | 780826.01          |                  |
| 4022.00                                                               | 7.28       | 266.43    | 4014.71        | 3.43                | -140.49             | 3.67          | 0.83                | 457214.59           | 780814.56          |                  |
| 4116.00                                                               | 7.29       | 266.35    | 4107.95        | 2.68                | -152.39             | 2.94          | 0.02                | 457213.84           | 780802.66          |                  |
| 4211.00                                                               | 7.10       | 265.98    | 4202.20        | 1.88                | -164.26             | 2.17          | 0.21                | 457213.04           | 780790.79          |                  |
| 4306.00                                                               | 6.85       | 266.80    | 4296.50        | 1.15                | -175.77             | 1.46          | 0.28                | 457212.31           | 780779.28          |                  |
| 4400.00                                                               | 6.24       | 266.63    | 4389.89        | 0.54                | -186.47             | 0.87          | 0.65                | 457211.70           | 780768.58          |                  |
| 4495.00                                                               | 6.01       | 263.16    | 4484.34        | -0.36               | -196.56             | -0.01         | 0.46                | 457210.80           | 780758.49          |                  |
| 4589.00                                                               | 5.49       | 261.77    | 4577.87        | -1.59               | -205.90             | -1.23         | 0.57                | 457209.57           | 780749.15          |                  |
| 4683.00                                                               | 5.21       | 261.68    | 4671.46        | -2.85               | -214.57             | -2.47         | 0.30                | 457208.31           | 780740.48          |                  |



## 5D Survey Report

| Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor) |            |           |                |                     |                     |               |                     |                     |                    |         |
|-----------------------------------------------------------------------|------------|-----------|----------------|---------------------|---------------------|---------------|---------------------|---------------------|--------------------|---------|
| MD<br>(US ft)                                                         | Inc<br>(°) | Az<br>(°) | TVD<br>(US ft) | N.Offset<br>(US ft) | E.Offset<br>(US ft) | VS<br>(US ft) | DLS<br>(°/100US ft) | Northing<br>(US ft) | Easting<br>(US ft) | Comment |
| 4778.00                                                               | 5.36       | 260.13    | 4766.06        | -4.23               | -223.21             | -3.84         | 0.22                | 457206.93           | 780731.84          |         |
| 4873.00                                                               | 5.55       | 259.72    | 4860.63        | -5.81               | -232.10             | -5.41         | 0.20                | 457205.35           | 780722.95          |         |
| 4968.00                                                               | 5.33       | 260.45    | 4955.20        | -7.36               | -240.97             | -6.94         | 0.24                | 457203.80           | 780714.08          |         |
| 5082.00                                                               | 4.71       | 261.50    | 5068.76        | -8.93               | -250.82             | -8.50         | 0.55                | 457202.23           | 780704.23          |         |
| 5199.00                                                               | 3.83       | 254.49    | 5185.44        | -10.69              | -259.34             | -10.24        | 0.87                | 457200.47           | 780695.71          |         |
| 5294.00                                                               | 4.11       | 267.58    | 5280.21        | -11.68              | -265.80             | -11.22        | 1.00                | 457199.48           | 780689.25          |         |
| 5389.00                                                               | 5.14       | 274.57    | 5374.90        | -11.49              | -273.44             | -11.01        | 1.23                | 457199.67           | 780681.61          |         |
| 5483.00                                                               | 6.27       | 272.99    | 5468.43        | -10.88              | -282.76             | -10.39        | 1.21                | 457200.28           | 780672.29          |         |
| 5578.00                                                               | 7.28       | 275.73    | 5562.77        | -10.01              | -293.93             | -9.50         | 1.12                | 457201.15           | 780661.12          |         |
| 5673.00                                                               | 7.45       | 275.66    | 5656.99        | -8.80               | -306.05             | -8.27         | 0.18                | 457202.36           | 780649.00          |         |
| 5767.00                                                               | 7.31       | 274.93    | 5750.21        | -7.69               | -318.08             | -7.13         | 0.18                | 457203.47           | 780636.97          |         |
| 5862.00                                                               | 7.49       | 273.28    | 5844.42        | -6.81               | -330.28             | -6.24         | 0.29                | 457204.35           | 780624.77          |         |
| 5957.00                                                               | 8.14       | 271.48    | 5938.53        | -6.29               | -343.18             | -5.69         | 0.73                | 457204.87           | 780611.87          |         |
| 6050.00                                                               | 8.35       | 270.34    | 6030.57        | -6.08               | -356.52             | -5.45         | 0.29                | 457205.08           | 780598.53          |         |
| 6145.00                                                               | 7.96       | 269.83    | 6124.61        | -6.05               | -369.99             | -5.41         | 0.42                | 457205.11           | 780585.06          |         |
| 6240.00                                                               | 7.61       | 268.02    | 6218.74        | -6.29               | -382.86             | -5.62         | 0.45                | 457204.87           | 780572.19          |         |
| 6334.00                                                               | 7.50       | 267.99    | 6311.92        | -6.72               | -395.21             | -6.03         | 0.12                | 457204.44           | 780559.84          |         |
| 6429.00                                                               | 7.21       | 267.07    | 6406.14        | -7.24               | -407.36             | -6.53         | 0.33                | 457203.92           | 780547.69          |         |
| 6523.00                                                               | 7.16       | 266.15    | 6499.40        | -7.94               | -419.10             | -7.21         | 0.13                | 457203.22           | 780535.95          |         |
| 6618.00                                                               | 6.77       | 270.14    | 6593.70        | -8.32               | -430.60             | -7.57         | 0.65                | 457202.84           | 780524.45          |         |
| 6713.00                                                               | 7.12       | 263.99    | 6688.00        | -8.93               | -442.06             | -8.15         | 0.86                | 457202.23           | 780512.99          |         |
| 6807.00                                                               | 7.19       | 264.74    | 6781.27        | -10.07              | -453.71             | -9.28         | 0.12                | 457201.09           | 780501.34          |         |
| 6902.00                                                               | 7.14       | 263.46    | 6875.53        | -11.29              | -465.49             | -10.48        | 0.18                | 457199.87           | 780489.56          |         |
| 6996.00                                                               | 7.00       | 262.01    | 6968.81        | -12.75              | -476.97             | -11.92        | 0.24                | 457198.41           | 780478.08          |         |
| 7091.00                                                               | 6.86       | 260.63    | 7063.12        | -14.48              | -488.30             | -13.63        | 0.23                | 457196.68           | 780466.75          |         |
| 7186.00                                                               | 6.59       | 260.16    | 7157.47        | -16.34              | -499.27             | -15.47        | 0.29                | 457194.82           | 780455.78          |         |
| 7280.00                                                               | 6.58       | 259.42    | 7250.85        | -18.25              | -509.88             | -17.36        | 0.09                | 457192.91           | 780445.17          |         |
| 7375.00                                                               | 6.53       | 259.52    | 7345.23        | -20.23              | -520.54             | -19.32        | 0.05                | 457190.93           | 780434.51          |         |
| 7470.00                                                               | 6.60       | 257.09    | 7439.60        | -22.43              | -531.17             | -21.51        | 0.30                | 457188.73           | 780423.88          |         |
| 7565.00                                                               | 6.44       | 254.92    | 7533.99        | -25.04              | -541.64             | -24.09        | 0.31                | 457186.12           | 780413.41          |         |
| 7659.00                                                               | 6.44       | 252.82    | 7627.40        | -27.97              | -551.77             | -27.00        | 0.25                | 457183.19           | 780403.28          |         |
| 7754.00                                                               | 5.76       | 252.54    | 7721.86        | -30.97              | -561.40             | -29.99        | 0.72                | 457180.19           | 780393.65          |         |
| 7848.00                                                               | 5.20       | 249.41    | 7815.43        | -33.88              | -569.89             | -32.89        | 0.68                | 457177.28           | 780385.16          |         |
| 7943.00                                                               | 5.23       | 247.28    | 7910.03        | -37.07              | -577.92             | -36.06        | 0.21                | 457174.09           | 780377.13          |         |
| 8037.00                                                               | 4.84       | 245.41    | 8003.67        | -40.38              | -585.47             | -39.35        | 0.45                | 457170.78           | 780369.58          |         |
| 8132.00                                                               | 4.44       | 250.08    | 8098.36        | -43.30              | -592.57             | -42.26        | 0.58                | 457167.86           | 780362.48          |         |
| 8227.00                                                               | 4.07       | 247.41    | 8193.10        | -45.84              | -599.14             | -44.80        | 0.44                | 457165.32           | 780355.91          |         |
| 8321.00                                                               | 4.06       | 248.63    | 8286.86        | -48.34              | -605.32             | -47.28        | 0.09                | 457162.82           | 780349.73          |         |
| 8416.00                                                               | 4.00       | 249.80    | 8381.63        | -50.71              | -611.56             | -49.64        | 0.11                | 457160.45           | 780343.49          |         |
| 8510.00                                                               | 3.98       | 247.94    | 8475.40        | -53.06              | -617.66             | -51.99        | 0.14                | 457158.10           | 780337.39          |         |
| 8605.00                                                               | 3.83       | 247.61    | 8570.18        | -55.51              | -623.65             | -54.42        | 0.16                | 457155.65           | 780331.40          |         |
| 8700.00                                                               | 3.79       | 247.50    | 8664.97        | -57.92              | -629.49             | -56.82        | 0.04                | 457153.24           | 780325.56          |         |
| 8795.00                                                               | 3.63       | 245.83    | 8759.77        | -60.35              | -635.13             | -59.25        | 0.20                | 457150.81           | 780319.92          |         |
| 8889.00                                                               | 3.52       | 244.64    | 8853.59        | -62.81              | -640.46             | -61.69        | 0.14                | 457148.35           | 780314.59          |         |
| 8984.00                                                               | 3.53       | 240.23    | 8948.41        | -65.51              | -645.63             | -64.38        | 0.29                | 457145.65           | 780309.42          |         |
| 9078.00                                                               | 3.10       | 238.36    | 9042.25        | -68.28              | -650.31             | -67.15        | 0.47                | 457142.88           | 780304.74          |         |
| 9156.00                                                               | 2.85       | 237.76    | 9120.14        | -70.42              | -653.74             | -69.28        | 0.32                | 457140.74           | 780301.31          |         |
| 9214.00                                                               | 2.39       | 258.13    | 9178.09        | -71.44              | -656.14             | -70.29        | 1.78                | 457139.72           | 780298.91          |         |
| 9262.00                                                               | 4.62       | 334.58    | 9226.01        | -69.90              | -657.95             | -68.75        | 9.74                | 457141.26           | 780297.10          |         |
| 9309.00                                                               | 10.56      | 353.26    | 9272.59        | -63.91              | -659.27             | -62.75        | 13.52               | 457147.25           | 780295.78          |         |
| 9356.00                                                               | 15.01      | 0.98      | 9318.41        | -53.54              | -659.68             | -52.39        | 10.12               | 457157.62           | 780295.37          |         |
| 9404.00                                                               | 20.90      | 5.64      | 9364.06        | -38.79              | -658.73             | -37.64        | 12.62               | 457172.37           | 780296.32          |         |
| 9451.00                                                               | 25.42      | 6.38      | 9407.26        | -20.41              | -656.78             | -19.26        | 9.64                | 457190.75           | 780298.27          |         |
| 9498.00                                                               | 30.33      | 4.69      | 9448.79        | 1.45                | -654.69             | 2.60          | 10.58               | 457212.61           | 780300.36          |         |
| 9546.00                                                               | 34.99      | 2.36      | 9489.19        | 27.30               | -653.13             | 28.44         | 10.05               | 457238.46           | 780301.92          |         |
| 9578.00                                                               | 38.51      | 3.25      | 9514.83        | 46.42               | -652.19             | 47.56         | 11.12               | 457257.58           | 780302.86          |         |
| 9609.00                                                               | 42.41      | 0.45      | 9538.41        | 66.52               | -651.56             | 67.65         | 13.88               | 457277.68           | 780303.49          |         |
| 9641.00                                                               | 46.00      | 0.41      | 9561.35        | 88.82               | -651.39             | 89.96         | 11.22               | 457299.98           | 780303.66          |         |
| 9672.00                                                               | 49.79      | 0.18      | 9582.13        | 111.82              | -651.27             | 112.96        | 12.24               | 457322.98           | 780303.78          |         |

## 5D Survey Report

| Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor) |            |           |                |                     |                     |               |                     |                     |                    |         |
|-----------------------------------------------------------------------|------------|-----------|----------------|---------------------|---------------------|---------------|---------------------|---------------------|--------------------|---------|
| MD<br>(US ft)                                                         | Inc<br>(°) | Az<br>(°) | TVD<br>(US ft) | N.Offset<br>(US ft) | E.Offset<br>(US ft) | VS<br>(US ft) | DLS<br>(°/100US ft) | Northing<br>(US ft) | Easting<br>(US ft) | Comment |
| 9703.00                                                               | 53.09      | 0.70      | 9601.45        | 136.06              | -651.08             | 137.19        | 10.73               | 457347.22           | 780303.97          |         |
| 9735.00                                                               | 56.25      | 0.27      | 9619.95        | 162.16              | -650.87             | 163.29        | 9.94                | 457373.32           | 780304.18          |         |
| 9767.00                                                               | 60.23      | 358.98    | 9636.80        | 189.36              | -651.05             | 190.50        | 12.90               | 457400.52           | 780304.00          |         |
| 9798.00                                                               | 64.64      | 358.23    | 9651.14        | 216.83              | -651.72             | 217.96        | 14.39               | 457427.99           | 780303.33          |         |
| 9830.00                                                               | 69.71      | 358.37    | 9663.55        | 246.30              | -652.60             | 247.44        | 15.85               | 457457.46           | 780302.45          |         |
| 9861.00                                                               | 74.35      | 359.14    | 9673.11        | 275.77              | -653.23             | 276.91        | 15.15               | 457486.93           | 780301.82          |         |
| 9885.00                                                               | 76.58      | 359.31    | 9679.13        | 299.00              | -653.55             | 300.14        | 9.32                | 457510.16           | 780301.50          |         |
| 9916.00                                                               | 80.01      | 0.69      | 9685.42        | 329.35              | -653.55             | 330.49        | 11.89               | 457540.51           | 780301.50          |         |
| 9947.00                                                               | 83.41      | 2.18      | 9689.89        | 360.01              | -652.78             | 361.15        | 11.95               | 457571.17           | 780302.27          |         |
| 9978.00                                                               | 86.36      | 2.76      | 9692.65        | 390.85              | -651.45             | 391.99        | 9.70                | 457602.01           | 780303.60          |         |
| 10009.00                                                              | 88.11      | 2.25      | 9694.15        | 421.79              | -650.09             | 422.92        | 5.88                | 457632.95           | 780304.96          |         |
| 10041.00                                                              | 89.23      | 0.04      | 9694.89        | 453.77              | -649.45             | 454.90        | 7.74                | 457664.93           | 780305.60          |         |
| 10136.00                                                              | 90.14      | 358.09    | 9695.41        | 548.75              | -651.00             | 549.88        | 2.27                | 457759.91           | 780304.05          |         |
| 10230.00                                                              | 90.35      | 357.59    | 9695.01        | 642.68              | -654.55             | 643.82        | 0.58                | 457853.84           | 780300.50          |         |
| 10323.00                                                              | 90.07      | 357.15    | 9694.67        | 735.58              | -658.81             | 736.73        | 0.56                | 457946.74           | 780296.24          |         |
| 10419.00                                                              | 89.79      | 356.27    | 9694.79        | 831.42              | -664.32             | 832.58        | 0.96                | 458042.58           | 780290.73          |         |
| 10514.00                                                              | 89.65      | 355.95    | 9695.25        | 926.20              | -670.77             | 927.37        | 0.37                | 458137.36           | 780284.28          |         |
| 10608.00                                                              | 89.09      | 356.58    | 9696.29        | 1020.00             | -676.89             | 1021.18       | 0.90                | 458231.16           | 780278.16          |         |
| 10702.00                                                              | 89.65      | 357.94    | 9697.32        | 1113.88             | -681.38             | 1115.07       | 1.56                | 458325.04           | 780273.67          |         |
| 10797.00                                                              | 91.12      | 357.97    | 9696.68        | 1208.82             | -684.77             | 1210.01       | 1.55                | 458419.98           | 780270.28          |         |
| 10892.00                                                              | 91.26      | 357.25    | 9694.71        | 1303.71             | -688.73             | 1304.91       | 0.77                | 458514.87           | 780266.32          |         |
| 10986.00                                                              | 91.54      | 357.19    | 9692.41        | 1397.57             | -693.29             | 1398.78       | 0.30                | 458608.73           | 780261.76          |         |
| 11081.00                                                              | 89.51      | 357.64    | 9691.54        | 1492.47             | -697.58             | 1493.68       | 2.19                | 458703.63           | 780257.47          |         |
| 11176.00                                                              | 90.77      | 358.62    | 9691.31        | 1587.41             | -700.68             | 1588.63       | 1.68                | 458798.57           | 780254.37          |         |
| 11271.00                                                              | 90.84      | 358.82    | 9689.97        | 1682.38             | -702.80             | 1683.60       | 0.22                | 458893.54           | 780252.25          |         |
| 11367.00                                                              | 91.19      | 358.96    | 9688.27        | 1778.35             | -704.66             | 1779.57       | 0.39                | 458989.51           | 780250.39          |         |
| 11460.00                                                              | 91.40      | 358.58    | 9686.17        | 1871.30             | -706.65             | 1872.53       | 0.47                | 459082.46           | 780248.40          |         |
| 11554.00                                                              | 91.33      | 359.21    | 9683.93        | 1965.26             | -708.47             | 1966.49       | 0.67                | 459176.42           | 780246.58          |         |
| 11649.00                                                              | 90.07      | 358.92    | 9682.77        | 2060.24             | -710.02             | 2061.47       | 1.36                | 459271.40           | 780245.03          |         |
| 11744.00                                                              | 89.51      | 0.71      | 9683.12        | 2155.23             | -710.32             | 2156.47       | 1.97                | 459366.39           | 780244.73          |         |
| 11838.00                                                              | 90.14      | 0.60      | 9683.41        | 2249.22             | -709.25             | 2250.46       | 0.68                | 459460.38           | 780245.80          |         |
| 11933.00                                                              | 88.95      | 359.90    | 9684.16        | 2344.22             | -708.83             | 2345.45       | 1.45                | 459555.38           | 780246.22          |         |
| 12028.00                                                              | 88.74      | 359.42    | 9686.08        | 2439.20             | -709.40             | 2440.43       | 0.55                | 459650.36           | 780245.65          |         |
| 12123.00                                                              | 88.46      | 359.06    | 9688.40        | 2534.16             | -710.66             | 2535.39       | 0.48                | 459745.32           | 780244.39          |         |
| 12217.00                                                              | 88.18      | 359.31    | 9691.15        | 2628.11             | -711.99             | 2629.35       | 0.40                | 459839.27           | 780243.06          |         |
| 12312.00                                                              | 87.83      | 358.56    | 9694.46        | 2723.03             | -713.76             | 2724.28       | 0.87                | 459934.19           | 780241.29          |         |
| 12407.00                                                              | 89.44      | 358.66    | 9696.72        | 2817.98             | -716.06             | 2819.22       | 1.70                | 460029.14           | 780238.99          |         |
| 12501.00                                                              | 89.37      | 359.25    | 9697.70        | 2911.95             | -717.78             | 2913.20       | 0.63                | 460123.11           | 780237.27          |         |
| 12595.00                                                              | 90.70      | 359.36    | 9697.64        | 3005.95             | -718.92             | 3007.20       | 1.42                | 460217.11           | 780236.13          |         |
| 12690.00                                                              | 91.05      | 359.50    | 9696.19        | 3100.93             | -719.86             | 3102.18       | 0.40                | 460312.09           | 780235.19          |         |
| 12784.00                                                              | 91.33      | 359.20    | 9694.24        | 3194.90             | -720.93             | 3196.16       | 0.44                | 460406.06           | 780234.12          |         |
| 12879.00                                                              | 92.10      | 359.29    | 9691.40        | 3289.85             | -722.18             | 3291.11       | 0.82                | 460501.01           | 780232.87          |         |
| 12972.00                                                              | 90.70      | 0.35      | 9689.12        | 3382.82             | -722.47             | 3384.08       | 1.89                | 460593.98           | 780232.58          |         |
| 13066.00                                                              | 89.37      | 0.86      | 9689.07        | 3476.81             | -721.48             | 3478.07       | 1.52                | 460687.97           | 780233.57          |         |
| 13161.00                                                              | 88.81      | 1.05      | 9690.58        | 3571.79             | -719.89             | 3573.04       | 0.62                | 460782.95           | 780235.16          |         |
| 13350.00                                                              | 89.09      | 1.85      | 9694.04        | 3760.69             | -715.11             | 3761.93       | 0.45                | 460971.85           | 780239.94          |         |
| 13444.00                                                              | 89.09      | 2.19      | 9695.53        | 3854.62             | -711.80             | 3855.86       | 0.36                | 461065.78           | 780243.25          |         |
| 13538.00                                                              | 88.11      | 1.38      | 9697.83        | 3948.55             | -708.87             | 3949.78       | 1.35                | 461159.71           | 780246.18          |         |
| 13633.00                                                              | 88.46      | 0.84      | 9700.67        | 4043.49             | -707.03             | 4044.71       | 0.68                | 461254.65           | 780248.02          |         |
| 13727.00                                                              | 88.81      | 0.28      | 9702.91        | 4137.45             | -706.11             | 4138.68       | 0.70                | 461348.61           | 780248.94          |         |
| 13822.00                                                              | 87.34      | 359.83    | 9706.10        | 4232.40             | -706.02             | 4233.62       | 1.62                | 461443.56           | 780249.03          |         |
| 13917.00                                                              | 86.92      | 358.86    | 9710.86        | 4327.27             | -707.11             | 4328.50       | 1.11                | 461538.43           | 780247.94          |         |
| 14012.00                                                              | 88.25      | 359.24    | 9714.86        | 4422.17             | -708.68             | 4423.40       | 1.46                | 461633.33           | 780246.37          |         |
| 14107.00                                                              | 88.81      | 359.81    | 9717.30        | 4517.14             | -709.47             | 4518.37       | 0.84                | 461728.30           | 780245.58          |         |
| 14201.00                                                              | 90.14      | 0.66      | 9718.16        | 4611.13             | -709.08             | 4612.36       | 1.68                | 461822.29           | 780245.97          |         |
| 14296.00                                                              | 89.09      | 0.89      | 9718.80        | 4706.12             | -707.80             | 4707.34       | 1.13                | 461917.28           | 780247.25          |         |
| 14391.00                                                              | 90.07      | 0.10      | 9719.49        | 4801.11             | -706.98             | 4802.33       | 1.32                | 462012.27           | 780248.07          |         |
| 14485.00                                                              | 91.61      | 1.16      | 9718.12        | 4895.09             | -705.94             | 4896.31       | 1.99                | 462106.25           | 780249.11          |         |
| 14580.00                                                              | 91.47      | 0.52      | 9715.56        | 4990.04             | -704.55             | 4991.26       | 0.69                | 462201.20           | 780250.50          |         |



## 5D Survey Report

| Survey Points: (Relative to Slot centre)(TVD relative to Drill Floor) |            |           |                |                     |                     |               |                     |                     |                    |            |
|-----------------------------------------------------------------------|------------|-----------|----------------|---------------------|---------------------|---------------|---------------------|---------------------|--------------------|------------|
| MD<br>(US ft)                                                         | Inc<br>(°) | Az<br>(°) | TVD<br>(US ft) | N.Offset<br>(US ft) | E.Offset<br>(US ft) | VS<br>(US ft) | DLS<br>(°/100US ft) | Northing<br>(US ft) | Easting<br>(US ft) | Comment    |
| 14675.00                                                              | 90.70      | 359.46    | 9713.76        | 5085.02             | -704.57             | 5086.25       | 1.38                | 462296.18           | 780250.48          |            |
| 14770.00                                                              | 92.10      | 359.09    | 9711.44        | 5179.98             | -705.77             | 5181.21       | 1.52                | 462391.14           | 780249.28          |            |
| 14864.00                                                              | 92.24      | 359.34    | 9707.88        | 5273.91             | -707.06             | 5275.13       | 0.30                | 462485.07           | 780247.99          |            |
| 14958.00                                                              | 92.59      | 359.91    | 9703.92        | 5367.82             | -707.67             | 5369.05       | 0.71                | 462578.98           | 780247.38          |            |
| 15053.00                                                              | 91.61      | 358.99    | 9700.44        | 5462.75             | -708.58             | 5463.98       | 1.41                | 462673.91           | 780246.47          |            |
| 15148.00                                                              | 90.77      | 359.34    | 9698.47        | 5557.72             | -709.97             | 5558.95       | 0.96                | 462768.88           | 780245.08          |            |
| 15242.00                                                              | 91.19      | 359.03    | 9696.86        | 5651.70             | -711.30             | 5652.93       | 0.56                | 462862.86           | 780243.75          |            |
| 15337.00                                                              | 90.00      | 359.96    | 9695.87        | 5746.69             | -712.14             | 5747.92       | 1.59                | 462957.85           | 780242.91          |            |
| 15432.00                                                              | 89.51      | 0.25      | 9696.28        | 5841.68             | -711.97             | 5842.92       | 0.60                | 463052.84           | 780243.08          |            |
| 15527.00                                                              | 88.95      | 0.73      | 9697.56        | 5936.67             | -711.15             | 5937.90       | 0.78                | 463147.83           | 780243.90          |            |
| 15622.00                                                              | 88.46      | 0.70      | 9699.70        | 6031.64             | -709.97             | 6032.87       | 0.52                | 463242.80           | 780245.08          |            |
| 15716.00                                                              | 88.74      | 0.51      | 9702.00        | 6125.61             | -708.98             | 6126.83       | 0.36                | 463336.77           | 780246.07          |            |
| 15811.00                                                              | 91.26      | 0.60      | 9702.00        | 6220.59             | -708.06             | 6221.82       | 2.65                | 463431.75           | 780246.99          |            |
| 15906.00                                                              | 92.10      | 359.94    | 9699.22        | 6315.55             | -707.61             | 6316.78       | 1.12                | 463526.71           | 780247.44          |            |
| 16000.00                                                              | 91.96      | 359.20    | 9695.89        | 6409.49             | -708.31             | 6410.71       | 0.80                | 463620.65           | 780246.74          |            |
| 16095.00                                                              | 91.54      | 359.37    | 9692.99        | 6504.44             | -709.50             | 6505.66       | 0.48                | 463715.60           | 780245.55          |            |
| 16189.00                                                              | 90.42      | 0.28      | 9691.38        | 6598.42             | -709.79             | 6599.65       | 1.54                | 463809.58           | 780245.26          |            |
| 16284.00                                                              | 89.23      | 0.61      | 9691.67        | 6693.41             | -709.05             | 6694.64       | 1.30                | 463904.57           | 780246.00          |            |
| 16379.00                                                              | 88.67      | 0.39      | 9693.41        | 6788.39             | -708.22             | 6789.62       | 0.63                | 463999.55           | 780246.83          |            |
| 16473.00                                                              | 89.72      | 0.01      | 9694.73        | 6882.38             | -707.89             | 6883.61       | 1.19                | 464093.54           | 780247.16          |            |
| 16568.00                                                              | 89.86      | 359.55    | 9695.08        | 6977.38             | -708.26             | 6978.61       | 0.51                | 464188.54           | 780246.79          |            |
| 16663.00                                                              | 89.30      | 2.69      | 9695.77        | 7072.35             | -706.40             | 7073.57       | 3.36                | 464283.51           | 780248.65          |            |
| 16757.00                                                              | 89.51      | 0.47      | 9696.75        | 7166.30             | -703.81             | 7167.52       | 2.37                | 464377.46           | 780251.24          |            |
| 16852.00                                                              | 89.58      | 0.24      | 9697.50        | 7261.30             | -703.22             | 7262.51       | 0.25                | 464472.46           | 780251.83          |            |
| 16947.00                                                              | 89.09      | 0.05      | 9698.61        | 7356.29             | -702.98             | 7357.51       | 0.55                | 464567.45           | 780252.07          |            |
| 16973.00                                                              | 88.39      | 358.99    | 9699.18        | 7382.28             | -703.20             | 7383.50       | 4.88                | 464593.44           | 780251.85          | Last Svy   |
| 17044.00                                                              | 88.39      | 358.99    | 9701.17        | 7453.24             | -704.45             | 7454.46       | 0.00                | 464664.40           | 780250.60          | Proj to TD |



**Weatherford**

Evaluation, Drilling & Intervention  
10000 West County Rd. 116  
P.O. Box 61028  
Midland, TX USA 79711  
Tel. (432) 561-8892 Fax (432) 561-8895

Devon Energy  
333 W. Sheridan Ave  
Oklahoma City, OK, 73102

Date: January 16, 2017

Attention: Garrett Glaze

Re: Devon Energy  
Well: Thistle Unit 132H  
Lea County, New Mexico

Enclosed, please find the original survey performed on the referenced well by Precision Energy Services, Inc. (P-5 No. 676004), a Weatherford company. Other information required by your office is as follows:

| Name & Title<br>Of Surveyor | Well<br>Number | Surveyed<br>Depths | Dates<br>Performed | Type of<br>Survey |
|-----------------------------|----------------|--------------------|--------------------|-------------------|
| Andrew Schmidt              | 132H           | 216 MD             | 12/29/2016         | Measurement       |
| MWD Supervisor              |                | 16973 MD           | 1/11/2017          | While Drilling    |

A notarized plan vs. actual is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Jonathan Leger  
MWD Ops Coordinator

On this, the 08<sup>th</sup> day of February, 2017, before me a notary public, the undersigned officer, personally appeared Jonathan Leger, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness hereof, I hereunto set my hand and official seal.

Notary Public

