



**PHOENIX**  
**TECHNOLOGY SERVICES**

July 28, 2014

RKI Exploration and Production  
Attention: Regulatory Department  
210 Park Avenue, Suite 900  
Oklahoma City, OK 73102

Re: RKI Exploration and Production  
RDX Federal Com 17-20H (WB2)  
Eddy County, NM  
API #30-015-~~41318~~ 41381  
Job No. 1410739

Dear Regulatory Department,

Phoenix Technology Services, Inc. has filed the Survey Data Certification, Surveys, and Lease Plat for the above referenced well with the Texas Railroad Commission via certification online. A copy of the filing is attached for your records.

| Name of Surveyor | Drain Hole Number | Surveyed Depths |        | Dates Performed |          | Type of Survey |
|------------------|-------------------|-----------------|--------|-----------------|----------|----------------|
|                  |                   | From            | To     | Start           | End      |                |
| Jeff Thomas      | 20H               | 3,650           | 12,880 | 06/05/14        | 06/28/14 | MWD            |

Thank you for the opportunity to be of service. Please contact me if you have any questions or require additional information.

Best Regards,

*Dana Robinson*

Dana Robinson  
Operations Administrator

# Phoenix Technology Services SURVEY DATA CERTIFICATION



PHOENIX JOB NUMBER 1410739

OPERATOR RKI Exploration

WELL NAME RDX Federal Com 17-20H (WB2)

COUNTY & STATE

EDDY/New Mexico

API WELL NUMBER 30-015-41381

PROPOSED DIRECTION 175.47

| TIE-IN DATA |             |        |         |           |           |            |
|-------------|-------------|--------|---------|-----------|-----------|------------|
| MEASURED    | VERTICAL    |        |         | N-S       | E-W       | DATA       |
| DEPTH       | DEPTH       | INCLIN | AZIMUTH | COORD     | COORD     | SOURCE     |
| 3,542 ft    | 3,521.10 ft | 4.0    | 334.7   | 274.24 ft | 105.97 ft | Side Track |

| FIRST    | FIRST    |        |         |
|----------|----------|--------|---------|
| SURVEY   | SURVEY   |        |         |
| DATE     | DEPTH    | INCLIN | AZIMUTH |
| 5-Jun-14 | 3,650 ft | 5.6    | 51.3    |

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

| LAST      | LAST      |        |         |
|-----------|-----------|--------|---------|
| SURVEY    | SURVEY    |        |         |
| DATE      | DEPTH     | INCLIN | AZIMUTH |
| 28-Jun-14 | 12,880 ft | 92.00  | 177.70  |

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 |
| 28-Jun-14 | 12,935 ft | 92.00  | 177.70  |

Jeffrey Thomas

PRINT YOUR NAME ABOVE

Jeffrey Thomas

SIGN YOUR NAME ABOVE

## MAGNETIC DECLINATION OR TOTAL GRID

| TOTAL CORRECTION USED | 7.37        |
|-----------------------|-------------|
| DECLINATION OR GRID   | DECLINATION |

28-Jun-14

TODAY'S DATE

MWD SUPERVISOR 1

Jeff Thomas

DIRECTIONAL DRILLER 1

John Schlottman

MWD SUPERVISOR 2

Shawn Ramnarine

DIRECTIONAL DRILLER 2

Lee Scoggins

1805 Brittmore Road

Houston, Texas 77043

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



**PHOENIX**  
TECHNOLOGY SERVICES

## **RKI Exploration**

**Eddy County, New Mexico (NAD 83)**

**RDX Federal Com 17**

**20H**

**WB #2 Job #1410739**

**Survey: Phoenix MWD Surveys**

## **Standard Survey Report**

**29 June, 2014**





# Phoenix Technology Services Survey Report



|           |                                  |                              |                                    |
|-----------|----------------------------------|------------------------------|------------------------------------|
| Company:  | RKI Exploration                  | Local Co-ordinate Reference: | Well 20H                           |
| Project:  | Eddy County, New Mexico (NAD 83) | TVD Reference:               | WELL @ 3098.00usft (Silver Oak 10) |
| Site:     | RDX Federal Com 17               | MD Reference:                | WELL @ 3098.00usft (Silver Oak 10) |
| Well:     | 20H                              | North Reference:             | Grid                               |
| Wellbore: | WB #2 Job #1410739               | Survey Calculation Method:   | Minimum Curvature                  |
| Design:   | WB #2 Job #1410739               | Database:                    | Compass 5000 GCR DB                |

|             |                                  |               |                |
|-------------|----------------------------------|---------------|----------------|
| Project:    | Eddy County, New Mexico (NAD 83) |               |                |
| Map System: | US State Plane 1983              | System Datum: | Mean Sea Level |
| Geo Datum:  | North American Datum 1983        |               |                |
| Map Zone:   | New Mexico Eastern Zone          |               |                |

|                       |                    |                   |                     |
|-----------------------|--------------------|-------------------|---------------------|
| Site:                 | RDX Federal Com 17 |                   |                     |
| Site Position:        |                    | Northing:         | 381,822.10 usft     |
| From:                 | Map                | Easting:          | 676,389.30 usft     |
| Position Uncertainty: | 0.00 usft          | Slot Radius:      | 13-3/16 "           |
|                       |                    | Latitude:         | 32° 2' 56.25408 N   |
|                       |                    | Longitude:        | 103° 53' 50.76837 W |
|                       |                    | Grid Convergence: | 0.23 °              |

|                      |           |                     |                     |
|----------------------|-----------|---------------------|---------------------|
| Well:                | 20H       |                     |                     |
| Well Position        | +N/-S     | 0.00 usft           | Northing:           |
|                      | +E/-W     | 0.00 usft           | Easting:            |
| Position Uncertainty | 0.00 usft | Wellhead Elevation: | usft                |
|                      |           | Latitude:           | 32° 2' 56.25408 N   |
|                      |           | Longitude:          | 103° 53' 50.76837 W |
|                      |           | Ground Level:       | 3,081.00 usft       |

|           |                    |                |             |
|-----------|--------------------|----------------|-------------|
| Wellbore: | WB #2 Job #1410739 |                |             |
| Magnetics | Model Name         | Sample Date    | Declination |
|           | IGRF2010_14        | 2014/05/30     | 7.38        |
|           |                    | Dip Angle      | 59.90       |
|           |                    | Field Strength | 48,183      |

|                   |                    |               |          |
|-------------------|--------------------|---------------|----------|
| Design:           | WB #2 Job #1410739 |               |          |
| Audit Notes:      |                    |               |          |
| Version:          | 1.0                | Phase:        | ACTUAL   |
|                   |                    | Tie On Depth: | 3,542.00 |
| Vertical Section: | Depth From (TVD)   | +N/-S         | +E/-W    |
|                   | (usft)             | (usft)        | (usft)   |
|                   | 0.00               | 0.00          | 0.00     |
|                   |                    | Direction     | 175.47   |
|                   |                    | (°)           |          |

|                |                  |                                       |                                      |
|----------------|------------------|---------------------------------------|--------------------------------------|
| Survey Program | Date: 2014/06/29 |                                       |                                      |
| From           | To               | Survey (Wellbore)                     | Tool Name                            |
| (usft)         | (usft)           |                                       |                                      |
| 100.00         | 900.00           | Gyro Surveys (WB #1 Job #1410739)     | NS-GYRO-MS                           |
| 1,003.00       | 3,542.00         | Phoenix MWD Surveys (WB #1 Job #1410) | MWD                                  |
| 3,650.00       | 12,935.00        | Phoenix MWD Surveys (WB #2 Job #1410) | PHX+MWD+IGRF                         |
|                |                  |                                       | Description                          |
|                |                  |                                       | North sensing gyrocompassing m/s     |
|                |                  |                                       | MWD - Standard                       |
|                |                  |                                       | PHX+MWD+IGRF v3:standard declination |

|                  |             |         |          |        |         |          |             |             |             |
|------------------|-------------|---------|----------|--------|---------|----------|-------------|-------------|-------------|
| Survey           |             |         |          |        |         |          |             |             |             |
| Measured         | Inclination | Azimuth | Vertical | +N/-S  | +E/-W   | Vertical | Dogleg      | Build       | Turn        |
| Depth            | (°)         | (°)     | Depth    | (usft) | (usft)  | Section  | Rate        | Rate        | Rate        |
| (usft)           |             |         | (usft)   |        |         | (usft)   | (°/100usft) | (°/100usft) | (°/100usft) |
| 3,542.00         | 4.00        | 334.70  | 3,521.10 | 274.24 | -105.97 | -281.75  | 0.00        | 0.00        | 0.00        |
| 3,650.00         | 5.60        | 51.30   | 3,628.81 | 280.95 | -103.47 | -288.24  | 5.63        | 1.48        | 70.93       |
| First WB2 Survey |             |         |          |        |         |          |             |             |             |
| 3,742.00         | 5.50        | 67.80   | 3,720.38 | 285.42 | -95.88  | -292.10  | 1.73        | -0.11       | 17.93       |
| 3,838.00         | 9.10        | 83.70   | 3,815.80 | 287.99 | -84.07  | -293.73  | 4.27        | 3.75        | 16.56       |
| 3,933.00         | 10.40       | 87.90   | 3,909.23 | 289.13 | -68.03  | -293.60  | 1.56        | 1.37        | 4.42        |
| 4,029.00         | 9.80        | 89.00   | 4,003.74 | 289.59 | -51.21  | -292.73  | 0.68        | -0.63       | 1.15        |
| 4,125.00         | 9.10        | 87.20   | 4,098.43 | 290.10 | -35.45  | -292.00  | 0.79        | -0.73       | -1.88       |
| 4,219.00         | 9.40        | 87.10   | 4,191.21 | 290.86 | -20.36  | -291.56  | 0.32        | 0.32        | -0.11       |



# Phoenix Technology Services

## Survey Report



|           |                                  |                              |                                    |
|-----------|----------------------------------|------------------------------|------------------------------------|
| Company:  | RKI Exploration                  | Local Co-ordinate Reference: | Well 20H                           |
| Project:  | Eddy County, New Mexico (NAD 83) | TVD Reference:               | WELL @ 3098.00usft (Silver Oak 10) |
| Site:     | RDX Federal Com 17               | MD Reference:                | WELL @ 3098.00usft (Silver Oak 10) |
| Well:     | 20H                              | North Reference:             | Grid                               |
| Wellbore: | WB #2 Job #1410739               | Survey Calculation Method:   | Minimum Curvature                  |
| Design:   | WB #2 Job #1410739               | Database:                    | Compass 5000 GCR DB                |

| Survey                |                 |             |                       |              |              |                         |                         |                        |                       |  |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |  |
| 4,314.00              | 9.10            | 86.50       | 4,284.98              | 291.71       | -5.12        | -291.20                 | 0.33                    | -0.32                  | -0.63                 |  |
| 4,408.00              | 9.70            | 91.70       | 4,377.72              | 291.93       | 10.22        | -290.21                 | 1.11                    | 0.64                   | 5.53                  |  |
| 4,502.00              | 8.70            | 92.40       | 4,470.50              | 291.39       | 25.24        | -288.49                 | 1.07                    | -1.06                  | 0.74                  |  |
| 4,598.00              | 9.60            | 86.90       | 4,565.28              | 291.52       | 40.49        | -287.41                 | 1.31                    | 0.94                   | -5.73                 |  |
| 4,694.00              | 9.10            | 86.60       | 4,660.01              | 292.41       | 56.06        | -287.06                 | 0.52                    | -0.52                  | -0.31                 |  |
| 4,790.00              | 9.50            | 96.90       | 4,754.75              | 291.90       | 71.50        | -285.34                 | 1.78                    | 0.42                   | 10.73                 |  |
| 4,885.00              | 9.90            | 98.20       | 4,848.39              | 289.80       | 87.37        | -281.99                 | 0.48                    | 0.42                   | 1.37                  |  |
| 4,980.00              | 9.40            | 98.70       | 4,942.05              | 287.46       | 103.12       | -278.42                 | 0.53                    | -0.53                  | 0.53                  |  |
| 5,075.00              | 9.30            | 91.40       | 5,035.79              | 286.10       | 118.46       | -275.85                 | 1.25                    | -0.11                  | -7.68                 |  |
| 5,170.00              | 8.60            | 89.90       | 5,129.63              | 285.92       | 133.24       | -274.51                 | 0.78                    | -0.74                  | -1.58                 |  |
| 5,265.00              | 8.00            | 92.30       | 5,223.64              | 285.67       | 146.95       | -273.17                 | 0.73                    | -0.63                  | 2.53                  |  |
| 5,358.00              | 8.00            | 92.40       | 5,315.73              | 285.14       | 159.88       | -271.62                 | 0.01                    | 0.00                   | 0.11                  |  |
| 5,454.00              | 9.80            | 89.00       | 5,410.58              | 285.00       | 174.72       | -270.31                 | 1.95                    | 1.88                   | -3.54                 |  |
| 5,549.00              | 9.40            | 88.60       | 5,504.24              | 285.33       | 190.56       | -269.39                 | 0.43                    | -0.42                  | -0.42                 |  |
| 5,643.00              | 8.90            | 87.20       | 5,597.05              | 285.88       | 205.50       | -268.75                 | 0.58                    | -0.53                  | -1.49                 |  |
| 5,737.00              | 9.10            | 88.80       | 5,689.89              | 286.39       | 220.20       | -268.10                 | 0.34                    | 0.21                   | 1.70                  |  |
| 5,831.00              | 8.40            | 89.30       | 5,782.80              | 286.63       | 234.49       | -267.21                 | 0.75                    | -0.74                  | 0.53                  |  |
| 5,927.00              | 8.20            | 90.10       | 5,877.79              | 286.70       | 248.35       | -266.19                 | 0.24                    | -0.21                  | 0.83                  |  |
| 6,022.00              | 7.80            | 89.50       | 5,971.87              | 286.74       | 261.57       | -265.19                 | 0.43                    | -0.42                  | -0.63                 |  |
| 6,147.00              | 7.30            | 86.50       | 6,095.78              | 287.30       | 277.98       | -264.45                 | 0.51                    | -0.40                  | -2.40                 |  |
| 6,243.00              | 6.60            | 98.80       | 6,191.08              | 286.83       | 289.52       | -263.07                 | 1.71                    | -0.73                  | 12.81                 |  |
| 6,338.00              | 6.60            | 101.10      | 6,285.45              | 284.94       | 300.27       | -260.34                 | 0.28                    | 0.00                   | 2.42                  |  |
| 6,432.00              | 6.20            | 100.00      | 6,378.87              | 283.02       | 310.57       | -257.61                 | 0.45                    | -0.43                  | -1.17                 |  |
| 6,526.00              | 6.30            | 106.20      | 6,472.31              | 280.70       | 320.53       | -254.51                 | 0.73                    | 0.11                   | 6.60                  |  |
| 6,621.00              | 5.90            | 101.30      | 6,566.77              | 278.29       | 330.32       | -251.33                 | 0.69                    | -0.42                  | -5.16                 |  |
| 6,715.00              | 6.20            | 103.90      | 6,660.25              | 276.13       | 339.98       | -248.41                 | 0.43                    | 0.32                   | 2.77                  |  |
| 6,811.00              | 5.50            | 105.70      | 6,755.75              | 273.64       | 349.45       | -245.18                 | 0.75                    | -0.73                  | 1.88                  |  |
| 6,904.00              | 4.30            | 105.10      | 6,848.41              | 271.52       | 357.10       | -242.47                 | 1.29                    | -1.29                  | -0.65                 |  |
| 7,000.00              | 1.80            | 104.30      | 6,944.28              | 270.21       | 362.04       | -240.77                 | 2.60                    | -2.60                  | -0.83                 |  |
| 7,099.00              | 0.60            | 159.20      | 7,043.24              | 269.34       | 363.73       | -239.77                 | 1.55                    | -1.21                  | 55.45                 |  |
| 7,192.00              | 0.80            | 181.80      | 7,136.23              | 268.24       | 363.88       | -238.66                 | 0.36                    | 0.22                   | 24.30                 |  |
| 7,285.00              | 0.90            | 164.30      | 7,229.22              | 266.99       | 364.06       | -237.30                 | 0.30                    | 0.11                   | -18.82                |  |
| 7,379.00              | 0.90            | 218.70      | 7,323.21              | 265.60       | 363.80       | -236.04                 | 0.88                    | 0.00                   | 57.87                 |  |
| 7,473.00              | 1.00            | 210.30      | 7,417.20              | 264.32       | 362.92       | -234.83                 | 0.18                    | 0.11                   | -8.94                 |  |
| 7,565.00              | 0.70            | 208.30      | 7,509.19              | 263.13       | 362.25       | -233.69                 | 0.33                    | -0.33                  | -2.17                 |  |
| 7,659.00              | 0.70            | 205.80      | 7,603.18              | 262.10       | 361.73       | -232.72                 | 0.03                    | 0.00                   | -2.66                 |  |
| 7,723.00              | 0.70            | 179.40      | 7,667.18              | 261.36       | 361.56       | -231.99                 | 0.50                    | 0.00                   | -41.25                |  |
| 7,802.00              | 0.80            | 200.90      | 7,746.17              | 260.36       | 361.37       | -231.01                 | 0.38                    | 0.13                   | 27.22                 |  |
| 7,865.00              | 1.00            | 220.20      | 7,809.17              | 259.53       | 360.86       | -230.22                 | 0.57                    | 0.32                   | 30.63                 |  |
| 7,897.00              | 0.70            | 233.20      | 7,841.16              | 259.20       | 360.52       | -229.92                 | 1.11                    | -0.94                  | 40.63                 |  |
| 7,928.00              | 5.00            | 184.60      | 7,872.12              | 257.74       | 360.26       | -228.48                 | 14.73                   | 13.87                  | -156.77               |  |
| 7,960.00              | 7.20            | 189.70      | 7,903.94              | 254.38       | 359.81       | -225.16                 | 7.07                    | 6.88                   | 15.94                 |  |
| 7,991.00              | 6.50            | 200.30      | 7,934.71              | 250.81       | 358.88       | -221.69                 | 4.65                    | -2.26                  | 34.19                 |  |



# Phoenix Technology Services Survey Report



|           |                                  |                              |                                    |
|-----------|----------------------------------|------------------------------|------------------------------------|
| Company:  | RKI Exploration                  | Local Co-ordinate Reference: | Well 20H                           |
| Project:  | Eddy County, New Mexico (NAD 83) | TVD Reference:               | WELL @ 3098.00usft (Silver Oak 10) |
| Site:     | RDX Federal Com 17               | MD Reference:                | WELL @ 3098.00usft (Silver Oak 10) |
| Well:     | 20H                              | North Reference:             | Grid                               |
| Wellbore: | WB #2 Job #1410739               | Survey Calculation Method:   | Minimum Curvature                  |
| Design:   | WB #2 Job #1410739               | Database:                    | Compass 5000 GCR DB                |

## Survey

| Measured<br>Depth<br>(usft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(usft) | +N/-S<br>(usft) | +E/-W<br>(usft) | Vertical<br>Section<br>(usft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
|-----------------------------|--------------------|----------------|-----------------------------|-----------------|-----------------|-------------------------------|-------------------------------|------------------------------|-----------------------------|
| 8,023.00                    | 5.20               | 205.60         | 7,966.55                    | 247.81          | 357.62          | -218.79                       | 4.40                          | -4.06                        | 16.56                       |
| 8,054.00                    | 7.50               | 188.40         | 7,997.36                    | 244.54          | 356.72          | -215.60                       | 9.55                          | 7.42                         | -55.48                      |
| 8,086.00                    | 11.30              | 188.80         | 8,028.92                    | 239.37          | 355.93          | -210.51                       | 11.88                         | 11.88                        | 1.25                        |
| 8,117.00                    | 17.60              | 186.10         | 8,058.93                    | 231.70          | 354.97          | -202.94                       | 20.43                         | 20.32                        | -8.71                       |
| 8,149.00                    | 22.90              | 177.30         | 8,088.95                    | 220.66          | 354.75          | -191.96                       | 19.06                         | 16.56                        | -27.50                      |
| 8,180.00                    | 26.20              | 171.80         | 8,117.14                    | 207.86          | 356.01          | -179.09                       | 12.94                         | 10.65                        | -17.74                      |
| 8,212.00                    | 27.80              | 170.80         | 8,145.65                    | 193.50          | 358.21          | -164.60                       | 5.20                          | 5.00                         | -3.13                       |
| 8,244.00                    | 31.80              | 170.60         | 8,173.42                    | 177.81          | 360.78          | -148.76                       | 12.50                         | 12.50                        | -0.63                       |
| 8,275.00                    | 34.50              | 173.80         | 8,199.37                    | 161.02          | 363.06          | -131.84                       | 10.38                         | 8.71                         | 10.32                       |
| 8,307.00                    | 37.30              | 174.30         | 8,225.29                    | 142.36          | 365.01          | -113.09                       | 8.80                          | 8.75                         | 1.56                        |
| 8,338.00                    | 40.10              | 176.50         | 8,249.48                    | 123.04          | 366.55          | -93.71                        | 10.06                         | 9.03                         | 7.10                        |
| 8,370.00                    | 45.50              | 178.10         | 8,272.95                    | 101.33          | 367.58          | -71.99                        | 17.21                         | 16.88                        | 5.00                        |
| 8,401.00                    | 48.40              | 178.10         | 8,294.11                    | 78.69           | 368.31          | -49.36                        | 9.35                          | 9.35                         | 0.00                        |
| 8,433.00                    | 47.40              | 178.10         | 8,315.57                    | 54.96           | 369.10          | -25.64                        | 3.13                          | -3.13                        | 0.00                        |
| 8,464.00                    | 46.80              | 177.40         | 8,336.67                    | 32.27           | 369.99          | -2.95                         | 2.55                          | -1.94                        | -2.26                       |
| 8,496.00                    | 47.00              | 177.20         | 8,358.53                    | 8.93            | 371.09          | 20.40                         | 0.77                          | 0.63                         | -0.63                       |
| 8,527.00                    | 50.50              | 176.60         | 8,378.97                    | -14.33          | 372.35          | 43.70                         | 11.38                         | 11.29                        | -1.94                       |
| 8,559.00                    | 53.30              | 177.80         | 8,398.71                    | -39.48          | 373.58          | 68.87                         | 9.23                          | 8.75                         | 3.75                        |
| 8,590.00                    | 56.90              | 179.60         | 8,418.45                    | -64.90          | 374.14          | 94.24                         | 12.55                         | 11.61                        | 5.81                        |
| 8,622.00                    | 60.70              | 180.20         | 8,433.02                    | -92.26          | 374.19          | 121.53                        | 11.98                         | 11.88                        | 1.88                        |
| 8,653.00                    | 63.50              | 181.60         | 8,447.53                    | -119.65         | 373.75          | 148.80                        | 9.87                          | 9.03                         | 4.52                        |
| 8,690.00                    | 66.40              | 180.20         | 8,463.19                    | -153.16         | 373.23          | 182.16                        | 8.55                          | 7.84                         | -3.78                       |
| 8,722.00                    | 67.90              | 180.20         | 8,475.62                    | -182.65         | 373.13          | 211.55                        | 4.69                          | 4.69                         | 0.00                        |
| 8,753.00                    | 70.10              | 179.50         | 8,486.73                    | -211.59         | 373.21          | 240.41                        | 7.40                          | 7.10                         | -2.26                       |
| 8,785.00                    | 71.80              | 179.20         | 8,497.17                    | -241.83         | 373.55          | 270.58                        | 5.39                          | 5.31                         | -0.94                       |
| 8,816.00                    | 73.20              | 179.60         | 8,506.49                    | -271.40         | 373.86          | 300.08                        | 4.68                          | 4.52                         | 1.29                        |
| 8,848.00                    | 76.50              | 179.30         | 8,514.86                    | -302.28         | 374.16          | 330.89                        | 10.35                         | 10.31                        | -0.94                       |
| 8,879.00                    | 79.10              | 178.10         | 8,521.41                    | -332.57         | 374.84          | 361.13                        | 9.20                          | 8.39                         | -3.87                       |
| 8,911.00                    | 80.60              | 177.80         | 8,527.05                    | -364.05         | 375.97          | 392.60                        | 4.78                          | 4.69                         | -0.94                       |
| 8,942.00                    | 83.40              | 177.40         | 8,531.36                    | -394.71         | 377.26          | 423.28                        | 9.12                          | 9.03                         | -1.29                       |
| 8,974.00                    | 86.70              | 177.80         | 8,534.12                    | -426.56         | 378.59          | 455.13                        | 10.39                         | 10.31                        | 1.25                        |
| 9,006.00                    | 89.90              | 179.10         | 8,535.07                    | -458.53         | 379.46          | 487.07                        | 10.79                         | 10.00                        | 4.06                        |
| 9,037.00                    | 92.20              | 179.50         | 8,534.50                    | -489.52         | 379.84          | 517.99                        | 7.53                          | 7.42                         | 1.29                        |
| 9,069.00                    | 91.00              | 179.50         | 8,533.61                    | -521.51         | 380.11          | 549.90                        | 3.75                          | -3.75                        | 0.00                        |
| 9,163.00                    | 92.50              | 181.00         | 8,530.74                    | -615.46         | 379.71          | 643.52                        | 2.26                          | 1.60                         | 1.60                        |
| 9,258.00                    | 92.70              | 180.40         | 8,526.43                    | -710.35         | 378.55          | 738.03                        | 0.67                          | 0.21                         | -0.63                       |
| 9,353.00                    | 91.10              | 177.80         | 8,523.28                    | -805.28         | 380.04          | 832.78                        | 3.21                          | -1.68                        | -2.74                       |
| 9,447.00                    | 91.90              | 180.30         | 8,520.82                    | -899.22         | 381.60          | 926.55                        | 2.79                          | 0.85                         | 2.66                        |
| 9,542.00                    | 91.90              | 180.60         | 8,517.67                    | -994.17         | 380.85          | 1,021.14                      | 0.32                          | 0.00                         | 0.32                        |
| 9,637.00                    | 91.80              | 181.00         | 8,514.60                    | -1,089.11       | 379.52          | 1,115.68                      | 0.43                          | -0.11                        | 0.42                        |
| 9,732.00                    | 91.50              | 180.60         | 8,511.86                    | -1,184.06       | 378.20          | 1,210.23                      | 0.53                          | -0.32                        | -0.42                       |
| 9,827.00                    | 90.90              | 179.50         | 8,509.87                    | -1,279.04       | 378.12          | 1,304.91                      | 1.32                          | -0.63                        | -1.16                       |
| 9,921.00                    | 93.40              | 181.70         | 8,506.35                    | -1,372.95       | 377.13          | 1,398.45                      | 3.54                          | 2.66                         | 2.34                        |
| 10,016.00                   | 94.50              | 181.90         | 8,499.80                    | -1,467.68       | 374.16          | 1,492.65                      | 1.18                          | 1.16                         | 0.21                        |



# Phoenix Technology Services Survey Report



|           |                                  |                              |                                    |
|-----------|----------------------------------|------------------------------|------------------------------------|
| Company:  | RKI Exploration                  | Local Co-ordinate Reference: | Well 20H                           |
| Project:  | Eddy County, New Mexico (NAD 83) | TVD Reference:               | WELL @ 3098.00usft (Silver Oak 10) |
| Site:     | RDX Federal Com 17               | MD Reference:                | WELL @ 3098.00usft (Silver Oak 10) |
| Well:     | 20H                              | North Reference:             | Grid                               |
| Wellbore: | WB #2 Job #1410739               | Survey Calculation Method:   | Minimum Curvature                  |
| Design:   | WB #2 Job #1410739               | Database:                    | Compass 5000 GCR DB                |

## Survey

| Measured Depth (usft)    | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|--------------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| 10,111.00                | 82.10           | 182.30      | 8,494.34              | -1,562.45    | 370.68       | 1,586.85                | 2.56                    | -2.53                  | 0.42                  |
| 10,204.00                | 92.00           | 181.70      | 8,491.01              | -1,655.33    | 367.44       | 1,679.18                | 0.65                    | -0.11                  | -0.65                 |
| 10,267.00                | 90.70           | 181.40      | 8,489.52              | -1,718.29    | 365.73       | 1,741.81                | -2.12                   | -2.06                  | -0.48                 |
| 10,362.00                | 90.00           | 181.40      | 8,488.94              | -1,813.26    | 363.41       | 1,836.30                | 0.74                    | -0.74                  | 0.00                  |
| 10,457.00                | 90.20           | 181.10      | 8,488.78              | -1,908.24    | 361.34       | 1,930.82                | 0.38                    | 0.21                   | -0.32                 |
| 10,551.00                | 90.70           | 181.40      | 8,488.04              | -2,002.21    | 359.29       | 2,024.34                | 0.62                    | 0.53                   | 0.32                  |
| 10,646.00                | 90.00           | 180.50      | 8,487.46              | -2,097.20    | 357.72       | 2,118.90                | 1.20                    | -0.74                  | -0.95                 |
| 10,741.00                | 89.70           | 180.10      | 8,487.71              | -2,192.20    | 357.22       | 2,213.56                | 0.53                    | -0.32                  | -0.42                 |
| 10,835.00                | 89.90           | 180.30      | 8,488.04              | -2,286.19    | 356.89       | 2,307.24                | 0.30                    | 0.21                   | 0.21                  |
| 10,930.00                | 89.60           | 180.80      | 8,488.45              | -2,381.19    | 355.98       | 2,401.87                | 0.61                    | -0.32                  | 0.53                  |
| 11,025.00                | 91.10           | 182.30      | 8,487.87              | -2,476.15    | 353.41       | 2,496.32                | 2.23                    | 1.58                   | 1.58                  |
| 11,120.00                | 91.40           | 183.10      | 8,485.80              | -2,571.02    | 348.94       | 2,590.54                | 0.90                    | 0.32                   | 0.84                  |
| 11,215.00                | 90.40           | 182.70      | 8,484.31              | -2,665.88    | 344.13       | 2,684.73                | 1.13                    | -1.05                  | -0.42                 |
| 11,309.00                | 89.90           | 180.60      | 8,484.06              | -2,759.84    | 341.42       | 2,778.18                | 2.30                    | -0.53                  | -2.23                 |
| 11,404.00                | 88.90           | 179.70      | 8,485.05              | -2,854.83    | 341.17       | 2,872.88                | 1.42                    | -1.05                  | -0.95                 |
| 11,499.00                | 88.50           | 180.60      | 8,487.21              | -2,949.80    | 340.93       | 2,967.52                | 1.04                    | -0.42                  | 0.95                  |
| 11,594.00                | 91.10           | 179.90      | 8,487.54              | -3,044.79    | 340.51       | 3,062.18                | 2.83                    | 2.74                   | -0.74                 |
| 11,688.00                | 91.70           | 179.10      | 8,485.25              | -3,138.76    | 341.33       | 3,155.91                | 1.06                    | 0.64                   | -0.85                 |
| 11,783.00                | 90.80           | 178.80      | 8,483.17              | -3,233.72    | 343.07       | 3,250.72                | 1.00                    | -0.95                  | -0.32                 |
| 11,878.00                | 90.00           | 179.40      | 8,482.51              | -3,328.71    | 344.56       | 3,345.52                | 1.05                    | -0.84                  | 0.63                  |
| 11,972.00                | 91.60           | 177.80      | 8,481.20              | -3,422.66    | 346.86       | 3,439.37                | 2.41                    | 1.70                   | -1.70                 |
| 12,067.00                | 89.80           | 177.20      | 8,480.04              | -3,517.56    | 351.00       | 3,534.30                | 2.00                    | -1.89                  | -0.63                 |
| 12,162.00                | 89.90           | 175.90      | 8,480.29              | -3,612.39    | 356.72       | 3,629.28                | 1.37                    | 0.11                   | -1.37                 |
| 12,256.00                | 91.90           | 178.10      | 8,478.81              | -3,706.24    | 361.64       | 3,723.22                | 3.16                    | 2.13                   | 2.34                  |
| 12,351.00                | 92.50           | 179.20      | 8,475.16              | -3,801.14    | 363.88       | 3,818.00                | 1.32                    | 0.63                   | 1.16                  |
| 12,446.00                | 91.40           | 179.30      | 8,471.93              | -3,896.07    | 365.12       | 3,912.74                | 1.16                    | -1.16                  | 0.11                  |
| 12,541.00                | 90.00           | 178.10      | 8,470.77              | -3,991.04    | 367.27       | 4,007.58                | 1.94                    | -1.47                  | -1.26                 |
| 12,636.00                | 91.50           | 178.20      | 8,469.53              | -4,085.98    | 370.34       | 4,102.46                | 1.58                    | 1.58                   | 0.11                  |
| 12,730.00                | 91.60           | 177.40      | 8,468.98              | -4,179.87    | 373.95       | 4,196.35                | 0.86                    | 0.11                   | -0.85                 |
| 12,825.00                | 91.80           | 177.40      | 8,464.16              | -4,274.73    | 378.25       | 4,291.25                | 0.21                    | 0.21                   | 0.00                  |
| 12,880.00                | 92.00           | 177.70      | 8,462.34              | -4,329.65    | 380.60       | 4,346.19                | 0.66                    | 0.36                   | 0.55                  |
| Final Phoenix MWD Survey |                 |             |                       |              |              |                         |                         |                        |                       |
| 12,935.00                | 92.00           | 177.70      | 8,460.42              | -4,384.57    | 382.81       | 4,401.11                | 0.00                    | 0.00                   | 0.00                  |
| Projection to TD         |                 |             |                       |              |              |                         |                         |                        |                       |

## Survey Annotations

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates |              | Comment                  |
|-----------------------|-----------------------|-------------------|--------------|--------------------------|
|                       |                       | +N/-S (usft)      | +E/-W (usft) |                          |
| 3,650.00              | 3,628.81              | 280.95            | -103.47      | First WB2 Survey         |
| 12,880.00             | 8,462.34              | -4,329.65         | 380.60       | Final Phoenix MWD Survey |
| 12,935.00             | 8,460.42              | -4,384.57         | 382.81       | Projection to TD         |



RECEIVED

JUL 30

# Phoenix Technology Services

## Survey Report



|           |                                  |                              |                                    |
|-----------|----------------------------------|------------------------------|------------------------------------|
| Company:  | RKI Exploration                  | Local Co-ordinate Reference: | Well 20H                           |
| Project:  | Eddy County, New Mexico (NAD 83) | TVD Reference:               | WELL @ 3098.00usft (Silver Oak 10) |
| Site:     | RDX Federal Com 17               | MD Reference:                | WELL @ 3098.00usft (Silver Oak 10) |
| Well:     | 20H                              | North Reference:             | Grid                               |
| Wellbore: | WB #2 Job #1410739               | Survey Calculation Method:   | Minimum Curvature                  |
| Design:   | WB #2 Job #1410739               | Database:                    | Compass 5000 GCR DB                |

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_