

HOBBS OCD

SEP 23 2015

RECEIVED



June 8, 2015

Devon Energy Production Co., L. P.  
333 West Sheridan Ave  
Oklahoma City, Oklahoma 73102-5010

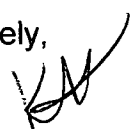
Attn: Megan Moravec

Re: **Monk 21 State 4H**

Please find enclosed a copy of the survey from 0' to 1796.80' ran on the above referenced well.

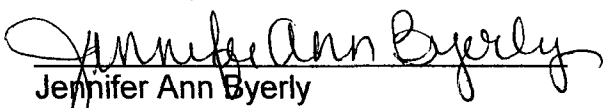
If I can be of any further service please do not hesitate to call me at 800-606-4976.

Sincerely,

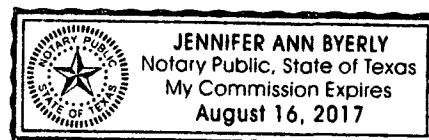
  
Keith Havelka  
Operations

STATE OF TEXAS       §  
                                  §  
COUNTY OF NUECES   §

This instrument was acknowledged before me on the 8 day of June,  
A.D., 2015, by Keith Havelka.

  
Jennifer Ann Byerly  
Notary Public, State of Texas

VES Survey International  
P.O. Box 261021 Corpus Christi, TX 78426  
T (361) 767-0602 F (361) 767-0612  
www.vessurvey.com



SEP 28 2015



Company: DEVON ENERGY  
Lease/Well: MONK 21 STATE/4H



Rig Name: H&P 267  
State/County: NEW MEXICO/LEA  
VS-Azi: 172.97 Degrees  
Latitude: 32.47110, Longitude: -103.47274  
Grid Convergence Applied = -0.46 degs (NAD 27)  
Grid North = True North -0.46 degs

Depth Reference : RKB 25 Feet

# DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: msgyro\_run02-01-de\_01.ut  
Minimum Curvature Method  
Report Date/Time: 6/8/2015 / 11:40

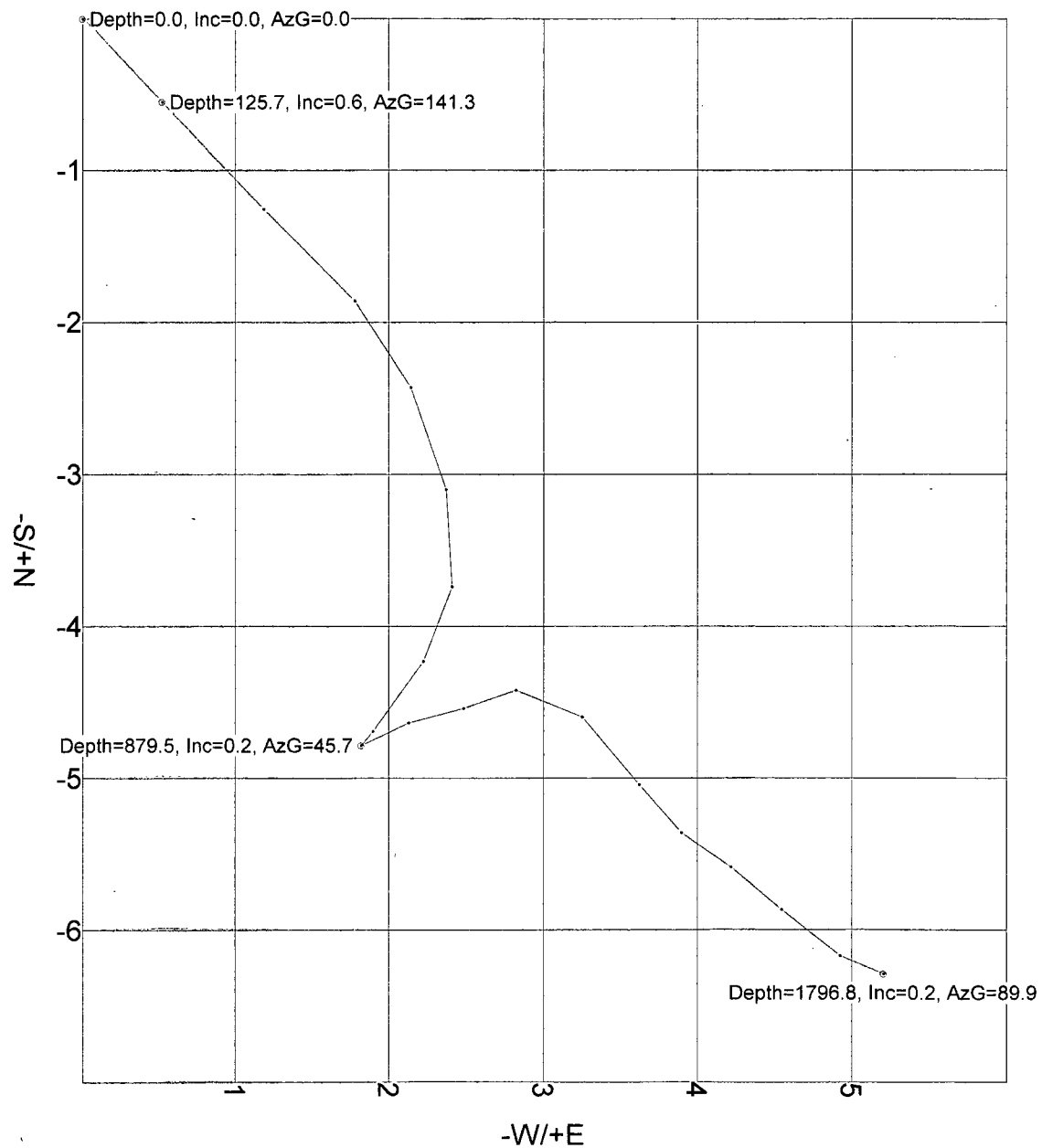
VES Survey International  
Woodward, Oklahoma  
580-254-5000  
Surveyor: Chris Randall  
Monk 21 State 4H / API 30-025-42193

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | TVD<br>FT | +N/-S<br>FT | +E/-W<br>FT | Vertical<br>Section<br>FT | Closure<br>Distance<br>FT | Closure<br>Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 0.00                    | 0.00                 | 0.00                      | 0.00      | 0.00        | 0.00        | 0.00                      | 0.00                      | 0.00                        | ****                          |
| 31.46                   | 0.24                 | 127.04                    | 31.46     | -0.04       | 0.05        | 0.05                      | 0.07                      | 127.04                      | 0.76                          |
| 125.69                  | 0.61                 | 141.35                    | 125.69    | -0.55       | 0.52        | 0.61                      | 0.76                      | 136.45                      | 0.41                          |
| 219.92                  | 0.57                 | 132.01                    | 219.91    | -1.26       | 1.19        | 1.39                      | 1.73                      | 136.65                      | 0.11                          |
| 314.15                  | 0.45                 | 140.06                    | 314.14    | -1.86       | 1.78        | 2.06                      | 2.57                      | 136.29                      | 0.15                          |
| 408.38                  | 0.38                 | 155.67                    | 408.37    | -2.43       | 2.14        | 2.67                      | 3.24                      | 138.55                      | 0.14                          |
| 502.61                  | 0.49                 | 165.80                    | 502.59    | -3.10       | 2.37        | 3.37                      | 3.90                      | 142.60                      | 0.14                          |
| 596.84                  | 0.31                 | 193.61                    | 596.82    | -3.74       | 2.41        | 4.01                      | 4.45                      | 147.22                      | 0.27                          |
| 691.07                  | 0.33                 | 207.20                    | 691.05    | -4.23       | 2.23        | 4.47                      | 4.78                      | 152.26                      | 0.08                          |
| 785.30                  | 0.37                 | 222.87                    | 785.28    | -4.69       | 1.90        | 4.89                      | 5.06                      | 158.00                      | 0.11                          |
| 879.53                  | 0.22                 | 45.66                     | 879.51    | -4.79       | 1.82        | 4.97                      | 5.12                      | 159.17                      | 0.63                          |
| 973.76                  | 0.22                 | 83.21                     | 973.74    | -4.64       | 2.13        | 4.86                      | 5.10                      | 155.33                      | 0.15                          |
| 1067.99                 | 0.23                 | 66.82                     | 1067.97   | -4.54       | 2.49        | 4.81                      | 5.18                      | 151.31                      | 0.07                          |
| 1162.22                 | 0.20                 | 75.00                     | 1162.20   | -4.42       | 2.82        | 4.73                      | 5.25                      | 147.45                      | 0.05                          |
| 1256.45                 | 0.42                 | 129.13                    | 1256.42   | -4.60       | 3.25        | 4.96                      | 5.63                      | 144.73                      | 0.37                          |
| 1350.68                 | 0.30                 | 156.70                    | 1350.65   | -5.04       | 3.62        | 5.45                      | 6.21                      | 144.33                      | 0.22                          |
| 1444.91                 | 0.24                 | 116.92                    | 1444.88   | -5.36       | 3.90        | 5.80                      | 6.63                      | 143.99                      | 0.20                          |

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | TVD<br>FT | +N/-S<br>FT | +E/-W<br>FT | Vertical<br>Section<br>FT | Closure<br>Distance<br>FT | Closure<br>Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 1539.14                 | 0.24                 | 133.84                    | 1539.11   | -5.59       | 4.22        | 6.07                      | 7.00                      | 142.95                      | 0.08                          |
| 1633.37                 | 0.28                 | 127.40                    | 1633.34   | -5.87       | 4.55        | 6.38                      | 7.43                      | 142.23                      | 0.05                          |
| 1727.60                 | 0.31                 | 129.55                    | 1727.57   | -6.17       | 4.93        | 6.73                      | 7.90                      | 141.40                      | 0.04                          |
| 1796.80                 | 0.22                 | 89.93                     | 1796.77   | -6.29       | 5.21        | 6.88                      | 8.17                      | 140.39                      | 0.29                          |



VES Survey International  
Woodward, Oklahoma  
580-254-5000  
Surveyor: Chris Randall  
Monk 21 State 4H / API 30-025-42193



V.E.S. Survey Date: 5/31/2015



June 16, 2015

Devon Energy Production Co., L. P.  
333 West Sheridan Ave  
Oklahoma City, Oklahoma 73102-5010

HOBBS OFF  
SEP 23 2015  
RECEIVED

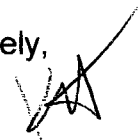
Attn: Megan Moravec

Re: **Monk 21 State 4H**

Please find enclosed a copy of the survey from 0' to 5715.08' ran on the above referenced well.

If I can be of any further service please do not hesitate to call me at 800-606-4976.

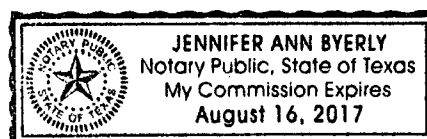
Sincerely,

  
Keith Havelka  
Operations

STATE OF TEXAS     §  
                                  §  
COUNTY OF NUECES §

This instrument was acknowledged before me on the 16 day of June,  
A.D., 2015, by Keith Havelka.

  
Jennifer Ann Byerly  
Notary Public, State of Texas





Company: Devon Energy  
Lease/Well: Monk 21 State/4H



Rig Name: HP 267  
State/County: New Mexico/Lea  
VS-Azi: 172.97 Degrees  
Latitude: 32.47110, Longitude: -103.47274  
Grid Convergence Applied = -0.46 degs (NAD 27)  
Grid North = True North -0.46 degs

Depth Reference : RKB = 25 feet

DRILLOG MS GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut  
Minimum Curvature Method  
Report Date/Time: 6/16/2015 / 13:03

VES Survey International  
Midland, Texas  
432-563-5444

Surveyor: Adam Askew  
Monk 21 State 4H / API 30-025-42193

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | TVD<br>FT | +N/-S<br>FT | +E/-W<br>FT | Vertical<br>Section<br>FT | Closure<br>Distance<br>FT | Closure<br>Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 0.00                    | 0.00                 | 0.00                      | 0.00      | 0.00        | 0.00        | 0.00                      | 0.00                      | 0.00                        | ****                          |
| 85.88                   | 0.61                 | 205.12                    | 85.88     | -0.42       | -0.19       | 0.39                      | 0.46                      | 205.12                      | 0.71                          |
| 179.70                  | 0.49                 | 170.93                    | 179.69    | -1.26       | -0.34       | 1.21                      | 1.31                      | 195.26                      | 0.37                          |
| 273.52                  | 0.60                 | 186.26                    | 273.51    | -2.14       | -0.33       | 2.09                      | 2.17                      | 188.88                      | 0.19                          |
| 367.34                  | 0.73                 | 201.54                    | 367.32    | -3.18       | -0.61       | 3.09                      | 3.24                      | 190.80                      | 0.23                          |
| 461.16                  | 0.57                 | 212.83                    | 461.14    | -4.13       | -1.08       | 3.97                      | 4.27                      | 194.63                      | 0.22                          |
| 554.98                  | 0.54                 | 207.14                    | 554.95    | -4.91       | -1.53       | 4.69                      | 5.15                      | 197.31                      | 0.06                          |
| 648.80                  | 0.51                 | 221.13                    | 648.77    | -5.62       | -2.01       | 5.34                      | 5.97                      | 199.66                      | 0.14                          |
| 742.62                  | 0.53                 | 215.86                    | 742.59    | -6.29       | -2.54       | 5.93                      | 6.78                      | 201.98                      | 0.06                          |
| 836.44                  | 0.58                 | 233.83                    | 836.40    | -6.92       | -3.18       | 6.48                      | 7.62                      | 204.64                      | 0.19                          |
| 930.26                  | 0.61                 | 239.25                    | 930.22    | -7.46       | -3.99       | 6.91                      | 8.45                      | 208.12                      | 0.07                          |
| 1024.08                 | 0.63                 | 235.85                    | 1024.03   | -8.00       | -4.84       | 7.35                      | 9.35                      | 211.17                      | 0.05                          |
| 1117.90                 | 0.54                 | 212.94                    | 1117.85   | -8.66       | -5.51       | 7.92                      | 10.27                     | 212.45                      | 0.26                          |
| 1211.72                 | 0.56                 | 209.69                    | 1211.66   | -9.44       | -5.98       | 8.63                      | 11.17                     | 212.36                      | 0.04                          |
| 1305.54                 | 0.57                 | 210.86                    | 1305.48   | -10.24      | -6.44       | 9.37                      | 12.10                     | 212.20                      | 0.02                          |
| 1399.36                 | 0.54                 | 215.24                    | 1399.29   | -11.00      | -6.94       | 10.07                     | 13.01                     | 212.25                      | 0.05                          |
| 1493.18                 | 0.55                 | 219.20                    | 1493.11   | -11.71      | -7.48       | 10.71                     | 13.90                     | 212.57                      | 0.04                          |

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | TVD<br>FT | +N/-S<br>FT | +E/-W<br>FT | Vertical<br>Section<br>FT | Closure<br>Distance<br>FT | Closure<br>Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 1587.00                 | 0.58                 | 229.32                    | 1586.92   | -12.37      | -8.13       | 11.28                     | 14.80                     | 213.30                      | 0.11                          |
| 1680.82                 | 0.51                 | 217.19                    | 1680.74   | -13.01      | -8.74       | 11.84                     | 15.67                     | 213.88                      | 0.15                          |
| 1774.64                 | 0.50                 | 221.93                    | 1774.56   | -13.65      | -9.26       | 12.41                     | 16.49                     | 214.17                      | 0.04                          |
| 1868.46                 | 0.70                 | 226.94                    | 1868.37   | -14.34      | -9.96       | 13.02                     | 17.46                     | 214.76                      | 0.21                          |
| 1962.28                 | 0.69                 | 241.92                    | 1962.18   | -15.00      | -10.87      | 13.56                     | 18.52                     | 215.93                      | 0.19                          |
| 2056.10                 | 0.65                 | 206.39                    | 2056.00   | -15.74      | -11.60      | 14.20                     | 19.55                     | 216.40                      | 0.44                          |
| 2149.92                 | 0.63                 | 196.36                    | 2149.81   | -16.71      | -11.99      | 15.12                     | 20.57                     | 215.65                      | 0.12                          |
| 2243.74                 | 0.49                 | 195.59                    | 2243.63   | -17.59      | -12.24      | 15.96                     | 21.43                     | 214.82                      | 0.15                          |
| 2337.56                 | 0.38                 | 139.93                    | 2337.45   | -18.21      | -12.15      | 16.59                     | 21.89                     | 213.70                      | 0.44                          |
| 2431.38                 | 0.26                 | 152.67                    | 2431.26   | -18.64      | -11.85      | 17.05                     | 22.09                     | 212.44                      | 0.14                          |
| 2525.20                 | 0.27                 | 176.79                    | 2525.08   | -19.06      | -11.74      | 17.48                     | 22.38                     | 211.63                      | 0.12                          |
| 2619.02                 | 0.24                 | 195.59                    | 2618.90   | -19.47      | -11.78      | 17.89                     | 22.76                     | 211.17                      | 0.10                          |
| 2712.84                 | 0.29                 | 205.69                    | 2712.72   | -19.88      | -11.94      | 18.27                     | 23.19                     | 210.98                      | 0.07                          |
| 2806.66                 | 0.58                 | 282.63                    | 2806.54   | -19.99      | -12.50      | 18.31                     | 23.58                     | 212.01                      | 0.62                          |
| 2900.48                 | 0.33                 | 202.18                    | 2900.36   | -20.13      | -13.06      | 18.38                     | 24.00                     | 212.97                      | 0.65                          |
| 2994.30                 | 0.32                 | 226.17                    | 2994.18   | -20.56      | -13.35      | 18.77                     | 24.51                     | 212.99                      | 0.14                          |
| 3088.12                 | 0.16                 | 234.52                    | 3087.99   | -20.82      | -13.64      | 18.99                     | 24.89                     | 213.24                      | 0.17                          |
| 3181.94                 | 0.23                 | 198.12                    | 3181.81   | -21.08      | -13.81      | 19.23                     | 25.20                     | 213.23                      | 0.15                          |
| 3275.76                 | 0.19                 | 108.53                    | 3275.63   | -21.31      | -13.72      | 19.47                     | 25.35                     | 212.78                      | 0.32                          |
| 3369.58                 | 1.73                 | 61.49                     | 3369.44   | -20.68      | -12.33      | 19.02                     | 24.08                     | 210.81                      | 1.71                          |
| 3463.40                 | 3.49                 | 63.35                     | 3463.16   | -18.73      | -8.54       | 17.54                     | 20.58                     | 204.50                      | 1.88                          |
| 3557.22                 | 3.51                 | 49.54                     | 3556.80   | -15.58      | -3.79       | 15.00                     | 16.03                     | 193.69                      | 0.90                          |
| 3651.04                 | 3.80                 | 58.24                     | 3650.43   | -12.08      | 1.03        | 12.11                     | 12.12                     | 175.10                      | 0.66                          |
| 3744.86                 | 3.82                 | 71.15                     | 3744.05   | -9.43       | 6.63        | 10.17                     | 11.53                     | 144.90                      | 0.91                          |
| 3838.68                 | 3.77                 | 82.77                     | 3837.66   | -8.04       | 12.65       | 9.52                      | 14.98                     | 122.44                      | 0.82                          |
| 3932.50                 | 3.65                 | 69.24                     | 3931.29   | -6.59       | 18.50       | 8.80                      | 19.64                     | 109.60                      | 0.94                          |
| 4026.32                 | 3.99                 | 78.00                     | 4024.90   | -4.85       | 24.49       | 7.81                      | 24.96                     | 101.20                      | 0.72                          |
| 4120.14                 | 3.40                 | 83.45                     | 4118.53   | -3.85       | 30.45       | 7.55                      | 30.69                     | 97.21                       | 0.73                          |
| 4213.96                 | 4.00                 | 82.20                     | 4212.15   | -3.09       | 36.46       | 7.53                      | 36.59                     | 94.85                       | 0.65                          |
| 4307.78                 | 3.87                 | 82.37                     | 4305.75   | -2.23       | 42.84       | 7.45                      | 42.90                     | 92.98                       | 0.14                          |
| 4401.60                 | 3.83                 | 69.03                     | 4399.36   | -0.69       | 48.90       | 6.67                      | 48.91                     | 90.80                       | 0.95                          |
| 4495.42                 | 3.25                 | 74.08                     | 4493.00   | 1.16        | 54.38       | 5.50                      | 54.40                     | 88.77                       | 0.70                          |
| 4589.24                 | 2.92                 | 90.38                     | 4586.68   | 1.88        | 59.33       | 5.40                      | 59.36                     | 88.19                       | 0.99                          |
| 4683.06                 | 3.04                 | 89.85                     | 4680.38   | 1.87        | 64.21       | 6.00                      | 64.23                     | 88.33                       | 0.13                          |
| 4776.88                 | 2.82                 | 91.24                     | 4774.08   | 1.82        | 69.00       | 6.63                      | 69.02                     | 88.49                       | 0.24                          |
| 4870.70                 | 2.81                 | 77.69                     | 4867.78   | 2.26        | 73.56       | 6.75                      | 73.59                     | 88.24                       | 0.71                          |
| 4964.52                 | 2.47                 | 75.11                     | 4961.50   | 3.27        | 77.76       | 6.27                      | 77.83                     | 87.59                       | 0.39                          |
| 5058.34                 | 2.05                 | 68.56                     | 5055.25   | 4.41        | 81.27       | 5.57                      | 81.39                     | 86.90                       | 0.52                          |
| 5152.16                 | 1.89                 | 55.69                     | 5149.02   | 5.89        | 84.12       | 4.45                      | 84.32                     | 85.99                       | 0.50                          |

| Measured<br>Depth<br>FT | Incl<br>Angle<br>Deg | Drift<br>Direction<br>Deg | TVD<br>FT | +N/-S<br>FT | +E/-W<br>FT | Vertical<br>Section<br>FT | Closure<br>Distance<br>FT | Closure<br>Direction<br>Deg | Dogleg<br>Severity<br>Deg/100 |
|-------------------------|----------------------|---------------------------|-----------|-------------|-------------|---------------------------|---------------------------|-----------------------------|-------------------------------|
| 5245.98                 | 1.83                 | 57.54                     | 5242.79   | 7.57        | 86.66       | 3.09                      | 86.99                     | 85.01                       | 0.09                          |
| 5339.80                 | 1.87                 | 65.33                     | 5336.56   | 9.02        | 89.32       | 1.98                      | 89.78                     | 84.23                       | 0.27                          |
| 5433.62                 | 1.79                 | 60.85                     | 5430.33   | 10.37       | 92.00       | 0.96                      | 92.58                     | 83.57                       | 0.18                          |
| 5527.44                 | 1.48                 | 66.50                     | 5524.11   | 11.57       | 94.39       | 0.07                      | 95.10                     | 83.01                       | 0.37                          |
| 5621.26                 | 1.21                 | 74.74                     | 5617.90   | 12.32       | 96.46       | -0.42                     | 97.24                     | 82.72                       | 0.36                          |
| 5715.08                 | 1.00                 | 71.22                     | 5711.71   | 12.84       | 98.19       | -0.73                     | 99.03                     | 82.55                       | 0.23                          |





VES Survey International  
Midland, Texas  
432-563-5444  
Surveyor: Adam Askew  
Monk 21 State 4H / API 30-025-42193

