



APR 10 2019

## Directional Survey Data

DISTRICT II-ARTESIA O.C.D.

|                                    |                              |                              |                                |                                 |                                    |                                              |                                         |
|------------------------------------|------------------------------|------------------------------|--------------------------------|---------------------------------|------------------------------------|----------------------------------------------|-----------------------------------------|
| Well Name<br>HH CE 35 2 FED 006 6H | Lease<br>HH CE 35 2 Fed 006  | Field Name<br>Purple Sage    | Business Unit<br>Mid-Continent | Latitude (°)<br>32° 5' 7.375" N | Longitude (°)<br>104° 9' 11.779" W | Surface UWI<br>3001544348                    | Surface ChevNo<br>PM0789                |
| Wellbore Name<br>Original Hole     | Wellbore UWI<br>300154434800 | Wellbore ChevNo<br>PM0789-00 | Directional Type<br>Horizontal | Min Kick Off Depth (ftOTH)      | Min Kick Off Depth (TVD) (ftOTH)   | Total Depth of Wellbore (ftOTH)<br>16,900.00 | Date TD Reached (wellbore)<br>5/18/2018 |

|                             |                  |               |              |               |                                 |  |  |
|-----------------------------|------------------|---------------|--------------|---------------|---------------------------------|--|--|
| <b>Bottom Hole Location</b> |                  |               |              |               |                                 |  |  |
| Northing (Y) (ft)           | Easting (X) (ft) | UTM Grid Zone | Latitude (°) | Longitude (°) | Closure Direction (°)<br>180.47 |  |  |

|                            |               |                  |                 |
|----------------------------|---------------|------------------|-----------------|
| <b>Directional Surveys</b> |               |                  |                 |
| Description<br>MWD         | Planned?<br>N | Definitive?<br>N | Note Correction |

| <b>Survey Data</b> |            |            |             |          |         |         |         |         |               |                 |                |
|--------------------|------------|------------|-------------|----------|---------|---------|---------|---------|---------------|-----------------|----------------|
| Survey Company     | Date       | MD (ftOTH) | TVD (ftOTH) | Incl (°) | Azm (°) | VS (ft) | NS (ft) | EW (ft) | DLS (°/100ft) | Build (°/100ft) | Turn (°/100ft) |
|                    | 12/21/2017 | 0          | 0.00        | 0.00     | 0.00    | 0.00    | 0.00    | 0.00    | 0.00          | 0.00            | 0.00           |
|                    | 12/21/2017 | 169        | 168.97      | 1.73     | 122.01  | 1.33    | -1.35   | 2.16    | 1.02          | 1.02            | 72.20          |
|                    | 12/21/2017 | 355        | 354.92      | 1.29     | 178.99  | 4.90    | -4.93   | 4.58    | 0.80          | -0.24           | 30.63          |
|                    | 12/21/2017 | 437        | 436.90      | 1.22     | 175.04  | 6.69    | -6.73   | 4.67    | 0.14          | -0.09           | -4.82          |
|                    | 12/21/2017 | 473        | 472.89      | 1.22     | 175.04  | 7.45    | -7.49   | 4.74    | 0.00          | 0.00            | 0.00           |
|                    | 12/26/2017 | 530        | 529.88      | 1.19     | 154.98  | 8.59    | -8.63   | 5.04    | 0.74          | -0.05           | -35.19         |
|                    | 12/26/2017 | 622        | 621.86      | 1.13     | 135.47  | 10.09   | -10.14  | 6.08    | 0.43          | -0.07           | -21.21         |
|                    | 12/26/2017 | 715        | 714.84      | 1.31     | 125.97  | 11.36   | -11.42  | 7.59    | 0.29          | 0.19            | -10.22         |
|                    | 12/26/2017 | 807        | 806.81      | 1.42     | 124.55  | 12.61   | -12.69  | 9.38    | 0.13          | 0.12            | -1.54          |
|                    | 12/26/2017 | 900        | 899.79      | 1.32     | 128.09  | 13.91   | -14.00  | 11.17   | 0.14          | -0.11           | 3.81           |
|                    | 12/26/2017 | 994        | 993.76      | 1.29     | 129.40  | 15.23   | -15.34  | 12.84   | 0.05          | -0.03           | 1.39           |
|                    | 12/26/2017 | 1,088      | 1,087.74    | 0.99     | 136.20  | 16.48   | -16.60  | 14.22   | 0.35          | -0.32           | 7.23           |
|                    | 12/26/2017 | 1,183      | 1,182.73    | 0.75     | 137.45  | 17.52   | -17.65  | 15.21   | 0.25          | -0.25           | 1.32           |
|                    | 12/26/2017 | 1,277      | 1,276.73    | 0.44     | 131.51  | 18.21   | -18.34  | 15.89   | 0.34          | -0.33           | -6.32          |
|                    | 12/26/2017 | 1,372      | 1,371.72    | 0.42     | 85.94   | 18.42   | -18.56  | 16.51   | 0.35          | -0.02           | -47.97         |
|                    | 12/26/2017 | 1,467      | 1,466.72    | 0.31     | 51.61   | 18.23   | -18.37  | 17.06   | 0.25          | -0.12           | -36.14         |
|                    | 12/26/2017 | 1,562      | 1,561.72    | 0.67     | 26.53   | 17.57   | -17.72  | 17.51   | 0.43          | 0.38            | -26.40         |
|                    | 12/26/2017 | 1,657      | 1,656.71    | 1.07     | 58.36   | 16.60   | -16.75  | 18.51   | 0.65          | 0.42            | 33.51          |
|                    | 12/26/2017 | 1,752      | 1,751.68    | 1.92     | 68.98   | 15.55   | -15.72  | 20.75   | 0.94          | 0.89            | 11.18          |
|                    | 12/26/2017 | 1,846      | 1,845.61    | 2.22     | 69.97   | 14.33   | -14.53  | 23.94   | 0.32          | 0.32            | 1.05           |
|                    | 12/26/2017 | 1,940      | 1,939.53    | 2.74     | 74.62   | 13.08   | -13.31  | 27.81   | 0.59          | 0.55            | 4.95           |
|                    | 12/26/2017 | 2,034      | 2,033.44    | 2.23     | 77.82   | 12.07   | -12.33  | 31.77   | 0.56          | -0.54           | 3.40           |
|                    | 12/26/2017 | 2,129      | 2,128.39    | 1.56     | 40.62   | 10.67   | -10.96  | 34.41   | 1.44          | -0.71           | -39.16         |
|                    | 12/26/2017 | 2,224      | 2,223.33    | 2.59     | 339.14  | 7.69    | -7.97   | 34.49   | 2.42          | 1.08            | -64.72         |
|                    | 12/26/2017 | 2,318      | 2,317.10    | 5.42     | 310.41  | 2.86    | -3.11   | 30.35   | 3.60          | 3.01            | -30.56         |
|                    | 12/26/2017 | 2,413      | 2,411.48    | 7.72     | 301.39  | -3.30   | 3.13    | 21.49   | 2.65          | 2.42            | -9.49          |
|                    | 12/26/2017 | 2,507      | 2,504.40    | 9.58     | 299.85  | -10.39  | 10.31   | 9.32    | 1.99          | 1.98            | -1.64          |
|                    | 12/26/2017 | 2,601      | 2,596.66    | 12.49    | 294.10  | -18.30  | 18.36   | -6.75   | 3.31          | 3.10            | -6.12          |
|                    | 12/26/2017 | 2,696      | 2,688.94    | 14.96    | 288.15  | -26.14  | 26.37   | -27.79  | 2.99          | 2.60            | -6.26          |
|                    | 12/26/2017 | 2,790      | 2,779.53    | 16.01    | 287.62  | -33.65  | 34.08   | -51.67  | 1.13          | 1.12            | -0.56          |
|                    | 12/26/2017 | 2,885      | 2,870.90    | 15.75    | 288.20  | -41.44  | 42.07   | -76.40  | 0.32          | -0.27           | 0.61           |
|                    | 12/26/2017 | 2,979      | 2,961.46    | 15.38    | 284.91  | -48.43  | 49.26   | -100.57 | 1.02          | -0.39           | -3.50          |
|                    | 12/26/2017 | 3,073      | 3,052.14    | 15.14    | 284.50  | -54.52  | 55.54   | -124.50 | 0.28          | -0.26           | -0.44          |
|                    | 12/26/2017 | 3,167      | 3,142.99    | 14.63    | 285.03  | -60.48  | 61.69   | -147.85 | 0.56          | -0.54           | 0.56           |
|                    | 12/26/2017 | 3,261      | 3,234.11    | 13.81    | 284.23  | -66.13  | 67.53   | -170.19 | 0.90          | -0.87           | -0.85          |



# Directional Survey Data

| Survey Data    |            |           |            |          |         |         |         |         |               |                 |                |
|----------------|------------|-----------|------------|----------|---------|---------|---------|---------|---------------|-----------------|----------------|
| Survey Company | Date       | MD (ftOH) | TVD (ftOH) | Incl (°) | Azm (°) | VS (ft) | NS (ft) | EW (ft) | DLS (°/100ft) | Build (°/100ft) | Turn (°/100ft) |
|                | 12/26/2017 | 3,355     | 3,325.26   | 14.48    | 284.72  | -71.69  | 73.27   | -192.43 | 0.72          | 0.71            | 0.52           |
|                | 12/26/2017 | 3,382     | 3,351.40   | 14.48    | 284.72  | -73.35  | 74.99   | -198.96 | 0.00          | 0.00            | 0.00           |
|                | 12/26/2017 | 3,450     | 3,417.23   | 14.58    | 285.21  | -77.62  | 79.39   | -215.44 | 0.23          | 0.15            | 0.72           |
|                | 12/26/2017 | 3,544     | 3,508.20   | 14.58    | 284.78  | -83.56  | 85.52   | -238.30 | 0.12          | 0.00            | -0.46          |
|                | 12/26/2017 | 3,639     | 3,600.17   | 14.41    | 284.22  | -89.32  | 91.47   | -261.32 | 0.23          | -0.18           | -0.59          |
|                | 12/26/2017 | 3,734     | 3,692.30   | 13.85    | 285.02  | -94.99  | 97.32   | -283.76 | 0.62          | -0.59           | 0.84           |
|                | 12/26/2017 | 3,829     | 3,784.45   | 14.27    | 284.42  | -100.67 | 103.18  | -306.08 | 0.47          | 0.44            | -0.63          |
|                | 12/26/2017 | 3,924     | 3,876.33   | 15.20    | 284.70  | -106.55 | 109.26  | -329.47 | 0.98          | 0.98            | 0.29           |
|                | 12/26/2017 | 4,019     | 3,968.05   | 14.99    | 285.32  | -112.76 | 115.67  | -353.36 | 0.28          | -0.22           | 0.65           |
|                | 12/26/2017 | 4,114     | 4,059.89   | 14.64    | 284.93  | -118.91 | 122.01  | -376.81 | 0.38          | -0.37           | -0.41          |
|                | 12/26/2017 | 4,209     | 4,151.86   | 14.39    | 285.25  | -124.92 | 128.20  | -399.80 | 0.28          | -0.26           | 0.34           |
|                | 12/26/2017 | 4,304     | 4,243.96   | 13.98    | 285.73  | -130.95 | 134.42  | -422.24 | 0.45          | -0.43           | 0.51           |
|                | 12/26/2017 | 4,399     | 4,336.25   | 13.46    | 285.85  | -136.90 | 140.55  | -443.92 | 0.55          | -0.55           | 0.13           |
|                | 12/26/2017 | 4,494     | 4,428.59   | 13.74    | 287.38  | -143.12 | 146.94  | -465.32 | 0.48          | 0.29            | 1.61           |
|                | 12/26/2017 | 4,589     | 4,520.74   | 14.40    | 287.54  | -149.87 | 153.87  | -487.35 | 0.70          | 0.69            | 0.17           |
|                | 12/26/2017 | 4,683     | 4,611.67   | 14.95    | 288.61  | -157.07 | 161.26  | -509.99 | 0.65          | 0.59            | 1.14           |
|                | 12/26/2017 | 4,778     | 4,703.56   | 14.44    | 288.83  | -164.62 | 169.00  | -532.81 | 0.54          | -0.54           | 0.23           |
|                | 12/26/2017 | 4,873     | 4,795.75   | 13.53    | 289.08  | -171.90 | 176.45  | -554.53 | 0.96          | -0.96           | 0.26           |
|                | 12/29/2017 | 4,927     | 4,848.25   | 13.53    | 289.00  | -175.92 | 180.57  | -566.47 | 0.03          | 0.00            | -0.15          |
|                | 12/29/2017 | 4,968     | 4,888.07   | 13.98    | 289.61  | -179.07 | 183.80  | -575.67 | 1.15          | 1.10            | 1.49           |
|                | 12/29/2017 | 5,063     | 4,980.09   | 14.79    | 291.05  | -187.09 | 192.00  | -597.80 | 0.93          | 0.85            | 1.52           |
|                | 12/29/2017 | 5,158     | 5,072.04   | 14.33    | 290.57  | -195.40 | 200.49  | -620.12 | 0.50          | -0.48           | -0.51          |
|                | 12/29/2017 | 5,253     | 5,164.00   | 14.76    | 291.65  | -203.81 | 209.09  | -642.37 | 0.54          | 0.45            | 1.14           |
|                | 12/29/2017 | 5,348     | 5,255.88   | 14.66    | 291.95  | -212.58 | 218.04  | -664.77 | 0.13          | -0.11           | 0.32           |
|                | 12/29/2017 | 5,442     | 5,346.98   | 13.89    | 291.63  | -221.01 | 226.65  | -686.29 | 0.82          | -0.82           | -0.34          |
|                | 12/29/2017 | 5,537     | 5,439.33   | 13.26    | 292.74  | -229.26 | 235.06  | -706.94 | 0.72          | -0.66           | 1.17           |
|                | 12/29/2017 | 5,632     | 5,532.05   | 11.85    | 291.17  | -236.83 | 242.80  | -726.09 | 1.53          | -1.48           | -1.65          |
|                | 12/29/2017 | 5,726     | 5,624.20   | 10.95    | 289.51  | -243.16 | 249.27  | -743.50 | 1.02          | -0.96           | -1.77          |
|                | 12/30/2017 | 5,820     | 5,716.71   | 9.48     | 289.20  | -248.56 | 254.79  | -759.23 | 1.56          | -1.56           | -0.33          |
|                | 12/30/2017 | 5,915     | 5,810.63   | 7.74     | 286.46  | -252.83 | 259.18  | -772.75 | 1.88          | -1.83           | -2.88          |
|                | 12/30/2017 | 6,010     | 5,904.93   | 6.14     | 284.93  | -255.86 | 262.30  | -783.80 | 1.70          | -1.68           | -1.61          |
|                | 12/30/2017 | 6,106     | 6,000.53   | 4.25     | 282.00  | -257.86 | 264.36  | -792.24 | 1.99          | -1.97           | -3.05          |
|                | 12/31/2017 | 6,201     | 6,095.30   | 3.75     | 276.85  | -258.90 | 265.47  | -798.77 | 0.65          | -0.53           | -5.42          |
|                | 1/1/2018   | 6,297     | 6,191.16   | 2.34     | 283.89  | -259.71 | 266.31  | -803.79 | 1.52          | -1.47           | 7.33           |
|                | 1/1/2018   | 6,391     | 6,285.10   | 2.05     | 286.00  | -260.60 | 267.23  | -807.27 | 0.32          | -0.31           | 2.24           |
|                | 1/1/2018   | 6,486     | 6,380.03   | 2.29     | 277.03  | -261.28 | 267.94  | -810.78 | 0.44          | 0.25            | -9.44          |
|                | 1/1/2018   | 6,582     | 6,475.95   | 2.18     | 270.39  | -261.49 | 268.18  | -814.51 | 0.29          | -0.11           | -6.92          |
|                | 1/1/2018   | 6,676     | 6,569.89   | 1.95     | 261.40  | -261.24 | 267.96  | -817.88 | 0.42          | -0.24           | -9.56          |
|                | 1/1/2018   | 6,770     | 6,663.83   | 2.24     | 260.20  | -260.66 | 267.40  | -821.27 | 0.31          | 0.31            | -1.28          |
|                | 1/1/2018   | 6,865     | 6,758.76   | 2.27     | 261.99  | -260.05 | 266.83  | -824.97 | 0.08          | 0.03            | 1.88           |
|                | 1/1/2018   | 6,960     | 6,853.69   | 1.94     | 265.68  | -259.64 | 266.44  | -828.43 | 0.38          | -0.35           | 3.88           |
|                | 1/1/2018   | 7,055     | 6,948.65   | 1.46     | 273.22  | -259.56 | 266.39  | -831.24 | 0.56          | -0.51           | 7.94           |
|                | 1/1/2018   | 7,149     | 7,042.63   | 0.86     | 281.04  | -259.75 | 266.59  | -833.13 | 0.66          | -0.64           | 8.32           |



# Directional Survey Data

| Survey Data         |           |            |             |          |         |          |           |         |               |                 |                |  |
|---------------------|-----------|------------|-------------|----------|---------|----------|-----------|---------|---------------|-----------------|----------------|--|
| Survey Company      | Date      | MD (ftOTH) | TVD (ftOTH) | Incl (°) | Azm (°) | VS (ft)  | NS (ft)   | EW (ft) | DLS (°/100ft) | Build (°/100ft) | Turn (°/100ft) |  |
|                     | 1/1/2018  | 7,244      | 7,137.62    | 0.85     | 296.45  | -260.19  | 267.04    | -834.46 | 0.24          | -0.01           | 16.22          |  |
|                     | 1/1/2018  | 7,338      | 7,231.61    | 0.63     | 337.95  | -260.97  | 267.83    | -835.28 | 0.60          | -0.23           | 44.15          |  |
|                     | 1/1/2018  | 7,434      | 7,327.61    | 0.38     | 331.02  | -261.74  | 268.60    | -835.63 | 0.27          | -0.26           | -7.22          |  |
|                     | 1/1/2018  | 7,528      | 7,421.61    | 0.55     | 266.57  | -261.98  | 268.84    | -836.23 | 0.55          | 0.18            | -68.56         |  |
|                     | 1/1/2018  | 7,623      | 7,516.60    | 0.66     | 228.06  | -261.58  | 268.45    | -837.10 | 0.43          | 0.12            | -40.54         |  |
|                     | 1/1/2018  | 7,718      | 7,611.60    | 0.67     | 194.18  | -260.67  | 267.55    | -837.64 | 0.41          | 0.01            | -35.66         |  |
|                     | 1/1/2018  | 7,813      | 7,706.59    | 0.66     | 177.74  | -259.58  | 266.46    | -837.75 | 0.20          | -0.01           | -17.31         |  |
|                     | 1/1/2018  | 8,001      | 7,894.58    | 0.63     | 138.62  | -257.73  | 264.60    | -837.03 | 0.23          | -0.02           | -20.81         |  |
|                     | 1/1/2018  | 8,096      | 7,989.57    | 0.85     | 123.84  | -256.95  | 263.82    | -836.10 | 0.30          | 0.23            | -15.56         |  |
|                     | 1/1/2018  | 8,191      | 8,084.56    | 0.99     | 133.08  | -256.01  | 262.87    | -834.91 | 0.21          | 0.15            | 9.73           |  |
|                     | 1/1/2018  | 8,286      | 8,179.55    | 0.96     | 135.11  | -254.90  | 261.74    | -833.75 | 0.05          | -0.03           | 2.14           |  |
|                     | 1/1/2018  | 8,382      | 8,275.53    | 0.75     | 144.57  | -253.82  | 260.66    | -832.82 | 0.26          | -0.22           | 9.85           |  |
|                     | 1/1/2018  | 8,476      | 8,369.53    | 0.75     | 151.48  | -252.78  | 259.62    | -832.17 | 0.10          | 0.00            | 7.35           |  |
|                     | 1/1/2018  | 8,596      | 8,489.52    | 0.72     | 150.83  | -251.44  | 258.27    | -831.43 | 0.03          | -0.03           | -0.54          |  |
|                     | 1/1/2018  | 8,618      | 8,511.52    | 0.72     | 148.78  | -251.20  | 258.03    | -831.29 | 0.12          | 0.00            | -9.32          |  |
| Phoenix Directional | 5/10/2018 | 8,731      | 8,624.47    | 2.43     | 167.09  | -248.27  | 255.09    | -830.38 | 1.56          | 1.51            | 16.20          |  |
| Phoenix Directional | 5/10/2018 | 8,778      | 8,671.30    | 7.02     | 169.12  | -244.48  | 251.30    | -829.62 | 9.77          | 9.77            | 4.32           |  |
| Phoenix Directional | 5/10/2018 | 8,826      | 8,718.64    | 11.76    | 170.42  | -236.79  | 243.59    | -828.25 | 9.88          | 9.88            | 2.71           |  |
| Phoenix Directional | 5/10/2018 | 8,873      | 8,764.23    | 16.29    | 175.86  | -225.49  | 232.28    | -826.98 | 10.03         | 9.64            | 11.57          |  |
| Phoenix Directional | 5/10/2018 | 8,920      | 8,808.95    | 19.55    | 182.04  | -211.06  | 217.85    | -826.78 | 8.02          | 6.94            | 13.15          |  |
| Phoenix Directional | 5/10/2018 | 8,968      | 8,853.48    | 24.17    | 185.01  | -193.22  | 200.02    | -827.93 | 9.89          | 9.63            | 6.19           |  |
| Phoenix Directional | 5/10/2018 | 9,014      | 8,894.57    | 29.22    | 184.11  | -172.62  | 179.43    | -829.55 | 11.01         | 10.98           | -1.96          |  |
| Phoenix Directional | 5/10/2018 | 9,062      | 8,935.51    | 33.67    | 183.14  | -147.62  | 154.44    | -831.12 | 9.33          | 9.27            | -2.02          |  |
| Phoenix Directional | 5/10/2018 | 9,110      | 8,974.28    | 38.55    | 183.23  | -119.37  | 126.21    | -832.70 | 10.17         | 10.17           | 0.19           |  |
| Phoenix Directional | 5/10/2018 | 9,157      | 9,009.95    | 42.67    | 185.38  | -88.86   | 95.71     | -835.02 | 9.26          | 8.77            | 4.57           |  |
| Phoenix Directional | 5/10/2018 | 9,205      | 9,044.11    | 46.56    | 184.93  | -55.27   | 62.14     | -838.04 | 8.13          | 8.10            | -0.94          |  |
| Phoenix Directional | 5/10/2018 | 9,252      | 9,075.05    | 51.09    | 182.67  | -19.96   | 26.86     | -840.36 | 10.29         | 9.64            | -4.81          |  |
| Phoenix Directional | 5/10/2018 | 9,299      | 9,102.70    | 56.81    | 182.33  | 18.00    | -11.09    | -842.01 | 12.18         | 12.17           | -0.72          |  |
| Phoenix Directional | 5/10/2018 | 9,346      | 9,126.77    | 61.55    | 182.85  | 58.32    | -51.40    | -843.84 | 10.13         | 10.09           | 1.11           |  |
| Phoenix Directional | 5/10/2018 | 9,440      | 9,164.70    | 70.80    | 181.58  | 144.18   | -137.23   | -847.13 | 9.92          | 9.84            | -1.35          |  |
| Phoenix Directional | 5/10/2018 | 9,488      | 9,178.25    | 76.39    | 181.39  | 190.20   | -183.25   | -848.32 | 11.65         | 11.65           | -0.40          |  |
| Phoenix Directional | 5/10/2018 | 9,535      | 9,186.84    | 82.54    | 180.04  | 236.38   | -229.43   | -848.89 | 13.39         | 13.09           | -2.87          |  |
| Phoenix Directional | 5/10/2018 | 9,582      | 9,191.29    | 86.61    | 176.54  | 283.12   | -276.18   | -847.49 | 11.40         | 8.66            | -7.45          |  |
| Phoenix Directional | 5/10/2018 | 9,677      | 9,195.86    | 87.87    | 175.84  | 377.74   | -370.85   | -841.18 | 1.52          | 1.33            | -0.74          |  |
| Phoenix Directional | 5/10/2018 | 9,772      | 9,198.84    | 88.54    | 177.82  | 472.50   | -465.66   | -835.93 | 2.20          | 0.71            | 2.08           |  |
| Phoenix Directional | 5/10/2018 | 9,867      | 9,200.74    | 89.16    | 178.43  | 567.40   | -560.59   | -832.82 | 0.92          | 0.65            | 0.64           |  |
| Phoenix Directional | 5/10/2018 | 9,961      | 9,201.45    | 89.98    | 177.77  | 661.32   | -654.53   | -829.71 | 1.12          | 0.87            | -0.70          |  |
| Phoenix Directional | 5/10/2018 | 10,056     | 9,200.74    | 90.88    | 177.25  | 756.18   | -749.44   | -825.58 | 1.09          | 0.95            | -0.55          |  |
| Phoenix Directional | 5/10/2018 | 10,151     | 9,199.67    | 90.41    | 175.66  | 850.94   | -844.25   | -819.71 | 1.75          | -0.49           | -1.67          |  |
| Phoenix Directional | 5/10/2018 | 10,246     | 9,200.34    | 88.78    | 177.44  | 945.71   | -939.06   | -813.99 | 2.54          | -1.72           | 1.87           |  |
| Phoenix Directional | 5/10/2018 | 10,341     | 9,202.36    | 88.78    | 180.66  | 1,040.65 | -1,034.02 | -812.42 | 3.39          | 0.00            | 3.39           |  |
| Phoenix Directional | 5/10/2018 | 10,436     | 9,205.64    | 87.27    | 177.87  | 1,135.56 | -1,128.94 | -811.20 | 3.34          | -1.59           | -2.94          |  |
| Phoenix Directional | 5/10/2018 | 10,531     | 9,209.47    | 88.10    | 178.72  | 1,230.41 | -1,223.82 | -808.38 | 1.25          | 0.87            | 0.89           |  |



# Directional Survey Data

| Survey Data         |           |         |          |          |         |          |           |         |               |                 |                |  |
|---------------------|-----------|---------|----------|----------|---------|----------|-----------|---------|---------------|-----------------|----------------|--|
| Survey Company      | Date      | MD (ft) | TVD (ft) | Incl (°) | Azm (°) | VS (ft)  | NS (ft)   | EW (ft) | DLS (°/100ft) | Build (°/100ft) | Turn (°/100ft) |  |
| Phoenix Directional | 5/10/2018 | 10,626  | 9,210.48 | 90.69    | 181.37  | 1,325.39 | -1,318.80 | -808.45 | 3.90          | 2.73            | 2.79           |  |
| Phoenix Directional | 5/10/2018 | 10,721  | 9,208.70 | 91.45    | 179.16  | 1,420.36 | -1,413.77 | -808.89 | 2.46          | 0.80            | -2.33          |  |
| Phoenix Directional | 5/10/2018 | 10,816  | 9,207.25 | 90.30    | 178.29  | 1,515.30 | -1,508.74 | -806.78 | 1.52          | -1.21           | -0.92          |  |
| Phoenix Directional | 5/10/2018 | 10,910  | 9,209.73 | 86.68    | 173.40  | 1,608.92 | -1,602.41 | -799.97 | 6.47          | -3.85           | -5.20          |  |
| Phoenix Directional | 5/10/2018 | 11,005  | 9,212.40 | 90.10    | 177.16  | 1,703.46 | -1,697.02 | -792.17 | 5.35          | 3.60            | 3.96           |  |
| Phoenix Directional | 5/10/2018 | 11,099  | 9,211.14 | 91.43    | 181.07  | 1,797.41 | -1,790.98 | -790.71 | 4.39          | 1.41            | 4.16           |  |
| Phoenix Directional | 5/10/2018 | 11,194  | 9,210.36 | 89.51    | 180.59  | 1,892.40 | -1,885.97 | -792.09 | 2.08          | -2.02           | -0.51          |  |
| Phoenix Directional | 5/10/2018 | 11,289  | 9,210.42 | 90.42    | 182.56  | 1,987.38 | -1,980.92 | -794.70 | 2.28          | 0.96            | 2.07           |  |
| Phoenix Directional | 5/10/2018 | 11,384  | 9,208.75 | 91.60    | 183.05  | 2,082.28 | -2,075.79 | -799.35 | 1.34          | 1.24            | 0.52           |  |
| Phoenix Directional | 5/10/2018 | 11,479  | 9,205.45 | 92.38    | 182.96  | 2,177.13 | -2,170.60 | -804.33 | 0.83          | 0.82            | -0.09          |  |
| Phoenix Directional | 5/10/2018 | 11,573  | 9,201.94 | 91.90    | 182.20  | 2,271.00 | -2,264.44 | -808.55 | 0.96          | -0.51           | -0.81          |  |
| Phoenix Directional | 5/10/2018 | 11,668  | 9,198.46 | 92.30    | 181.98  | 2,365.90 | -2,359.32 | -812.02 | 0.48          | 0.42            | -0.23          |  |
| Phoenix Directional | 5/10/2018 | 11,763  | 9,193.98 | 93.10    | 180.84  | 2,460.78 | -2,454.18 | -814.35 | 1.46          | 0.84            | -1.20          |  |
| Phoenix Directional | 5/10/2018 | 11,857  | 9,190.80 | 90.78    | 178.10  | 2,554.69 | -2,548.11 | -813.48 | 3.82          | -2.47           | -2.91          |  |
| Phoenix Directional | 5/10/2018 | 11,952  | 9,190.00 | 90.19    | 177.31  | 2,649.58 | -2,643.03 | -809.68 | 1.04          | -0.62           | -0.83          |  |
| Phoenix Directional | 5/10/2018 | 12,047  | 9,192.59 | 86.68    | 177.60  | 2,744.40 | -2,737.88 | -805.46 | 3.71          | -3.69           | 0.31           |  |
| Phoenix Directional | 5/10/2018 | 12,142  | 9,198.05 | 86.73    | 178.24  | 2,839.14 | -2,832.66 | -802.02 | 0.67          | 0.05            | 0.67           |  |
| Phoenix Directional | 5/10/2018 | 12,237  | 9,203.06 | 87.22    | 181.28  | 2,933.99 | -2,927.52 | -801.62 | 3.24          | 0.52            | 3.20           |  |
| Phoenix Directional | 5/10/2018 | 12,331  | 9,206.64 | 88.42    | 183.44  | 3,027.87 | -3,021.36 | -805.49 | 2.63          | 1.28            | 2.30           |  |
| Phoenix Directional | 5/10/2018 | 12,426  | 9,208.78 | 89.00    | 182.52  | 3,122.75 | -3,116.21 | -810.43 | 1.14          | 0.61            | -0.97          |  |
| Phoenix Directional | 5/10/2018 | 12,521  | 9,209.71 | 89.88    | 181.99  | 3,217.70 | -3,211.13 | -814.17 | 1.08          | 0.93            | -0.56          |  |
| Phoenix Directional | 5/10/2018 | 12,616  | 9,209.50 | 90.37    | 180.59  | 3,312.69 | -3,306.10 | -816.30 | 1.56          | 0.52            | -1.47          |  |
| Phoenix Directional | 5/10/2018 | 12,711  | 9,208.50 | 90.84    | 180.76  | 3,407.68 | -3,401.09 | -817.42 | 0.53          | 0.49            | 0.18           |  |
| Phoenix Directional | 5/10/2018 | 12,806  | 9,206.81 | 91.20    | 179.31  | 3,502.66 | -3,496.07 | -817.48 | 1.57          | 0.38            | -1.53          |  |
| Phoenix Directional | 5/10/2018 | 12,901  | 9,204.71 | 91.33    | 178.52  | 3,597.60 | -3,591.03 | -815.68 | 0.84          | 0.14            | -0.83          |  |
| Phoenix Directional | 5/10/2018 | 12,996  | 9,203.28 | 90.39    | 179.48  | 3,692.56 | -3,686.00 | -814.03 | 1.41          | -0.99           | 1.01           |  |
| Phoenix Directional | 5/10/2018 | 13,091  | 9,201.86 | 91.33    | 178.53  | 3,787.51 | -3,780.98 | -812.38 | 1.41          | 0.99            | -1.00          |  |
| Phoenix Directional | 5/10/2018 | 13,186  | 9,201.07 | 89.62    | 178.44  | 3,882.45 | -3,875.94 | -809.86 | 1.80          | -1.80           | -0.09          |  |
| Phoenix Directional | 5/10/2018 | 13,281  | 9,202.32 | 88.87    | 177.17  | 3,977.33 | -3,970.85 | -806.23 | 1.55          | -0.79           | -1.34          |  |
| Phoenix Directional | 5/10/2018 | 13,376  | 9,204.05 | 89.04    | 177.44  | 4,072.17 | -4,065.73 | -801.76 | 0.34          | 0.18            | 0.28           |  |
| Phoenix Directional | 5/10/2018 | 13,470  | 9,203.97 | 91.06    | 177.47  | 4,166.04 | -4,159.64 | -797.59 | 2.15          | 2.15            | 0.03           |  |
| Phoenix Directional | 5/10/2018 | 13,493  | 9,203.46 | 91.49    | 177.73  | 4,189.00 | -4,182.61 | -796.62 | 2.18          | 1.87            | 1.13           |  |
| Phoenix Directional | 5/10/2018 | 13,587  | 9,201.20 | 91.27    | 179.14  | 4,282.92 | -4,276.55 | -794.06 | 1.52          | -0.23           | 1.50           |  |
| Phoenix Directional | 5/10/2018 | 13,683  | 9,199.19 | 91.12    | 180.32  | 4,378.88 | -4,372.52 | -793.60 | 1.24          | -0.16           | 1.23           |  |
| Phoenix Directional | 5/10/2018 | 13,778  | 9,198.56 | 89.65    | 181.33  | 4,473.88 | -4,467.51 | -794.97 | 1.88          | -1.55           | 1.06           |  |
| Phoenix Directional | 5/10/2018 | 13,873  | 9,199.17 | 89.61    | 181.60  | 4,568.86 | -4,562.47 | -797.40 | 0.29          | -0.04           | 0.28           |  |
| Phoenix Directional | 5/10/2018 | 13,968  | 9,199.59 | 89.88    | 181.60  | 4,663.84 | -4,657.44 | -800.05 | 0.28          | 0.28            | 0.00           |  |
| Phoenix Directional | 5/10/2018 | 14,063  | 9,199.68 | 90.02    | 181.51  | 4,758.82 | -4,752.40 | -802.63 | 0.18          | 0.15            | -0.09          |  |
| Phoenix Directional | 5/10/2018 | 14,157  | 9,199.76 | 89.88    | 181.29  | 4,852.81 | -4,846.37 | -804.93 | 0.28          | -0.15           | -0.23          |  |
| Phoenix Directional | 5/10/2018 | 14,252  | 9,200.10 | 89.71    | 182.87  | 4,947.77 | -4,941.31 | -808.38 | 1.67          | -0.18           | 1.66           |  |
| Phoenix Directional | 5/10/2018 | 14,346  | 9,200.50 | 89.80    | 183.93  | 5,041.65 | -5,035.14 | -813.95 | 1.13          | 0.10            | 1.13           |  |
| Phoenix Directional | 5/10/2018 | 14,441  | 9,202.88 | 87.33    | 183.97  | 5,136.43 | -5,129.88 | -820.49 | 2.60          | -2.60           | 0.04           |  |
| Phoenix Directional | 5/10/2018 | 14,536  | 9,208.02 | 86.47    | 183.93  | 5,231.12 | -5,224.51 | -827.03 | 0.91          | -0.91           | -0.04          |  |



# Directional Survey Data

| Survey Data         |           |         |          |          |         |          |           |         |               |                 |                |
|---------------------|-----------|---------|----------|----------|---------|----------|-----------|---------|---------------|-----------------|----------------|
| Survey Company      | Date      | MD (ft) | TVD (ft) | Incl (°) | Azm (°) | VS (ft)  | NS (ft)   | EW (ft) | DLS (°/100ft) | Build (°/100ft) | Turn (°/100ft) |
| Phoenix Directional | 5/10/2018 | 14,631  | 9,213.91 | 86.42    | 183.97  | 5,325.76 | -5,319.10 | -833.56 | 0.07          | -0.05           | 0.04           |
| Phoenix Directional | 5/10/2018 | 14,726  | 9,220.16 | 86.03    | 181.46  | 5,420.47 | -5,413.78 | -838.05 | 2.67          | -0.41           | -2.64          |
| Phoenix Directional | 5/10/2018 | 14,821  | 9,225.64 | 87.36    | 180.06  | 5,515.31 | -5,508.61 | -839.31 | 2.03          | 1.40            | -1.47          |
| Phoenix Directional | 5/10/2018 | 14,916  | 9,228.97 | 88.62    | 179.31  | 5,610.24 | -5,603.55 | -838.78 | 1.54          | 1.33            | -0.79          |
| Phoenix Directional | 5/10/2018 | 15,010  | 9,230.12 | 89.98    | 179.39  | 5,704.21 | -5,697.53 | -837.72 | 1.45          | 1.45            | 0.09           |
| Phoenix Directional | 5/10/2018 | 15,105  | 9,230.25 | 89.86    | 177.42  | 5,799.15 | -5,792.49 | -835.07 | 2.08          | -0.13           | -2.07          |
| Phoenix Directional | 5/10/2018 | 15,200  | 9,229.70 | 90.81    | 178.65  | 5,894.06 | -5,887.43 | -831.82 | 1.64          | 1.00            | 1.29           |
| Phoenix Directional | 5/10/2018 | 15,296  | 9,228.00 | 91.21    | 179.09  | 5,990.00 | -5,983.40 | -829.92 | 0.62          | 0.42            | 0.46           |
| Phoenix Directional | 5/10/2018 | 15,391  | 9,226.82 | 90.22    | 178.39  | 6,084.95 | -6,078.36 | -827.83 | 1.28          | -1.04           | -0.74          |
| Phoenix Directional | 5/10/2018 | 15,485  | 9,225.92 | 90.88    | 179.66  | 6,178.91 | -6,172.34 | -826.24 | 1.52          | 0.70            | 1.35           |
| Phoenix Directional | 5/10/2018 | 15,580  | 9,224.45 | 90.89    | 179.93  | 6,273.90 | -6,267.33 | -825.90 | 0.28          | 0.01            | 0.28           |
| Phoenix Directional | 5/10/2018 | 15,675  | 9,222.67 | 91.25    | 179.79  | 6,368.87 | -6,362.32 | -825.66 | 0.41          | 0.38            | -0.15          |
| Phoenix Directional | 5/10/2018 | 15,770  | 9,220.61 | 91.24    | 179.88  | 6,463.85 | -6,457.29 | -825.39 | 0.10          | -0.01           | 0.09           |
| Phoenix Directional | 5/10/2018 | 15,865  | 9,218.14 | 91.74    | 179.88  | 6,558.81 | -6,552.26 | -825.19 | 0.53          | 0.53            | 0.00           |
| Phoenix Directional | 5/10/2018 | 15,961  | 9,216.43 | 90.30    | 181.24  | 6,654.79 | -6,648.24 | -826.13 | 2.06          | -1.50           | 1.42           |
| Phoenix Directional | 5/10/2018 | 16,056  | 9,216.39 | 89.75    | 181.99  | 6,749.77 | -6,743.20 | -828.81 | 0.98          | -0.58           | 0.79           |
| Phoenix Directional | 5/10/2018 | 16,151  | 9,217.10 | 89.39    | 181.68  | 6,844.74 | -6,838.14 | -831.85 | 0.50          | -0.38           | -0.33          |
| Phoenix Directional | 5/10/2018 | 16,341  | 9,219.41 | 89.22    | 181.60  | 7,034.68 | -7,028.05 | -837.29 | 0.10          | -0.09           | -0.04          |
| Phoenix Directional | 5/10/2018 | 16,436  | 9,220.63 | 89.31    | 181.29  | 7,129.66 | -7,123.01 | -839.68 | 0.34          | 0.09            | -0.33          |
| Phoenix Directional | 5/10/2018 | 16,531  | 9,221.86 | 89.20    | 181.16  | 7,224.65 | -7,217.98 | -841.71 | 0.18          | -0.12           | -0.14          |
| Phoenix Directional | 5/10/2018 | 16,626  | 9,223.47 | 88.86    | 180.45  | 7,319.63 | -7,312.96 | -843.05 | 0.83          | -0.36           | -0.75          |
| Phoenix Directional | 5/10/2018 | 16,720  | 9,225.82 | 88.27    | 179.53  | 7,413.60 | -7,406.93 | -843.03 | 1.16          | -0.63           | -0.98          |
| Phoenix Directional | 5/10/2018 | 16,815  | 9,228.34 | 88.70    | 179.27  | 7,508.55 | -7,501.89 | -842.04 | 0.53          | 0.45            | -0.27          |
| Phoenix Directional | 5/10/2018 | 16,835  | 9,228.78 | 88.78    | 179.44  | 7,528.54 | -7,521.89 | -841.81 | 0.94          | 0.40            | 0.85           |
| Phoenix Directional | 5/10/2018 | 16,900  | 9,230.16 | 88.78    | 179.44  | 7,593.51 | -7,586.87 | -841.18 | 0.00          | 0.00            | 0.00           |