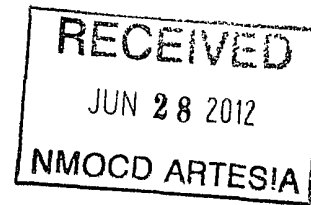


**McVAY DRILLING COMPANY**

P.O. Box 2450  
Hobbs, New Mexico 88241  
(575) 397-3311  
FAX: 39-DRILL

30-015-39365



Well Name and Num: Emerald PWU 20-3H  
Location: Sec. 20, T19S, R29E  
Operator: Devon  
Drilling Contractor: McVay Drilling Company

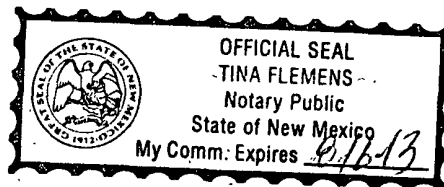
The undersigned certifies that he is an authorized representative of the drilling contractor who drilled the above described well and that he has conducted deviation tests and obtained the following results:

| <u>Degrees @</u> | <u>Depth</u> | <u>Degrees @</u> | <u>Depth</u> | <u>Degrees @</u> | <u>Depth</u> | <u>Degrees @</u> | <u>Depth</u> |
|------------------|--------------|------------------|--------------|------------------|--------------|------------------|--------------|
| 1.76             | 270          | 1.41             | 5454         | 61.50            | 7958         | 90.00            | 11757        |
| 2.00             | 521          | 1.45             | 5645         | 72.00            | 8061         |                  |              |
| 1.50             | 1021         | 2.42             | 5836         | 76.00            | 8021         |                  |              |
| 1.37             | 1258         | 1.79             | 6134         | 86.20            | 8180         |                  |              |
| 0.50             | 1508         | 1.42             | 6405         | 87.60            | 8369         |                  |              |
| 0.50             | 1776         | 1.51             | 6565         | 87.40            | 8465         |                  |              |
| 0.50             | 1995         | 1.00             | 6740         | 89.60            | 8528         |                  |              |
| 1.00             | 2485         | 2.00             | 6901         | 92.10            | 8845         |                  |              |
| 0.41             | 2985         | 1.00             | 7086         | 89.20            | 9224         |                  |              |
| 0.50             | 3483         | 3.10             | 7149         | 90.90            | 9509         |                  |              |
| 0.50             | 3986         | 3.10             | 7312         | 90.00            | 9984         |                  |              |
| 1.00             | 4456         | 21.10            | 7502         | 91.70            | 10269        |                  |              |
| 2.50             | 4835         | 39.50            | 7661         | 89.70            | 10548        |                  |              |
| 1.25             | 4951         | 48.60            | 7756         | 90.30            | 10734        |                  |              |
| 1.99             | 5120         | 45.40            | 7866         | 89.50            | 11104        |                  |              |
| 1.72             | 5289         | 49.90            | 7898         | 89.50            | 11293        |                  |              |
| 1.23             | 5358         | 55.40            | 7926         | 90.60            | 11500        |                  |              |

By: Hulby Cramer

Subscribed and sworn to before me this 19th day of March, 2012

Tina Flemens  
Notary Public, Lea County, New Mexico





**PHOENIX  
TECHNOLOGY SERVICES**

March 20, 2012

Oil Conservation Division  
State of New Mexico  
811 S. First St.  
Artesia, New Mexico 88210

Dear District 2 - Artesia

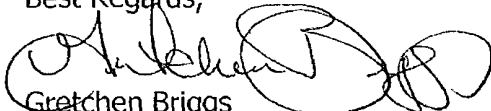
Re: Devon Energy  
Emerald PWU 20-3H  
Eddy Co., NM  
API #30-015-39365  
Job No. 1210166

Enclosed please find the Survey Data Certification, and the original Plat and one copy of the Survey Report performed on the above referenced Well by Phoenix Technology Services, Inc. (P-5 No. 606018). Other information required by your office is as follows:

| Name & Title of Surveyor | Drainhole Number | Surveyed Depths |        | Dates Performed |          | Type of Survey |
|--------------------------|------------------|-----------------|--------|-----------------|----------|----------------|
|                          |                  | From            | To     | Start           | End      |                |
| Marc Flusche             | 3H               | 7,863           | 12,219 | 03/08/12        | 03/16/12 | MWD            |

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

  
Gretchen Briggs  
Operations Administrator

Certified mail receipt number: **7011 1570 0001 4364 9339**

Phoenix Technology Services  
SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER 1210166

OPERATOR Devon Energy

WELL NAME Emerald PWU 20-3H

COUNTY & STATE Eddy, New Mexico

API WELL NUMBER 30-015-39365

PROPOSED DIRECTION 88.02

| TIE-IN DATA |             |        |         |          |           |        |
|-------------|-------------|--------|---------|----------|-----------|--------|
| MEASURED    | VERTICAL    |        |         | N-S      | E-W       | DATA   |
| DEPTH       | DEPTH       | INCLIN | AZIMUTH | COORD    | COORD     | SOURCE |
| 7,828 ft    | 7,746.27 ft | 43.77  | 88.77   | 44.97 ft | 197.30 ft | GYRO   |

| FIRST    | FIRST    |        |         |
|----------|----------|--------|---------|
| SURVEY   | SURVEY   |        |         |
| DATE     | DEPTH    | INCLIN | AZIMUTH |
| 8-Mar-12 | 7,863 ft | 45.4   | 87.9    |

| SURVEY INSTRUMENT |
|-------------------|
| TYPE              |
| Phoenix MWD       |

| LAST      | LAST      |        |         |
|-----------|-----------|--------|---------|
| SURVEY    | SURVEY    |        |         |
| DATE      | DEPTH     | INCLIN | AZIMUTH |
| 16-Mar-12 | 12,219 ft | 90.6   | 89.7    |

TO THE BEST OF MY KNOWLEDGE I  
CERTIFY THIS SURVEY DATA TO BE  
TRUE AND CORRECT.

| PROJECTED | PROJECTED |        |         |
|-----------|-----------|--------|---------|
| TD SURVEY | TD SURVEY |        |         |
| DATE      | DEPTH     | INCLIN | AZIMUTH |
| 16-Mar-12 | 12,303 ft | 90.6   | 89.7    |

Marc Flusche

PRINT YOUR NAME ABOVE

*Marc Flusche*

SIGN YOUR NAME ABOVE

3/16/2012

TODAY'S DATE

MAGNETIC DECLINATION OR TOTAL GRID

| TOTAL CORRECTION USED | 7.66        |
|-----------------------|-------------|
| DECLINATION OR GRID   | DECLINATION |

MWD SUPERVISOR 1

Marc Flusche

DIRECTIONAL DRILLER 1

Greg Scott

MWD SUPERVISOR 2

Paul Perlonis

DIRECTIONAL DRILLER 2

Bobby Sanches

1805 Brittmore Road

Houston, Texas 77043

(713)3370609 (Voice), (713)337-0599 (Fax)



## **Devon**

**Eddy County, NM (Nad83)**

**Emerald PWU 20**

**Emerald PWU 20-3H**

**Wellbore #1**

**Design: Wellbore #1**

## **Devon Energy Inc.**

**19 March, 2012**





Phoenix Technology Services  
Devon Energy Inc.



|                  |                         |                                     |                                                  |
|------------------|-------------------------|-------------------------------------|--------------------------------------------------|
| <b>Company:</b>  | Devon                   | <b>Local Co-ordinate Reference:</b> | Well Emerald PWU 20-3H                           |
| <b>Project:</b>  | Eddy County, NM (Nad83) | <b>TVD Reference:</b>               | WELL @ 3343.20usft (Original Well Elev + 19' KB) |
| <b>Site:</b>     | Emerald PWU 20          | <b>MD Reference:</b>                | WELL @ 3343.20usft (Original Well Elev + 19' KB) |
| <b>Well:</b>     | Emerald PWU 20-3H       | <b>North Reference:</b>             | Grid                                             |
| <b>Wellbore:</b> | Wellbore #1             | <b>Survey Calculation Method:</b>   | Minimum Curvature                                |
| <b>Design:</b>   | Wellbore #1             | <b>Database:</b>                    | GCR DB v5000                                     |

|                    |                           |                      |                |
|--------------------|---------------------------|----------------------|----------------|
| <b>Project</b>     | Eddy County, NM (Nad83)   |                      |                |
| <b>Map System:</b> | US State Plane 1983       | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983 |                      |                |
| <b>Map Zone:</b>   | New Mexico Eastern Zone   |                      |                |

|                              |                  |                     |                   |                          |        |
|------------------------------|------------------|---------------------|-------------------|--------------------------|--------|
| <b>Site</b>                  | Emerald PWU 20   |                     |                   |                          |        |
| <b>Site Position:</b>        | <b>Northing:</b> | 598,464.30 usft     | <b>Latitude:</b>  | 32° 38' 42.0646 N        |        |
| <b>From:</b>                 | <b>Easting:</b>  | 611,763.81 usft     | <b>Longitude:</b> | 104° 6' 16.2969 W        |        |
| <b>Position Uncertainty:</b> | 0.00 usft        | <b>Slot Radius:</b> | 13-3/16 "         | <b>Grid Convergence:</b> | 0.12 ° |

|                             |                   |                            |                  |                      |                   |                   |
|-----------------------------|-------------------|----------------------------|------------------|----------------------|-------------------|-------------------|
| <b>Well</b>                 | Emerald PWU 20-3H |                            |                  |                      |                   |                   |
| <b>Well Position</b>        | <b>+N/-S</b>      | 0.00 usft                  | <b>Northing:</b> | 598,464.30 usft      | <b>Latitude:</b>  | 32° 38' 42.0646 N |
|                             | <b>+E/-W</b>      | 0.00 usft                  | <b>Easting:</b>  | 611,763.81 usft      | <b>Longitude:</b> | 104° 6' 16.2969 W |
| <b>Position Uncertainty</b> | 0.00 usft         | <b>Wellhead Elevation:</b> | usft             | <b>Ground Level:</b> | 3,324.20 usft     |                   |

|                  |                   |                    |                            |                          |                                |
|------------------|-------------------|--------------------|----------------------------|--------------------------|--------------------------------|
| <b>Wellbore</b>  | Wellbore #1       |                    |                            |                          |                                |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination<br/>(°)</b> | <b>Dip Angle<br/>(°)</b> | <b>Field Strength<br/>(nT)</b> |
|                  | IGRF2010_14       | 01/31/12           | 7.79                       | 60.47                    | 48,748                         |

|                          |                                    |                         |                         |                          |      |
|--------------------------|------------------------------------|-------------------------|-------------------------|--------------------------|------|
| <b>Design</b>            | Wellbore #1                        |                         |                         |                          |      |
| <b>Audit Notes:</b>      |                                    |                         |                         |                          |      |
| <b>Version:</b>          | 1.0                                | <b>Phase:</b>           | ACTUAL                  | <b>Tie On Depth:</b>     | 0.00 |
| <b>Vertical Section:</b> | <b>Depth From (TVD)<br/>(usft)</b> | <b>+N/-S<br/>(usft)</b> | <b>+E/-W<br/>(usft)</b> | <b>Direction<br/>(°)</b> |      |
|                          | 0.00                               | 0.00                    | 0.00                    | 88.02                    |      |



Phoenix Technology Services  
Devon Energy Inc.



|                  |                         |                                     |                                                  |
|------------------|-------------------------|-------------------------------------|--------------------------------------------------|
| <b>Company:</b>  | Devon                   | <b>Local Co-ordinate Reference:</b> | Well Emerald PWU 20-3H                           |
| <b>Project:</b>  | Eddy County, NM (Nad83) | <b>TVD Reference:</b>               | WELL @ 3343.20usft (Original Well Elev + 19' KB) |
| <b>Site:</b>     | Emerald PWU 20          | <b>MD Reference:</b>                | WELL @ 3343.20usft (Original Well Elev + 19' KB) |
| <b>Well:</b>     | Emerald PWU 20-3H       | <b>North Reference:</b>             | Grid                                             |
| <b>Wellbore:</b> | Wellbore #1             | <b>Survey Calculation Method:</b>   | Minimum Curvature                                |
| <b>Design:</b>   | Wellbore #1             | <b>Database:</b>                    | GCR DB v5000                                     |

| Survey Program |           | Date                              | 03/19/12  |                |  |  |
|----------------|-----------|-----------------------------------|-----------|----------------|--|--|
| From (usft)    | To (usft) | Survey (Wellbore)                 | Tool Name | Description    |  |  |
| 88.00          | 6,699.00  | Gyro Surveys (Wellbore #1)        | MWD       | MWD - Standard |  |  |
| 6,782.80       | 7,828.00  | Gyro Surveys 2 (Wellbore #1)      | MWD       | MWD - Standard |  |  |
| 7,863.00       | 12,303.00 | Phoenix MWD Surveys (Wellbore #1) | MWD       | MWD - Standard |  |  |

| Survey    |         |                   |              |            |            |            |               |                  |                 |                |
|-----------|---------|-------------------|--------------|------------|------------|------------|---------------|------------------|-----------------|----------------|
| MD (usft) | Inc (") | Azi (azimuth) (") | TVDSS (usft) | TVD (usft) | N/S (usft) | E/W (usft) | V. Sec (usft) | DLeg ("/100usft) | Northing (usft) | Easting (usft) |
| 0.00      | 0.00    | 0.00              | -3,343.20    | 0.00       | 0.00       | 0.00       | 0.00          | 0.00             | 598,464.30      | 611,763.81     |
| 88.00     | 0.78    | 6.20              | -3,255.20    | 88.00      | 0.60       | 0.06       | 0.09          | 0.89             | 598,464.90      | 611,763.87     |
| 173.00    | 1.02    | 359.62            | -3,170.21    | 172.99     | 1.93       | 0.12       | 0.19          | 0.31             | 598,466.23      | 611,763.93     |
| 260.00    | 1.59    | 6.69              | -3,083.24    | 259.96     | 3.90       | 0.26       | 0.39          | 0.68             | 598,468.20      | 611,764.07     |
| 346.00    | 1.95    | 13.17             | -2,997.28    | 345.92     | 6.51       | 0.73       | 0.95          | 0.48             | 598,470.81      | 611,764.54     |
| 439.00    | 1.85    | 14.07             | -2,904.33    | 438.87     | 9.51       | 1.46       | 1.78          | 0.11             | 598,473.81      | 611,765.27     |
| 529.00    | 1.71    | 21.21             | -2,814.37    | 528.83     | 12.17      | 2.29       | 2.71          | 0.29             | 598,476.47      | 611,766.10     |
| 619.00    | 1.65    | 29.76             | -2,724.41    | 618.79     | 14.54      | 3.42       | 3.92          | 0.29             | 598,478.84      | 611,767.23     |
| 714.00    | 1.84    | 48.78             | -2,629.45    | 713.75     | 16.74      | 5.25       | 5.82          | 0.64             | 598,481.04      | 611,769.06     |
| 809.00    | 1.94    | 50.41             | -2,534.51    | 808.69     | 18.77      | 7.64       | 8.28          | 0.12             | 598,483.07      | 611,771.45     |
| 904.00    | 1.89    | 52.99             | -2,439.56    | 903.64     | 20.73      | 10.13      | 10.84         | 0.10             | 598,485.03      | 611,773.94     |
| 999.00    | 1.74    | 48.60             | -2,344.61    | 998.59     | 22.63      | 12.46      | 13.23         | 0.22             | 598,486.93      | 611,776.27     |
| 1,094.00  | 1.46    | 47.77             | -2,249.64    | 1,093.56   | 24.40      | 14.44      | 15.27         | 0.30             | 598,488.70      | 611,778.25     |
| 1,189.00  | 1.20    | 43.67             | -2,154.67    | 1,188.53   | 25.93      | 16.02      | 16.91         | 0.29             | 598,490.23      | 611,779.83     |
| 1,284.00  | 0.98    | 46.58             | -2,059.69    | 1,283.51   | 27.21      | 17.30      | 18.23         | 0.24             | 598,491.51      | 611,781.11     |
| 1,379.00  | 0.83    | 36.97             | -1,964.70    | 1,378.50   | 28.32      | 18.30      | 19.27         | 0.22             | 598,492.62      | 611,782.11     |
| 1,474.00  | 0.67    | 45.38             | -1,869.71    | 1,473.49   | 29.26      | 19.11      | 20.11         | 0.20             | 598,493.56      | 611,782.92     |
| 1,569.00  | 0.60    | 60.29             | -1,774.71    | 1,568.49   | 29.89      | 19.94      | 20.96         | 0.19             | 598,494.19      | 611,783.75     |
| 1,664.00  | 0.56    | 46.97             | -1,679.72    | 1,663.48   | 30.46      | 20.71      | 21.75         | 0.15             | 598,494.76      | 611,784.52     |
| 1,759.00  | 0.58    | 49.93             | -1,584.72    | 1,758.48   | 31.08      | 21.42      | 22.48         | 0.04             | 598,495.38      | 611,785.23     |



Phoenix Technology Services  
Devon Energy Inc.



|           |                         |                              |                                                  |
|-----------|-------------------------|------------------------------|--------------------------------------------------|
| Company:  | Devon                   | Local Co-ordinate Reference: | Well Emerald PWU 20-3H                           |
| Project:  | Eddy County, NM (Nad83) | TVD Reference:               | WELL @ 3343.20usft (Original Well Elev + 19' KB) |
| Site:     | Emerald PWU 20          | MD Reference:                | WELL @ 3343 20usft (Original Well Elev + 19' KB) |
| Well:     | Emerald PWU 20-3H       | North Reference:             | Grid                                             |
| Wellbore: | Wellbore #1             | Survey Calculation Method:   | Minimum Curvature                                |
| Design:   | Wellbore #1             | Database:                    | GCR DB v5000                                     |

| Survey       |            |                      |                 |               |               |               |                  |                     |                    |                   |
|--------------|------------|----------------------|-----------------|---------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|
| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVDSS<br>(usft) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |
| 1,854.00     | 0.57       | 39.75                | -1,489.73       | 1,853.47      | 31.76         | 22.09         | 23.17            | 0.11                | 598,496.06         | 611,785.90        |
| 1,949.00     | 0.52       | 51.18                | -1,394.73       | 1,948.47      | 32.39         | 22.72         | 23.83            | 0.13                | 598,496.69         | 611,786.53        |
| 2,044.00     | 0.54       | 50.72                | -1,299.73       | 2,043.47      | 32.94         | 23.41         | 24.53            | 0.02                | 598,497.24         | 611,787.22        |
| 2,139.00     | 0.52       | 33.06                | -1,204.74       | 2,138.46      | 33.59         | 23.99         | 25.13            | 0.17                | 598,497.89         | 611,787.80        |
| 2,234.00     | 0.46       | 38.74                | -1,109.74       | 2,233.46      | 34.25         | 24.46         | 25.63            | 0.08                | 598,498.55         | 611,788.27        |
| 2,329.00     | 0.52       | 38.56                | -1,014.75       | 2,328.45      | 34.88         | 24.97         | 26.16            | 0.06                | 598,499.18         | 611,788.78        |
| 2,424.00     | 0.59       | 31.19                | -919.75         | 2,423.45      | 35.64         | 25.49         | 26.71            | 0.11                | 598,499.94         | 611,789.30        |
| 2,519.00     | 0.50       | 51.26                | -824.75         | 2,518.45      | 36.32         | 26.07         | 27.31            | 0.22                | 598,500.62         | 611,789.88        |
| 2,709.00     | 0.45       | 49.90                | -634.76         | 2,708.44      | 37.31         | 27.29         | 28.56            | 0.03                | 598,501.61         | 611,791.10        |
| 2,804.00     | 0.43       | 51.02                | -539.76         | 2,803.44      | 37.78         | 27.85         | 29.14            | 0.02                | 598,502.08         | 611,791.66        |
| 2,994.00     | 0.53       | 49.41                | -349.77         | 2,993.43      | 38.80         | 29.07         | 30.39            | 0.05                | 598,503.10         | 611,792.88        |
| 3,089.00     | 0.47       | 44.22                | -254.77         | 3,088.43      | 39.36         | 29.67         | 31.02            | 0.08                | 598,503.66         | 611,793.48        |
| 3,184.00     | 0.45       | 56.28                | -159.78         | 3,183.42      | 39.85         | 30.26         | 31.62            | 0.10                | 598,504.15         | 611,794.07        |
| 3,279.00     | 0.49       | 59.92                | -64.78          | 3,278.42      | 40.26         | 30.92         | 32.29            | 0.05                | 598,504.56         | 611,794.73        |
| 3,374.00     | 0.34       | 57.57                | 30.22           | 3,373.42      | 40.62         | 31.51         | 32.89            | 0.16                | 598,504.92         | 611,795.32        |
| 3,469.00     | 0.11       | 69.74                | 125.22          | 3,468.42      | 40.80         | 31.83         | 33.22            | 0.25                | 598,505.10         | 611,795.64        |
| 3,564.00     | 0.09       | 236.80               | 220.22          | 3,563.42      | 40.79         | 31.85         | 33.25            | 0.21                | 598,505.09         | 611,795.66        |
| 3,754.00     | 0.30       | 264.49               | 410.22          | 3,753.42      | 40.66         | 31.23         | 32.62            | 0.12                | 598,504.96         | 611,795.04        |
| 3,944.00     | 1.28       | 5.10                 | 600.20          | 3,943.40      | 42.73         | 30.93         | 32.39            | 0.72                | 598,507.03         | 611,794.74        |
| 4,039.00     | 1.48       | 4.01                 | 695.17          | 4,038.37      | 45.01         | 31.11         | 32.64            | 0.21                | 598,509.31         | 611,794.92        |
| 4,134.00     | 1.40       | 347.29               | 790.14          | 4,133.34      | 47.36         | 30.94         | 32.56            | 0.45                | 598,511.66         | 611,794.75        |
| 4,229.00     | 1.49       | 334.57               | 885.11          | 4,228.31      | 49.61         | 30.15         | 31.85            | 0.35                | 598,513.91         | 611,793.96        |
| 4,324.00     | 1.72       | 323.81               | 980.08          | 4,323.28      | 51.88         | 28.78         | 30.56            | 0.40                | 598,516.18         | 611,792.59        |
| 4,419.00     | 1.90       | 315.55               | 1,075.03        | 4,418.23      | 54.15         | 26.84         | 28.69            | 0.33                | 598,518.45         | 611,790.65        |
| 4,514.00     | 1.94       | 313.77               | 1,169.97        | 4,513.17      | 56.39         | 24.57         | 26.51            | 0.08                | 598,520.69         | 611,788.38        |
| 4,609.00     | 1.91       | 316.00               | 1,264.92        | 4,608.12      | 58.64         | 22.31         | 24.32            | 0.08                | 598,522.94         | 611,786.12        |
| 4,704.00     | 1.87       | 313.36               | 1,359.87        | 4,703.07      | 60.84         | 20.08         | 22.17            | 0.10                | 598,525.14         | 611,783.89        |



Phoenix Technology Services  
Devon Energy Inc.



|           |                         |                              |                                                  |
|-----------|-------------------------|------------------------------|--------------------------------------------------|
| Company:  | Devon                   | Local Co-ordinate Reference: | Well Emerald PWU 20-3H                           |
| Project:  | Eddy County, NM (Nad83) | TVD Reference:               | WELL @ 3343.20usft (Original Well Elev + 19' KB) |
| Site:     | Emerald PWU 20          | MD Reference:                | WELL @ 3343.20usft (Original Well Elev + 19' KB) |
| Well:     | Emerald PWU 20-3H       | North Reference:             | Grid                                             |
| Wellbore: | Wellbore #1             | Survey Calculation Method:   | Minimum Curvature                                |
| Design:   | Wellbore #1             | Database:                    | GCR DB v5000                                     |

| Survey       |            |                      |                 |               |               |               |                  |                     |                    |                   |  |
|--------------|------------|----------------------|-----------------|---------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|--|
| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVDSS<br>(usft) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |  |
| 4,799.00     | 2 21       | 312.60               | 1,454.81        | 4,798.01      | 63.15         | 17.61         | 19.78            | 0.36                | 598,527.45         | 611,781.42        |  |
| 4,894.00     | 2 08       | 320.10               | 1,549.74        | 4,892.94      | 65.71         | 15.16         | 17.42            | 0.33                | 598,530.01         | 611,778.97        |  |
| 4,989.00     | 1 94       | 320.37               | 1,644.68        | 4,987.88      | 68.27         | 13.02         | 15.37            | 0.15                | 598,532.57         | 611,776.83        |  |
| 5,179.00     | 1.67       | 313.55               | 1,834.59        | 5,177.79      | 72.65         | 8.97          | 11.47            | 0.18                | 598,536.95         | 611,772.78        |  |
| 5,274.00     | 1 25       | 307.27               | 1,929.56        | 5,272.76      | 74.24         | 7.14          | 9.70             | 0.47                | 598,538.54         | 611,770.95        |  |
| 5,369.00     | 1.25       | 309.37               | 2,024.54        | 5,367.74      | 75.52         | 5.51          | 8.12             | 0.05                | 598,539.82         | 611,769.32        |  |
| 5,464.00     | 1.36       | 310.48               | 2,119.51        | 5,462.71      | 76.91         | 3.85          | 6.51             | 0.12                | 598,541.21         | 611,767.66        |  |
| 5,559.00     | 1.39       | 300.14               | 2,214.48        | 5,557.68      | 78.22         | 2.00          | 4.70             | 0.26                | 598,542.52         | 611,765.81        |  |
| 5,654.00     | 1 75       | 297.79               | 2,309.45        | 5,652.65      | 79.47         | -0.28         | 2.47             | 0.38                | 598,543.77         | 611,763.53        |  |
| 5,749.00     | 2.09       | 295.16               | 2,404.40        | 5,747.60      | 80.89         | -3.13         | -0.33            | 0.37                | 598,545.19         | 611,760.68        |  |
| 5,844.00     | 2 12       | 295.94               | 2,499.33        | 5,842.53      | 82.39         | -6.28         | -3.43            | 0.04                | 598,546.69         | 611,757.53        |  |
| 5,939.00     | 1 90       | 293.17               | 2,594.27        | 5,937.47      | 83.78         | -9.31         | -6.41            | 0.25                | 598,548.08         | 611,754.50        |  |
| 6,034.00     | 1 58       | 286.32               | 2,689.23        | 6,032.43      | 84.77         | -12.01        | -9.08            | 0.40                | 598,549.07         | 611,751.80        |  |
| 6,129.00     | 1.35       | 273.49               | 2,784.20        | 6,127.40      | 85.20         | -14.39        | -11.43           | 0.42                | 598,549.50         | 611,749.42        |  |
| 6,224.00     | 1.17       | 254.24               | 2,879.18        | 6,222.38      | 85.01         | -16.44        | -13.49           | 0.48                | 598,549.31         | 611,747.37        |  |
| 6,319.00     | 1 22       | 241.69               | 2,974.16        | 6,317.36      | 84.27         | -18.26        | -15.34           | 0.28                | 598,548.57         | 611,745.55        |  |
| 6,414.00     | 1.29       | 225.69               | 3,069.13        | 6,412.33      | 83.04         | -19.92        | -17.04           | 0.37                | 598,547.34         | 611,743.89        |  |
| 6,509.00     | 1 50       | 212.22               | 3,164.10        | 6,507.30      | 81.24         | -21.34        | -18.52           | 0.41                | 598,545.54         | 611,742.47        |  |
| 6,604.00     | 1.65       | 211.93               | 3,259.07        | 6,602.27      | 79.03         | -22.73        | -19.99           | 0.16                | 598,543.33         | 611,741.08        |  |
| 6,699.00     | 2.30       | 209.00               | 3,354.01        | 6,697.21      | 76.20         | -24.38        | -21.73           | 0.69                | 598,540.50         | 611,739.43        |  |
| 6,782.80     | 2.71       | 215.31               | 3,437.73        | 6,780.93      | 73.11         | -26.34        | -23.80           | 0.59                | 598,537.41         | 611,737.47        |  |
| 6,877.60     | 2 50       | 216.58               | 3,532.43        | 6,875.63      | 69.62         | -28.87        | -26.44           | 0.23                | 598,533.92         | 611,734.94        |  |
| 6,972.40     | 3.08       | 211.60               | 3,627.12        | 6,970.32      | 65.79         | -31.43        | -29.14           | 0.66                | 598,530.09         | 611,732.38        |  |
| 7,067.60     | 3 09       | 224.07               | 3,722.18        | 7,065.38      | 61.77         | -34.56        | -32.40           | 0.70                | 598,526.07         | 611,729.25        |  |
| 7,162.50     | 3.37       | 222.60               | 3,816.93        | 7,160.13      | 57.88         | -38.22        | -36.20           | 0.31                | 598,522.18         | 611,725.59        |  |
| 7,194.10     | 3.79       | 219.29               | 3,848.47        | 7,191.67      | 56.39         | -39.51        | -37.54           | 1.48                | 598,520.69         | 611,724.30        |  |
| 7,225.70     | 4 03       | 217.18               | 3,880.00        | 7,223.20      | 54.70         | -40.85        | -38.93           | 0.89                | 598,519.00         | 611,722.96        |  |





Phoenix Technology Services  
Devon Energy Inc.



|           |                         |                              |                                                  |
|-----------|-------------------------|------------------------------|--------------------------------------------------|
| Company:  | Devon                   | Local Co-ordinate Reference: | Well Emerald PWU 20-3H                           |
| Project:  | Eddy County, NM (Nad83) | TVD Reference:               | WELL @ 3343.20usft (Original Well Elev + 19' KB) |
| Site:     | Emerald PWU 20          | MD Reference:                | WELL @ 3343.20usft (Original Well Elev + 19' KB) |
| Well:     | Emerald PWU 20-3H       | North Reference:             | Grid                                             |
| Wellbore: | Wellbore #1             | Survey Calculation Method:   | Minimum Curvature                                |
| Design:   | Wellbore #1             | Database:                    | GCR DB v5000                                     |

| Survey                              |            |                      |                 |               |               |               |                  |                     |                    |                   |  |
|-------------------------------------|------------|----------------------|-----------------|---------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|--|
| MD<br>(usft)                        | Inc<br>(°) | Azi (azimuth)<br>(°) | TVDSS<br>(usft) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |  |
| 7,257.30                            | 2.99       | 208.51               | 3,911.54        | 7,254.74      | 53.09         | -41.91        | -40.05           | 3.69                | 598,517.39         | 611,721.90        |  |
| 7,289.10                            | 1.69       | 149.55               | 3,943.32        | 7,286.52      | 51.95         | -42.07        | -40.25           | 8.07                | 598,516.25         | 611,721.74        |  |
| 7,320.80                            | 3.71       | 95.34                | 3,974.98        | 7,318.18      | 51.46         | -40.81        | -39.01           | 9.61                | 598,515.76         | 611,723.00        |  |
| 7,352.50                            | 6.54       | 87.83                | 4,006.55        | 7,349.75      | 51.43         | -37.99        | -36.19           | 9.16                | 598,515.73         | 611,725.82        |  |
| 7,384.20                            | 9.13       | 83.44                | 4,037.95        | 7,381.15      | 51.78         | -33.68        | -31.87           | 8.38                | 598,516.08         | 611,730.13        |  |
| 7,415.90                            | 11.63      | 83.75                | 4,069.13        | 7,412.33      | 52.42         | -28.01        | -26.18           | 7.89                | 598,516.72         | 611,735.80        |  |
| 7,447.60                            | 14.43      | 85.72                | 4,100.01        | 7,443.21      | 53.06         | -20.89        | -19.04           | 8.94                | 598,517.36         | 611,742.92        |  |
| 7,479.40                            | 18.05      | 89.67                | 4,130.54        | 7,473.74      | 53.39         | -12.01        | -10.16           | 11.90               | 598,517.69         | 611,751.80        |  |
| 7,511.00                            | 22.55      | 92.87                | 4,160.17        | 7,503.37      | 53.11         | -1.06         | 0.78             | 14.66               | 598,517.41         | 611,762.75        |  |
| 7,542.70                            | 27.25      | 93.77                | 4,188.92        | 7,532.12      | 52.33         | 12.26         | 14.06            | 14.87               | 598,516.63         | 611,776.07        |  |
| 7,574.50                            | 30.59      | 93.34                | 4,216.75        | 7,559.95      | 51.38         | 27.61         | 29.37            | 10.52               | 598,515.68         | 611,791.42        |  |
| 7,606.20                            | 33.25      | 92.93                | 4,243.65        | 7,586.85      | 50.46         | 44.34         | 46.06            | 8.42                | 598,514.76         | 611,808.15        |  |
| 7,637.80                            | 37.06      | 93.46                | 4,269.48        | 7,612.68      | 49.45         | 62.51         | 64.18            | 12.10               | 598,513.75         | 611,826.32        |  |
| 7,669.50                            | 41.64      | 92.93                | 4,293.99        | 7,637.19      | 48.33         | 82.57         | 84.19            | 14.49               | 598,512.63         | 611,846.38        |  |
| 7,701.10                            | 45.16      | 93.52                | 4,316.95        | 7,660.15      | 47.11         | 104.24        | 105.81           | 11.21               | 598,511.41         | 611,868.05        |  |
| 7,732.90                            | 48.44      | 93.81                | 4,338.71        | 7,681.91      | 45.62         | 127.37        | 128.87           | 10.34               | 598,509.92         | 611,891.18        |  |
| 7,764.50                            | 48.83      | 92.29                | 4,359.60        | 7,702.80      | 44.36         | 151.06        | 152.50           | 3.82                | 598,508.66         | 611,914.87        |  |
| 7,796.30                            | 47.27      | 87.91                | 4,380.86        | 7,724.06      | 44.31         | 174.69        | 176.12           | 11.36               | 598,508.61         | 611,938.50        |  |
| 7,828.00                            | 43.77      | 88.77                | 4,403.07        | 7,746.27      | 44.97         | 197.30        | 198.74           | 11.21               | 598,509.27         | 611,961.11        |  |
| Last Gyro Survey - Last Gyro Survey |            |                      |                 |               |               |               |                  |                     |                    |                   |  |
| 7,863.00                            | 45.44      | 87.90                | 4,427.98        | 7,771.18      | 45.69         | 221.86        | 223.31           | 5.08                | 598,509.99         | 611,985.67        |  |
| First Phoenix MWD Survey            |            |                      |                 |               |               |               |                  |                     |                    |                   |  |
| 7,894.00                            | 49.90      | 88.70                | 4,448.85        | 7,792.05      | 46.36         | 244.77        | 246.22           | 14.51               | 598,510.66         | 612,008.58        |  |
| 7,926.00                            | 55.40      | 89.00                | 4,468.26        | 7,811.46      | 46.87         | 270.19        | 271.65           | 17.20               | 598,511.17         | 612,034.00        |  |
| 7,958.00                            | 61.50      | 88.50                | 4,485.00        | 7,828.20      | 47.47         | 297.44        | 298.90           | 19.11               | 598,511.77         | 612,061.25        |  |
| 7,988.00                            | 68.60      | 88.00                | 4,497.64        | 7,840.84      | 48.30         | 324.61        | 326.09           | 23.71               | 598,512.60         | 612,088.42        |  |
| 8,003.00                            | 72.00      | 87.90                | 4,502.70        | 7,845.90      | 48.81         | 338.72        | 340.21           | 22.68               | 598,513.11         | 612,102.53        |  |



Phoenix Technology Services  
Devon Energy Inc.



|                  |                         |                                     |                                                  |
|------------------|-------------------------|-------------------------------------|--------------------------------------------------|
| <b>Company:</b>  | Devon                   | <b>Local Co-ordinate Reference:</b> | Well Emerald PWU 20-3H                           |
| <b>Project:</b>  | Eddy County, NM (Nad83) | <b>TVD Reference:</b>               | WELL @ 3343.20usft (Original Well Elev + 19' KB) |
| <b>Site:</b>     | Emerald PWU 20          | <b>MD Reference:</b>                | WELL @ 3343.20usft (Original Well Elev + 19' KB) |
| <b>Well:</b>     | Emerald PWU 20-3H       | <b>North Reference:</b>             | Grid                                             |
| <b>Wellbore:</b> | Wellbore #1             | <b>Survey Calculation Method:</b>   | Minimum Curvature                                |
| <b>Design:</b>   | Wellbore #1             | <b>Database:</b>                    | GCR DB v5000                                     |

| Survey       |            |                      |                 |               |               |               |                  |                     |                    |                   |  |
|--------------|------------|----------------------|-----------------|---------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|--|
| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVDSS<br>(usft) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |  |
| 8,021.00     | 76.00      | 87.60                | 4,507.66        | 7,850.86      | 49.49         | 356.01        | 357.50           | 22.28               | 598,513.79         | 612,119.82        |  |
| 8,053.00     | 83.10      | 87.20                | 4,513.46        | 7,856.66      | 50.91         | 387.42        | 388.95           | 22.22               | 598,515.21         | 612,151.23        |  |
| 8,084.00     | 86.90      | 86.50                | 4,516.16        | 7,859.36      | 52.61         | 418.25        | 419.82           | 12.46               | 598,516.91         | 612,182.06        |  |
| 8,116.00     | 87.20      | 86.40                | 4,517.81        | 7,861.01      | 54.59         | 450.15        | 451.77           | 0.99                | 598,518.89         | 612,213.96        |  |
| 8,180.00     | 86.60      | 86.20                | 4,521.27        | 7,864.47      | 58.71         | 513.92        | 515.64           | 0.99                | 598,523.01         | 612,277.73        |  |
| 8,275.00     | 87.20      | 86.30                | 4,526.41        | 7,869.61      | 64.92         | 608.58        | 610.46           | 0.64                | 598,529.22         | 612,372.39        |  |
| 8,369.00     | 87.60      | 87.60                | 4,530.67        | 7,873.87      | 69.91         | 702.35        | 704.34           | 1.45                | 598,534.21         | 612,466.16        |  |
| 8,384.00     | 87.50      | 87.60                | 4,531.31        | 7,874.51      | 70.54         | 717.32        | 719.33           | 0.67                | 598,534.84         | 612,481.13        |  |
| 8,464.00     | 87.40      | 87.50                | 4,534.87        | 7,878.07      | 73.96         | 797.17        | 799.25           | 0.18                | 598,538.26         | 612,560.98        |  |
| 8,496.00     | 88.70      | 88.20                | 4,535.96        | 7,879.16      | 75.16         | 829.13        | 831.23           | 4.61                | 598,539.46         | 612,592.94        |  |
| 8,528.00     | 89.60      | 88.40                | 4,536.44        | 7,879.64      | 76.11         | 861.11        | 863.22           | 2.88                | 598,540.41         | 612,624.92        |  |
| 8,559.00     | 91.00      | 88.40                | 4,536.27        | 7,879.47      | 76.97         | 892.10        | 894.22           | 4.52                | 598,541.27         | 612,655.91        |  |
| 8,654.00     | 93.50      | 88.90                | 4,532.54        | 7,875.74      | 79.21         | 986.99        | 989.14           | 2.68                | 598,543.51         | 612,750.80        |  |
| 8,686.00     | 94.30      | 89.00                | 4,530.37        | 7,873.57      | 79.79         | 1,018.91      | 1,021.06         | 2.52                | 598,544.09         | 612,782.72        |  |
| 8,749.00     | 95.50      | 89.30                | 4,524.99        | 7,868.19      | 80.73         | 1,081.67      | 1,083.81         | 1.96                | 598,545.03         | 612,845.48        |  |
| 8,781.00     | 93.70      | 89.60                | 4,522.42        | 7,865.62      | 81.03         | 1,113.56      | 1,115.70         | 5.70                | 598,545.33         | 612,877.37        |  |
| 8,844.00     | 92.10      | 89.70                | 4,519.23        | 7,862.43      | 81.42         | 1,176.48      | 1,178.59         | 2.54                | 598,545.72         | 612,940.29        |  |
| 8,876.00     | 90.90      | 89.50                | 4,518.39        | 7,861.59      | 81.64         | 1,208.47      | 1,210.57         | 3.80                | 598,545.94         | 612,972.28        |  |
| 8,971.00     | 90.20      | 89.70                | 4,517.48        | 7,860.68      | 82.30         | 1,303.46      | 1,305.53         | 0.77                | 598,546.60         | 613,067.27        |  |
| 9,034.00     | 90.50      | 89.60                | 4,517.10        | 7,860.30      | 82.69         | 1,366.46      | 1,368.50         | 0.50                | 598,546.99         | 613,130.27        |  |
| 9,066.00     | 89.30      | 89.20                | 4,517.15        | 7,860.35      | 83.02         | 1,398.46      | 1,400.49         | 3.95                | 598,547.32         | 613,162.27        |  |
| 9,129.00     | 89.70      | 89.40                | 4,517.70        | 7,860.90      | 83.79         | 1,461.45      | 1,463.47         | 0.71                | 598,548.09         | 613,225.26        |  |
| 9,224.00     | 89.20      | 89.00                | 4,518.62        | 7,861.82      | 85.12         | 1,556.43      | 1,558.45         | 0.67                | 598,549.42         | 613,320.24        |  |
| 9,319.00     | 90.20      | 89.10                | 4,519.11        | 7,862.31      | 86.69         | 1,651.42      | 1,653.43         | 1.06                | 598,550.99         | 613,415.23        |  |
| 9,414.00     | 89.70      | 88.60                | 4,519.20        | 7,862.40      | 88.60         | 1,746.40      | 1,748.42         | 0.74                | 598,552.90         | 613,510.21        |  |
| 9,509.00     | 90.90      | 89.00                | 4,518.70        | 7,861.90      | 90.59         | 1,841.37      | 1,843.41         | 1.33                | 598,554.89         | 613,605.18        |  |
| 9,604.00     | 91.70      | 89.30                | 4,516.54        | 7,859.74      | 92.00         | 1,936.34      | 1,938.36         | 0.90                | 598,556.30         | 613,700.15        |  |



Phoenix Technology Services  
Devon Energy Inc.



|                  |                         |                                     |                                                  |
|------------------|-------------------------|-------------------------------------|--------------------------------------------------|
| <b>Company:</b>  | Devon                   | <b>Local Co-ordinate Reference:</b> | Well Emerald PWU 20-3H                           |
| <b>Project:</b>  | Eddy County, NM (Nad83) | <b>TVD Reference:</b>               | WELL @ 3343 20usft (Original Well Elev + 19' KB) |
| <b>Site:</b>     | Emerald PWU 20          | <b>MD Reference:</b>                | WELL @ 3343 20usft (Original Well Elev + 19' KB) |
| <b>Well:</b>     | Emerald PWU 20-3H       | <b>North Reference:</b>             | Grid                                             |
| <b>Wellbore:</b> | Wellbore #1             | <b>Survey Calculation Method:</b>   | Minimum Curvature                                |
| <b>Design:</b>   | Wellbore #1             | <b>Database:</b>                    | GCR DB v5000                                     |

| Survey       |            |                      |                 |               |               |               |                  |                     |                    |                   |
|--------------|------------|----------------------|-----------------|---------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|
| MD<br>(usft) | Inc<br>(°) | Azi (azimuth)<br>(°) | TVDSS<br>(usft) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |
| 9,699.00     | 92.50      | 89.70                | 4,513.06        | 7,856.26      | 92.83         | 2,031.27      | 2,033.26         | 0.94                | 598,557.13         | 613,795.08        |
| 9,794.00     | 91.20      | 89.50                | 4,510.00        | 7,853.20      | 93.49         | 2,126.22      | 2,128.18         | 1.38                | 598,557.79         | 613,890.03        |
| 9,889.00     | 89.60      | 88.60                | 4,509.33        | 7,852.53      | 95.06         | 2,221.20      | 2,223.16         | 1.93                | 598,559.36         | 613,985.01        |
| 9,984.00     | 90.00      | 88.60                | 4,509.66        | 7,852.86      | 97.39         | 2,316.17      | 2,318.15         | 0.42                | 598,561.69         | 614,079.98        |
| 10,079.00    | 90.60      | 88.70                | 4,509.17        | 7,852.37      | 99.62         | 2,411.14      | 2,413.14         | 0.64                | 598,563.92         | 614,174.95        |
| 10,174.00    | 90.80      | 88.70                | 4,508.01        | 7,851.21      | 101.78        | 2,506.11      | 2,508.13         | 0.21                | 598,566.08         | 614,269.92        |
| 10,269.00    | 91.70      | 89.70                | 4,505.93        | 7,849.13      | 103.11        | 2,601.07      | 2,603.08         | 1.42                | 598,567.41         | 614,364.88        |
| 10,362.00    | 89.80      | 89.20                | 4,504.72        | 7,847.92      | 104.00        | 2,694.06      | 2,696.04         | 2.11                | 598,568.30         | 614,457.87        |
| 10,455.00    | 89.40      | 89.40                | 4,505.37        | 7,848.57      | 105.13        | 2,787.05      | 2,789.02         | 0.48                | 598,569.43         | 614,550.86        |
| 10,547.00    | 89.70      | 89.10                | 4,506.09        | 7,849.29      | 106.34        | 2,879.04      | 2,880.99         | 0.46                | 598,570.64         | 614,642.85        |
| 10,640.00    | 90.10      | 89.30                | 4,506.25        | 7,849.45      | 107.64        | 2,972.03      | 2,973.97         | 0.48                | 598,571.94         | 614,735.84        |
| 10,735.00    | 90.30      | 89.70                | 4,505.92        | 7,849.12      | 108.47        | 3,067.02      | 3,068.94         | 0.47                | 598,572.77         | 614,830.83        |
| 10,826.00    | 90.10      | 89.90                | 4,505.60        | 7,848.80      | 108.78        | 3,158.02      | 3,159.89         | 0.31                | 598,573.08         | 614,921.83        |
| 10,918.00    | 89.40      | 88.30                | 4,506.00        | 7,849.20      | 110.23        | 3,250.01      | 3,251.87         | 1.90                | 598,574.53         | 615,013.82        |
| 11,010.00    | 89.50      | 88.60                | 4,506.89        | 7,850.09      | 112.72        | 3,341.97      | 3,343.87         | 0.34                | 598,577.02         | 615,105.78        |
| 11,104.00    | 89.50      | 88.40                | 4,507.71        | 7,850.91      | 115.18        | 3,435.93      | 3,437.86         | 0.21                | 598,579.48         | 615,199.74        |
| 11,198.00    | 89.80      | 89.10                | 4,508.28        | 7,851.48      | 117.23        | 3,529.91      | 3,531.85         | 0.81                | 598,581.53         | 615,293.72        |
| 11,293.00    | 89.50      | 89.10                | 4,508.86        | 7,852.06      | 118.72        | 3,624.89      | 3,626.83         | 0.32                | 598,583.02         | 615,388.70        |
| 11,385.00    | 89.50      | 89.40                | 4,509.66        | 7,852.86      | 119.92        | 3,716.88      | 3,718.81         | 0.33                | 598,584.22         | 615,480.69        |
| 11,479.00    | 90.00      | 88.30                | 4,510.07        | 7,853.27      | 121.81        | 3,810.86      | 3,812.79         | 1.29                | 598,586.11         | 615,574.67        |
| 11,571.00    | 90.60      | 88.10                | 4,509.59        | 7,852.79      | 124.70        | 3,902.81      | 3,904.79         | 0.69                | 598,589.00         | 615,666.62        |
| 11,665.00    | 90.70      | 87.60                | 4,508.52        | 7,851.72      | 128.23        | 3,996.74      | 3,998.79         | 0.54                | 598,592.53         | 615,760.55        |
| 11,758.00    | 90.90      | 87.90                | 4,507.23        | 7,850.43      | 131.88        | 4,089.66      | 4,091.77         | 0.39                | 598,596.18         | 615,853.47        |
| 11,850.00    | 91.30      | 88.60                | 4,505.46        | 7,848.66      | 134.69        | 4,181.60      | 4,183.76         | 0.88                | 598,598.99         | 615,945.41        |
| 11,942.00    | 91.40      | 88.70                | 4,503.29        | 7,846.49      | 136.85        | 4,273.55      | 4,275.73         | 0.15                | 598,601.15         | 616,037.36        |
| 12,034.00    | 90.80      | 89.00                | 4,501.53        | 7,844.73      | 138.70        | 4,365.51      | 4,367.70         | 0.73                | 598,603.00         | 616,129.32        |
| 12,126.00    | 90.50      | 89.30                | 4,500.48        | 7,843.68      | 140.06        | 4,457.50      | 4,459.67         | 0.46                | 598,604.36         | 616,221.31        |



Phoenix Technology Services  
Devon Energy Inc.



|                  |                         |                                     |                                                  |
|------------------|-------------------------|-------------------------------------|--------------------------------------------------|
| <b>Company:</b>  | Devon                   | <b>Local Co-ordinate Reference:</b> | Well Emerald PWU 20-3H                           |
| <b>Project:</b>  | Eddy County, NM (Nad83) | <b>TVD Reference:</b>               | WELL @ 3343.20usft (Original Well Elev + 19' KB) |
| <b>Site:</b>     | Emerald PWU 20          | <b>MD Reference:</b>                | WELL @ 3343 20usft (Original Well Elev + 19' KB) |
| <b>Well:</b>     | Emerald PWU 20-3H       | <b>North Reference:</b>             | Grid                                             |
| <b>Wellbore:</b> | Wellbore #1             | <b>Survey Calculation Method:</b>   | Minimum Curvature                                |
| <b>Design:</b>   | Wellbore #1             | <b>Database:</b>                    | GCR DB v5000                                     |

| Survey                  |            |                      |                 |               |               |               |                  |                     |                    |                   |
|-------------------------|------------|----------------------|-----------------|---------------|---------------|---------------|------------------|---------------------|--------------------|-------------------|
| MD<br>(usft)            | Inc<br>(°) | Azi (azimuth)<br>(°) | TVDSS<br>(usft) | TVD<br>(usft) | N/S<br>(usft) | E/W<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Northing<br>(usft) | Easting<br>(usft) |
| 12,219 00               | 90.60      | 89.70                | 4,499.59        | 7,842.79      | 140.88        | 4,550.49      | 4,552.64         | 0.44                | 598,605.18         | 616,314.30        |
| Last Phoenix MWD Survey |            |                      |                 |               |               |               |                  |                     |                    |                   |
| 12,303 00               | 90 60      | 89.70                | 4,498.71        | 7,841.91      | 141 32        | 4,634.48      | 4,636.60         | 0 00                | 598,605.62         | 616,398.29        |
| Projection to TD        |            |                      |                 |               |               |               |                  |                     |                    |                   |

| Design Annotations          |                             |                   |                 |                          |
|-----------------------------|-----------------------------|-------------------|-----------------|--------------------------|
| Measured<br>Depth<br>(usft) | Vertical<br>Depth<br>(usft) | Local Coordinates |                 | Comment                  |
|                             |                             | +N/-S<br>(usft)   | +E/-W<br>(usft) |                          |
| 7,828 00                    | 7,746.27                    | 44 97             | 197.30          | Last Gyro Survey         |
| 7,828 00                    | 7,746 27                    | 44.97             | 197 30          | Last Gyro Survey         |
| 7,863 00                    | 7,771.18                    | 45.69             | 221 86          | First Phoenix MWD Survey |
| 12,219 00                   | 7,842 79                    | 140.88            | 4,550.49        | Last Phoenix MWD Survey  |
| 12,303.00                   | 7,841.91                    | 141.32            | 4,634.48        | Projection to TD         |

|                   |                    |            |
|-------------------|--------------------|------------|
| Checked By: _____ | Approved By: _____ | Date _____ |
|-------------------|--------------------|------------|

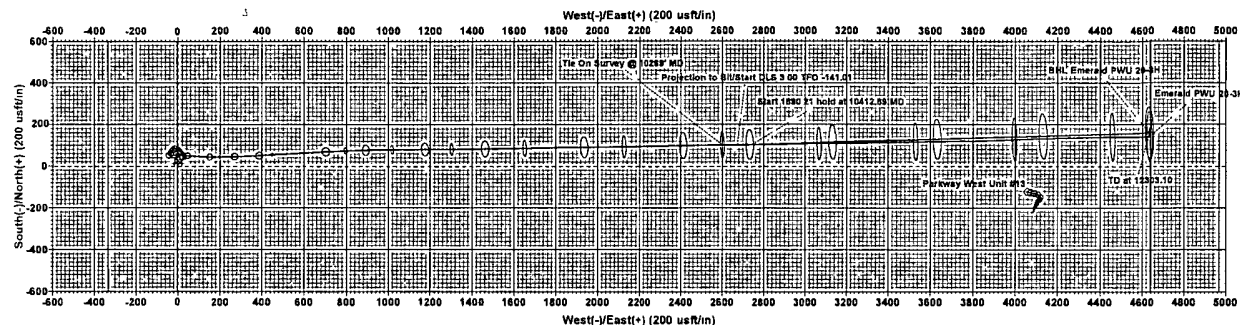
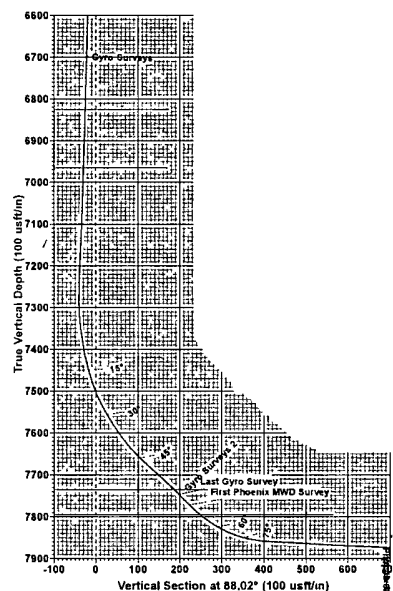


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devon

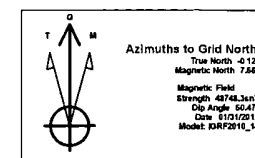
| North     | East      | Ground Level      | 3324 20           |
|-----------|-----------|-------------------|-------------------|
| 598464 30 | 611763 81 | 32° 38' 42 0646 N | 104° 6' 16 2969 W |



| TVDPath | MDPath  | Formation                |
|---------|---------|--------------------------|
| 350 00  | 350 08  | Salado                   |
| 885 00  | 885 40  | Tansil Dolomite          |
| 1135 00 | 1135 48 | Yates                    |
| 1550 00 | 1550 51 | Seven Rivers             |
| 1895 00 | 1895 53 | Queen                    |
| 2640 00 | 2640 56 | San Andres               |
| 3265 00 | 3265 58 | Delaware                 |
| 4300 00 | 4300 71 | Cutoff Dolomite          |
| 4485 00 | 4485 81 | Bone Spring Lm           |
| 6825 00 | 6826 92 | 1st Bone Spring Ss       |
| 6965 00 | 6967 07 | 2nd Bone Spring Lme      |
| 7735 00 | 7812 17 | 2nd Bone Spring Ss       |
| 7795 00 | 7898 61 | 2nd Bone Spring Lower Ss |

| MD       | Inc   | Azi   | TVD     | +N/-S  | +E/-W   | Dleg | TFace   | VSec    |                       |
|----------|-------|-------|---------|--------|---------|------|---------|---------|-----------------------|
| 10269.00 | 91.70 | 89.70 | 7849.13 | 103.11 | 2601.07 | 0.00 | 0.00    | 2603.08 |                       |
| 10340.00 | 91.70 | 89.70 | 7847.03 | 103.48 | 2672.04 | 0.00 | 0.00    | 2674.02 |                       |
| 10412.89 | 90.00 | 88.32 | 7845.95 | 104.73 | 2744.91 | 3.00 | -141.01 | 2746.89 | BHL Emerald PWU 20-3H |
| 12303.10 | 80.00 | 88.32 | 7845.95 | 160.00 | 4634.31 | 0.00 | 0.00    | 4637.07 | BHL Emerald PWU 20-3H |

| TVD     | MD       | Annotation                                   |
|---------|----------|----------------------------------------------|
| 7849 13 | 10269 00 | Tie On Survey @ 10269' MD                    |
| 7847 03 | 10340 00 | Projection to Bit/Start DLS 3 00 TFO -141 01 |
| 7845 95 | 10412 89 | Start 1890 21 hold at 10412 89 MD            |
| 7845 95 | 12303 10 | TD at 12303 10                               |



## EMERALD PWU 20-3H

WEST UNRESTRICTED



## Perforation Summary

| District<br>PERMIAN BASIN                 |                 | County<br>EDDY        |                  | Field Name<br>PARKWAY WEST          |                  |                                      |              | Project Group<br>PB NEW MEXICO   |             |                                 |                      | State/Province<br>NM               |                   |                            |  |
|-------------------------------------------|-----------------|-----------------------|------------------|-------------------------------------|------------------|--------------------------------------|--------------|----------------------------------|-------------|---------------------------------|----------------------|------------------------------------|-------------------|----------------------------|--|
| Surface Legal Location<br>SEC20 T19S R29E |                 | API/UWI<br>3001539365 |                  | Latitude (DMS)<br>32° 38' 42.067" N |                  | Longitude (DMS)<br>104° 6' 16.296" E |              | Ground Elev MSL (ft)<br>3,324.20 |             | KB - Ground Level (ft)<br>19.00 |                      | Orig KB Elevation (ft)<br>3,343.20 |                   | Tubing Head Elevation (ft) |  |
| Date                                      | Zone            | Top (ftKB)            | Top (TVD) (ftKB) | Btm (ftKB)                          | Btm (TVD) (ftKB) | Current Status                       | Carrier Desc | Gun Size (in)                    | Chg Typ     | Chg Sz (g)                      | Shot Dens (shots/ft) | Phasing (°)                        | Conveyance Method |                            |  |
| 4/17/2012                                 | BONE_SPRING, OH | 8,300.0               | 7,870.8          | 8,302.0                             | 7,870.9          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/17/2012                                 | BONE_SPRING, OH | 8,430.0               | 7,876.6          | 8,432.0                             | 7,876.7          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/17/2012                                 | BONE_SPRING, OH | 8,560.0               | 7,879.5          | 8,562.0                             | 7,879.4          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/17/2012                                 | BONE_SPRING, OH | 8,690.0               | 7,873.3          | 8,692.0                             | 7,873.1          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/17/2012                                 | BONE_SPRING, OH | 8,820.0               | 7,863.6          | 8,822.0                             | 7,863.5          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/17/2012                                 | BONE_SPRING, OH | 8,950.0               | 7,860.7          | 8,952.0                             | 7,860.7          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/17/2012                                 | BONE_SPRING, OH | 9,080.0               | 7,860.9          | 9,082.0                             | 7,860.9          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/17/2012                                 | BONE_SPRING, OH | 9,210.0               | 7,861.7          | 9,212.0                             | 7,861.7          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/17/2012                                 | BONE_SPRING, OH | 9,340.0               | 7,862.3          | 9,342.0                             | 7,862.3          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/17/2012                                 | BONE_SPRING, OH | 9,470.0               | 7,862.3          | 9,472.0                             | 7,862.3          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/17/2012                                 | BONE_SPRING, OH | 9,600.0               | 7,859.9          | 9,602.0                             | 7,859.8          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/17/2012                                 | BONE_SPRING, OH | 9,730.0               | 7,855.2          | 9,732.0                             | 7,855.1          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/17/2012                                 | BONE_SPRING, OH | 9,860.0               | 7,852.3          | 9,862.0                             | 7,852.3          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/17/2012                                 | BONE_SPRING, OH | 9,990.0               | 7,853.0          | 9,992.0                             | 7,853.0          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/16/2012                                 | BONE_SPRING, OH | 10,120.0              | 7,851.5          | 10,122.0                            | 7,851.5          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/16/2012                                 | BONE_SPRING, OH | 10,250.0              | 7,849.8          | 10,252.0                            | 7,849.8          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/16/2012                                 | BONE_SPRING, OH | 10,380.0              | 7,847.3          | 10,382.0                            | 7,847.4          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/16/2012                                 | BONE_SPRING, OH | 10,510.0              | 7,848.9          | 10,512.0                            | 7,848.9          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/16/2012                                 | BONE_SPRING, OH | 10,640.0              | 7,849.3          | 10,642.0                            | 7,849.3          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/16/2012                                 | BONE_SPRING, OH | 10,770.0              | 7,849.2          | 10,772.0                            | 7,849.1          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/16/2012                                 | BONE_SPRING, OH | 10,900.0              | 7,848.9          | 10,902.0                            | 7,848.9          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/16/2012                                 | BONE_SPRING, OH | 11,030.0              | 7,849.8          | 11,032.0                            | 7,849.8          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/16/2012                                 | BONE_SPRING, OH | 11,160.0              | 7,851.3          | 11,162.0                            | 7,851.3          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/16/2012                                 | BONE_SPRING, OH | 11,290.0              | 7,851.9          | 11,292.0                            | 7,851.9          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 4/16/2012                                 | BONE_SPRING, OH | 11,420.0              | 7,852.9          | 11,422.0                            | 7,852.9          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 3/28/2012                                 | BONE_SPRING, OH | 11,550.0              | 7,852.9          | 11,552.0                            | 7,852.8          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 3/28/2012                                 | BONE_SPRING, OH | 11,680.0              | 7,851.0          | 11,682.0                            | 7,851.0          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 3/28/2012                                 | BONE_SPRING, OH | 11,810.0              | 7,849.3          | 11,812.0                            | 7,849.3          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 3/28/2012                                 | BONE_SPRING, OH | 11,940.0              | 7,846.4          | 11,942.0                            | 7,846.4          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |
| 3/28/2012                                 | BONE_SPRING, OH | 12,070.0              | 7,844.0          | 12,072.0                            | 7,844.0          |                                      |              | 3 1/8                            | GUN SLINGER | 23.0                            | 6.0                  | 60                                 | WIRELINE          |                            |  |