

Submit 3 Copies To Appropriate District  
Office  
District I  
1625 N. French Dr., Hobbs, NM 87240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources

Form C-103  
May 27, 2004

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

|                                                                                                     |
|-----------------------------------------------------------------------------------------------------|
| WELL API NO.<br>30-015-35561                                                                        |
| 5. Indicate Type of Lease<br>STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/> |
| 6. State Oil & Gas Lease No.                                                                        |

**SUNDRY NOTICES AND REPORTS ON WELLS**  
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

|                                                                                                                                                             |                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| 1. Type of Well:<br>Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other <input type="checkbox"/> JUN 29 2007               | 7. Lease Name or Unit Agreement Name:<br>HOPE UNIT 1821-16 STATE |
| 2. Name of Operator<br>PARALLEL PETROLEUM CORPORATION OCD-ARTESIA                                                                                           | 8. Well Number<br>1Y                                             |
| 3. Address of Operator<br>1004 N BIG SPRING, SUITE 400, MIDLAND, TX 79701                                                                                   | 9. OGRID Number<br>230387                                        |
| 4. Well Location<br>Unit Letter P : 760 feet from the SOUTH line and 200 feet from the EAST line<br>Section 16 Township 18S Range 21E NMPM NMEM County EDDY | 10. Pool name or Wildcat<br>97489 WILDCAT; WOLF CAMP             |
| 11. Elevation (Show whether DR, RKB, RT, GR, etc.)<br>GR: 4223                                                                                              |                                                                  |

|                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------|
| Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/>                                 |
| Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____ |
| Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____                                  |

12. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

|                                                |                                              |
|------------------------------------------------|----------------------------------------------|
| PERFORM REMEDIAL WORK <input type="checkbox"/> | PLUG AND ABANDON <input type="checkbox"/>    |
| TEMPORARILY ABANDON <input type="checkbox"/>   | CHANGE PLANS <input type="checkbox"/>        |
| PULL OR ALTER CASING <input type="checkbox"/>  | MULTIPLE COMPLETION <input type="checkbox"/> |
| OTHER: <input type="checkbox"/>                |                                              |

SUBSEQUENT REPORT OF:

|                                                                |                                               |
|----------------------------------------------------------------|-----------------------------------------------|
| REMEDIAL WORK <input type="checkbox"/>                         | ALTERING CASING <input type="checkbox"/>      |
| COMMENCE DRILLING OPNS. <input type="checkbox"/>               | PLUG AND ABANDONMENT <input type="checkbox"/> |
| CASING TEST AND CEMENT JOB <input checked="" type="checkbox"/> |                                               |
| OTHER: <input type="checkbox"/>                                |                                               |

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

06-10-2007: SET 5.5 CSG, 7.875 HOLE, 17# @ 7490

CMT W/LEAD 500 SX 50/50/10 C + 0.2% FL-52A + 0.2% SMS, 11.6 PPG, 2.43 YLD

TAIL W/800 SX 50/50/2C + 0.3% FL-52A + 1.2% DC-32 + 5% SALT, 14.2 PPG, 1.3 YLD

89 CENTRALIZERS

TOC: CIRCULATED 75 SX TO SURFACE

WOC: 8 HR, TEST CSG TO 1500 PSI FOR 30 MIN

OPEN HOLE PLATFORM EXPRESS: THREE LITHO-DENSITY CN/HNGS LOG & GYRO SURVEY, SCHLUMBERGER MWD ATTACHED

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOC guidelines ☐ , a general permit ☐ or an (attached) alternative OCD-approved plan ☐

SIGNATURE Kaye McCormick TITLE SR PROD & REG TECH DATE 06-28-2007  
E-mail address: kmccormick@plll.com  
Type or print name KAYE MC CORMICK Telephone No. 432-685-6563

For State Use Only

FOR RECORDS ONLY

JUL 02 2007

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
Conditions of Approval, if any:

## Hope Unit 1821-16 State #1 ST001 to 7560' Final Survey Report

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Report Date:</b> June 11, 2007<br><b>Client:</b> Parallel Petroleum<br><b>Field:</b> NM, Eddy County 2<br><b>Structure / Slot:</b> Parallel Pet. Hope Unit 1821-16 State #1 / Hope Unit 1821-16 State #1<br><b>Well:</b> Hope Unit 1821-16 State #1<br><b>Borehole:</b> Side Track 001<br><b>UWI/API#:</b><br><b>Survey Name / Date:</b> Hope Unit 1821-16 State #1 ST001 Gyro + MWD to 7560' Final / June 1, 2007<br><b>Tort / AHD / DDI / ERD ratio:</b> 199.535° / 3643.92 ft / 6.121 / 0.875<br><b>Grid Coordinate System:</b> NAD27 New Mexico State Planes, Eastern Zone, US Feet<br><b>Location Lat/Long:</b> N 32 44 32.961, W 104 47 28.265<br><b>Location Grid N/E Y/X:</b> N 634132.700 ftUS, E 359223.500 ftUS<br><b>Grid Convergence Angle:</b> -0.24763917°<br><b>Grid Scale Factor:</b> 0.99993179 | <b>Survey / DLS Computation Method:</b> Minimum Curvature / Lubinski<br><b>Vertical Section Azimuth:</b> 270.650°<br><b>Vertical Section Origin:</b> N 0 000 ft, E 0 000 ft<br><b>TVD Reference Datum:</b> RKB<br><b>TVD Reference Elevation:</b> 4235.0 ft relative to<br><b>Sea Bed / Ground Level Elevation:</b> 4223.000 ft relative to<br><b>Magnetic Declination:</b> 8.691°<br><b>Total Field Strength:</b> 49226.199 nT<br><b>Magnetic Dip:</b> 60.566°<br><b>Declination Date:</b> June 01, 2007<br><b>Magnetic Declination Model:</b> BGGM 2006<br><b>North Reference:</b> Gnd North<br><b>Total Corr Mag North -&gt; Grid North:</b> +8.939°<br><b>Local Coordinates Referenced To:</b> Well Head |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Comments | Measured Depth (ft) | Inclination (deg) | Azimuth (deg) | Sub-Sea TVD (ft) | TVD (ft) | Vertical Section (ft) | NS (ft) | EW (ft)  | Closure (ft) | Closure Azimuth (deg) | DLS (deg/100 ft) | Mag / Grav Tool Face (deg) |
|----------|---------------------|-------------------|---------------|------------------|----------|-----------------------|---------|----------|--------------|-----------------------|------------------|----------------------------|
| Tie-In   | 4010.00             | 39.45             | 271.75        | -252.19          | 3982.81  | 130.32                | -17.86  | -130.54  | 131.75       | 262.21                | 10.54            | ---                        |
|          | 4010.00             | 39.45             | 271.75        | -252.19          | 3982.81  | 130.32                | -17.86  | -130.54  | 131.75       | 262.21                | 0.00             | 137.09R                    |
|          | 4023.00             | 34.10             | 281.21        | -241.77          | 3993.23  | 138.05                | -17.03  | -138.25  | 139.29       | 262.98                | 59.83            | 79.68R                     |
|          | 4055.00             | 37.45             | 299.12        | -215.74          | 4019.26  | 155.47                | -10.53  | -155.60  | 155.96       | 266.13                | 34.24            | 77.19L                     |
|          | 4087.00             | 42.19             | 279.43        | -191.07          | 4043.93  | 174.73                | -4.01   | -174.79  | 174.83       | 268.69                | 41.93            | 26.42L                     |
|          | 4119.00             | 47.49             | 275.90        | -168.39          | 4066.61  | 197.12                | -1.03   | -197.14  | 197.14       | 269.70                | 18.29            | 60.38R                     |
|          | 4150.00             | 51.80             | 284.76        | -148.30          | 4086.70  | 220.35                | 3.26    | -220.32  | 220.35       | 270.85                | 25.82            | 11.07R                     |
|          | 4182.00             | 56.68             | 285.90        | -129.60          | 4105.40  | 245.45                | 10.13   | -245.36  | 245.56       | 272.36                | 15.52            | 6.14R                      |
|          | 4213.00             | 61.77             | 286.52        | -113.74          | 4121.26  | 271.10                | 17.56   | -270.92  | 271.49       | 273.71                | 16.51            | 13.67R                     |
|          | 4243.00             | 66.73             | 287.83        | -100.71          | 4134.29  | 297.00                | 25.54   | -296.73  | 297.82       | 274.92                | 16.99            | 4.93R                      |
|          | 4274.00             | 71.69             | 288.28        | -89.71           | 4145.29  | 324.64                | 34.53   | -324.27  | 326.10       | 276.08                | 16.06            | 0.72L                      |
|          | 4307.00             | 77.16             | 288.21        | -80.86           | 4154.14  | 354.93                | 44.47   | -354.45  | 357.23       | 277.15                | 16.58            | HS                         |
|          | 4340.00             | 82.34             | 288.19        | -74.99           | 4160.01  | 385.88                | 54.61   | -385.29  | 389.14       | 278.07                | 15.70            | 3.55R                      |
|          | 4372.00             | 87.18             | 288.49        | -72.07           | 4162.93  | 416.23                | 64.64   | -415.53  | 420.52       | 278.84                | 15.15            | 5.45L                      |
|          | 4404.00             | 91.48             | 288.08        | -71.69           | 4163.31  | 446.72                | 74.67   | -445.90  | 452.11       | 279.51                | 13.50            | 99.69L                     |
|          | 4436.00             | 91.10             | 285.86        | -72.41           | 4162.59  | 477.42                | 84.01   | -476.50  | 483.85       | 280.00                | 7.04             | 140.39L                    |
|          | 4467.00             | 90.52             | 285.38        | -72.85           | 4162.15  | 507.37                | 92.36   | -506.35  | 514.71       | 280.34                | 2.43             | 34.09L                     |
|          | 4499.00             | 91.17             | 284.94        | -73.32           | 4161.68  | 538.34                | 100.72  | -537.23  | 546.59       | 280.62                | 2.45             | 57.41L                     |
|          | 4531.00             | 91.93             | 283.75        | -74.19           | 4160.81  | 569.42                | 108.65  | -568.22  | 578.52       | 280.82                | 4.41             | 115.02L                    |
|          | 4563.00             | 91.65             | 283.15        | -75.19           | 4159.81  | 600.61                | 116.09  | -599.33  | 610.47       | 280.96                | 2.07             | 125.72L                    |
|          | 4594.00             | 90.83             | 282.01        | -75.86           | 4159.14  | 630.93                | 122.84  | -629.58  | 641.45       | 281.04                | 4.53             | 71.60L                     |
|          | 4656.00             | 91.69             | 279.42        | -77.22           | 4157.78  | 691.96                | 134.36  | -690.48  | 703.43       | 281.01                | 4.40             | 22.36R                     |
|          | 4687.00             | 91.86             | 279.49        | -78.18           | 4156.82  | 722.58                | 139.45  | -721.04  | 734.40       | 280.95                | 0.59             | 54.43R                     |
|          | 4717.00             | 92.41             | 280.26        | -79.30           | 4155.70  | 752.17                | 144.59  | -750.58  | 764.38       | 280.90                | 3.15             | HS                         |
|          | 4748.00             | 92.79             | 280.26        | -80.71           | 4154.29  | 782.70                | 150.11  | -781.05  | 795.34       | 280.88                | 1.23             | 104.08L                    |
|          | 4778.00             | 92.31             | 278.35        | -82.04           | 4152.96  | 812.33                | 154.96  | -810.62  | 825.30       | 280.82                | 6.56             | 97.63L                     |
|          | 4809.00             | 92.13             | 277.01        | -83.24           | 4151.76  | 843.07                | 159.10  | -841.32  | 856.23       | 280.71                | 4.36             | 109.40L                    |
|          | 4840.00             | 91.58             | 275.45        | -84.25           | 4150.75  | 873.91                | 162.46  | -872.12  | 887.12       | 280.55                | 5.33             | 127.73L                    |
|          | 4870.00             | 90.69             | 274.30        | -84.84           | 4150.16  | 903.82                | 165.01  | -902.01  | 916.97       | 280.37                | 4.85             | 41.00L                     |
|          | 4901.00             | 91.38             | 273.70        | -85.40           | 4149.60  | 934.76                | 167.17  | -932.93  | 947.78       | 280.16                | 2.95             | 62.66L                     |
|          | 4932.00             | 91.69             | 273.10        | -86.23           | 4148.77  | 965.71                | 169.01  | -963.86  | 978.56       | 279.95                | 2.18             | 32.81L                     |
|          | 4963.00             | 92.31             | 272.70        | -87.31           | 4147.69  | 996.67                | 170.57  | -994.80  | 1009.32      | 279.73                | 2.38             | 88.67L                     |
|          | 4994.00             | 92.34             | 271.38        | -88.57           | 4146.43  | 1027.64               | 171.68  | -1025.76 | 1040.02      | 279.50                | 4.26             | 110.46L                    |
|          | 5024.00             | 91.69             | 269.64        | -89.62           | 4145.38  | 1057.62               | 171.94  | -1055.73 | 1069.64      | 279.25                | 6.19             | 84.16R                     |
|          | 5085.00             | 91.79             | 270.62        | -91.48           | 4143.52  | 1118.59               | 172.08  | -1116.70 | 1129.89      | 278.76                | 1.61             | 86.72L                     |
|          | 5116.00             | 91.86             | 269.39        | -92.46           | 4142.54  | 1149.57               | 172.08  | -1147.69 | 1160.52      | 278.53                | 3.97             | 63.07L                     |
|          | 5177.00             | 92.20             | 268.72        | -94.62           | 4140.38  | 1210.50               | 171.08  | -1208.64 | 1220.69      | 278.06                | 1.23             | 105.26R                    |
|          | 5237.00             | 92.17             | 268.83        | -96.91           | 4138.09  | 1270.43               | 169.80  | -1268.58 | 1279.90      | 277.62                | 0.19             | 92.04L                     |
|          | 5327.00             | 92.13             | 267.72        | -100.29          | 4134.71  | 1360.29               | 167.09  | -1358.48 | 1368.72      | 277.01                | 1.23             | 98.48L                     |
|          | 5417.00             | 92.03             | 267.05        | -103.56          | 4131.44  | 1450.08               | 162.99  | -1448.33 | 1457.47      | 276.42                | 0.75             | 104.02L                    |
|          | 5509.00             | 91.68             | 265.65        | -106.53          | 4128.47  | 1541.77               | 157.13  | -1540.09 | 1548.08      | 275.83                | 1.57             | 159.87L                    |
|          | 5600.00             | 91.38             | 265.54        | -108.96          | 4126.04  | 1632.39               | 150.15  | -1630.79 | 1637.68      | 275.26                | 0.35             | 79.99L                     |
|          | 5630.00             | 91.41             | 265.37        | -109.69          | 4125.31  | 1662.25               | 147.77  | -1660.68 | 1667.24      | 275.08                | 0.58             | 48.87L                     |
|          | 5723.00             | 91.89             | 264.82        | -112.37          | 4122.63  | 1754.78               | 139.82  | -1753.30 | 1758.87      | 274.56                | 0.78             | 36.85R                     |
|          | 5817.00             | 91.93             | 264.85        | -115.50          | 4119.50  | 1848.24               | 131.36  | -1846.87 | 1851.54      | 274.07                | 0.05             | 153.44R                    |
|          | 5913.00             | 91.41             | 265.11        | -118.30          | 4116.70  | 1943.73               | 122.97  | -1942.46 | 1946.35      | 273.62                | 0.61             | 76.27R                     |

|                  |         |       |        |         |         |         |        |          |         |        |      |         |
|------------------|---------|-------|--------|---------|---------|---------|--------|----------|---------|--------|------|---------|
| Final MWD Survey | 6008.00 | 91 89 | 267.08 | -121.04 | 4113.96 | 2038.39 | 116.50 | -2037.20 | 2040.52 | 273.27 | 2 13 | 163.05L |
|                  | 6104.00 | 91.07 | 266.83 | -123.52 | 4111.48 | 2134.15 | 111.40 | -2133.03 | 2135.93 | 272.99 | 0 89 | 24.46R  |
|                  | 6135.00 | 92.41 | 267.44 | -124.46 | 4110.54 | 2165.08 | 109.85 | -2163.97 | 2166.76 | 272.91 | 4 75 | 163.17L |
|                  | 6231.00 | 91 65 | 267.21 | -127.86 | 4107.14 | 2260.86 | 105.38 | -2259.81 | 2262.26 | 272.67 | 0 83 | 23.85R  |
|                  | 6327.00 | 92 17 | 267.44 | -131.06 | 4103.94 | 2356.64 | 100.90 | -2355.65 | 2357.81 | 272.45 | 0 59 | 15.62R  |
|                  | 6422.00 | 93.17 | 267.72 | -135.48 | 4099.52 | 2451.40 | 96.89  | -2450.46 | 2452.38 | 272.26 | 1 09 | 144.16L |
|                  | 6517.00 | 91 55 | 266.55 | -139.40 | 4095.60 | 2546.14 | 92 15  | -2545.26 | 2546.92 | 272.07 | 2 10 | 64.23R  |
|                  | 6644.00 | 91.96 | 267.40 | -143.29 | 4091.71 | 2672.82 | 85.45  | -2672.02 | 2673.38 | 271.83 | 0 74 | 64.95L  |
|                  | 6740.00 | 92 31 | 266.65 | -146.86 | 4088.14 | 2768.56 | 80.47  | -2767.82 | 2768.99 | 271.67 | 0 86 | 81.34R  |
|                  | 6835.00 | 92.48 | 267.77 | -150.83 | 4084.17 | 2863.30 | 75.85  | -2862.63 | 2863.63 | 271.52 | 1.19 | 134.27L |
|                  | 6930.00 | 90 90 | 266.15 | -153.63 | 4081.37 | 2958.06 | 70.81  | -2957.44 | 2958.29 | 271.37 | 2 38 | 8.12R   |
|                  | 7024.00 | 92.44 | 266.37 | -156.37 | 4078.63 | 3051.74 | 64.68  | -3051.20 | 3051.89 | 271.21 | 1 65 | 164.21R |
|                  | 7119.00 | 91 45 | 266.65 | -159.60 | 4075.40 | 3146.43 | 58.90  | -3145.97 | 3146.52 | 271.07 | 1 08 | 66.45R  |
|                  | 7214.00 | 92 55 | 269.18 | -162.91 | 4072.09 | 3241.26 | 55.45  | -3240.84 | 3241.31 | 270.98 | 2 90 | 132.20L |
|                  | 7310.00 | 91.87 | 268.43 | -166.62 | 4068.38 | 3337.14 | 53.45  | -3336.75 | 3337.17 | 270.92 | 1 05 | 178.53R |
|                  | 7405.00 | 91.48 | 268.44 | -169.39 | 4065.61 | 3432.03 | 50.85  | -3431.67 | 3432.05 | 270.85 | 0 41 | 84.34R  |
|                  | 7500.00 | 91.93 | 273.04 | -172.22 | 4062.78 | 3526.96 | 52.08  | -3526.59 | 3526.98 | 270.85 | 4.86 | LS      |
|                  | 7560.00 | 90 58 | 273.04 | -173.53 | 4061.47 | 3586.89 | 55.26  | -3586.49 | 3586.92 | 270.88 | 2.25 |         |

**Survey Type:** Definitive Survey

**Survey Error Model:** SLB ISCWSA version 24 \*\*\* 3-D 95.00% Confidence 2.7955 sigma

**Surveying Prog:**

| MD From ( ft ) | MD To ( ft ) | EOU Freq | Survey Tool Type          | Borehole -> Survey                                                              |
|----------------|--------------|----------|---------------------------|---------------------------------------------------------------------------------|
| 0.00           | 12.00        | Act-Stns | SLB_CNSG+DPIPE-Depth Only | Pilot Hole -> Hope Unit 1821-16 State Gyro 0' to 4583'                          |
| 12.00          | 3700.00      | Act-Stns | SLB_CNSG+DPIPE            | Pilot Hole -> Hope Unit 1821-16 State Gyro 0' to 4583'                          |
| 3700.00        | 3724.00      | Act-Stns | SLB_CNSG+DPIPE            | Horizontal -> Hope Unit 1821-16 State #1 Gyro + MWD 0' to Update                |
| 3724.00        | 4010.00      | Act-Stns | SLB_MWD-STD               | Horizontal -> Hope Unit 1821-16 State #1 Gyro + MWD 0' to Update                |
| 4010.00        | 7560.00      | Act-Stns | SLB_MWD-STD               | Side Track 001 -> Hope Unit 1821-16 State #1 ST001 Gyro + MWD 0' to 7560' Final |

A Gyrodata Directional Survey

NOT DEFINITIVE  
for

PARALLEL PETROLEUM

Lease: HOPE UNIT 1821-16 STATE    Well: #1, 4-1/2 DRILLPIPE  
Location: PATRIOT RIG # 1, EDDY COUNTY, NEW MEXICO

Job Number: MD0507GW190

Run Date: 5/13/2007 12:54:02 PM

Surveyor: JAMES KING

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 32.742522 deg. N    Longitude: 104.805481 deg. E

Azimuth Correction:

Gyro: 0.26000 deg East to Grid North

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

# A Gyrodata Directional Survey

PARALLEL PETROLEUM

Lease: HOPE UNIT 1821-16 STATE Well: #1, 4-1/2 DRILLPIPE

Location: PATRIOT RIG # 1, EDDY COUNTY, NEW MEXICO

Job Number: MD0507GW190

| MEASURED<br>DEPTH<br>feet                                                 | I N C L<br>deg. | AZIMUTH<br>deg. | VERTICAL<br>SECTION<br>feet | DOGLEG<br>SEVERITY<br>deg./<br>100 ft. | VERTICAL<br>DEPTH<br>feet | CLOSURE<br>DIST. AZIMUTH<br>feet deg. | HORIZONTAL<br>COORDINATES<br>feet |
|---------------------------------------------------------------------------|-----------------|-----------------|-----------------------------|----------------------------------------|---------------------------|---------------------------------------|-----------------------------------|
| 0.00                                                                      | 0.00            | 0.00            | 0.0                         | 0.00                                   | 0.00                      | 0.0 0.0                               | 0.00 N 0.00 E                     |
| -----                                                                     |                 |                 |                             |                                        |                           |                                       |                                   |
| 0 - 4583 FT RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 4-1/2 DRILLPIPE   |                 |                 |                             |                                        |                           |                                       |                                   |
| ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO PATRIOT RIG RKB (+15ft) |                 |                 |                             |                                        |                           |                                       |                                   |
| -----                                                                     |                 |                 |                             |                                        |                           |                                       |                                   |
| 100.00                                                                    | 0.66            | 158.72          | -0.5                        | 0.66                                   | 100.00                    | 0.6 158.7                             | 0.54 S 0.21 E                     |
| 150.00                                                                    | 0.53            | 200.60          | -1.0                        | 0.89                                   | 150.00                    | 1.1 167.2                             | 1.03 S 0.23 E                     |
| 200.00                                                                    | 0.52            | 226.21          | -1.4                        | 0.47                                   | 199.99                    | 1.4 180.5                             | 1.40 S 0.01 W                     |
| 250.00                                                                    | 0.48            | 213.06          | -1.7                        | 0.24                                   | 249.99                    | 1.8 189.4                             | 1.73 S 0.29 W                     |
| 300.00                                                                    | 0.64            | 190.85          | -2.2                        | 0.54                                   | 299.99                    | 2.2 191.8                             | 2.18 S 0.45 W                     |
| 350.00                                                                    | 1.46            | 199.32          | -3.1                        | 1.65                                   | 349.98                    | 3.1 193.2                             | 3.06 S 0.72 W                     |
| 400.00                                                                    | 1.56            | 200.90          | -4.3                        | 0.23                                   | 399.96                    | 4.5 195.2                             | 4.29 S 1.17 W                     |
| 450.00                                                                    | 0.85            | 193.67          | -5.3                        | 1.45                                   | 449.95                    | 5.5 195.8                             | 5.29 S 1.50 W                     |
| 500.00                                                                    | 0.82            | 192.22          | -6.0                        | 0.07                                   | 499.95                    | 6.2 195.5                             | 6.00 S 1.67 W                     |
| 550.00                                                                    | 0.86            | 188.67          | -6.7                        | 0.12                                   | 549.94                    | 7.0 195.0                             | 6.72 S 1.80 W                     |
| 600.00                                                                    | 0.72            | 194.50          | -7.4                        | 0.32                                   | 599.94                    | 7.6 194.6                             | 7.40 S 1.93 W                     |
| 650.00                                                                    | 0.83            | 243.96          | -7.9                        | 1.32                                   | 649.93                    | 8.2 196.6                             | 7.86 S 2.34 W                     |
| 700.00                                                                    | 0.85            | 253.62          | -8.1                        | 0.29                                   | 699.93                    | 8.7 200.4                             | 8.12 S 3.02 W                     |
| 750.00                                                                    | 1.04            | 289.27          | -8.1                        | 1.21                                   | 749.92                    | 8.9 205.2                             | 8.08 S 3.80 W                     |
| 800.00                                                                    | 1.21            | 289.57          | -7.8                        | 0.35                                   | 799.91                    | 9.1 211.4                             | 7.75 S 4.73 W                     |
| 850.00                                                                    | 1.36            | 290.97          | -7.4                        | 0.31                                   | 849.90                    | 9.4 218.1                             | 7.36 S 5.78 W                     |
| 900.00                                                                    | 1.64            | 290.06          | -6.9                        | 0.55                                   | 899.88                    | 9.8 225.4                             | 6.91 S 7.01 W                     |
| 950.00                                                                    | 1.63            | 286.75          | -6.5                        | 0.19                                   | 949.86                    | 10.6 232.3                            | 6.46 S 8.36 W                     |
| 1000.00                                                                   | 1.64            | 288.07          | -6.0                        | 0.08                                   | 999.84                    | 11.4 238.2                            | 6.03 S 9.73 W                     |
| 1050.00                                                                   | 1.74            | 289.52          | -5.5                        | 0.23                                   | 1049.82                   | 12.4 243.5                            | 5.55 S 11.12 W                    |

# A Gyrodata Directional Survey

## PARALLEL PETROLEUM

Lease: HOPE UNIT 1821-16 STATE Well: #1, 4-1/2 DRILLPIPE

Location: PATRIOT RIG # 1, EDDY COUNTY, NEW MEXICO

Job Number: MD0507GW190

| MEASURED<br>DEPTH<br>feet | I N C L<br>deg. | AZIMUTH<br>deg. | VERTICAL<br>SECTION<br>feet | DOGLEG<br>SEVERITY<br>deg./<br>100 ft. | VERTICAL<br>DEPTH<br>feet | CLOSURE<br>DIST. AZIMUTH<br>feet deg. | HORIZONTAL<br>COORDINATES<br>feet |
|---------------------------|-----------------|-----------------|-----------------------------|----------------------------------------|---------------------------|---------------------------------------|-----------------------------------|
| 1100.00                   | 1.69            | 295.75          | -5.0                        | 0.39                                   | 1099.80                   | 13.5 248.3                            | 4.98 S 12.50 W                    |
| 1150.00                   | 0.91            | 263.57          | -4.7                        | 2.07                                   | 1149.78                   | 14.4 250.9                            | 4.70 S 13.56 W                    |
| 1200.00                   | 0.85            | 233.37          | -5.0                        | 0.93                                   | 1199.78                   | 15.1 250.8                            | 4.97 S 14.25 W                    |
| 1250.00                   | 0.32            | 218.60          | -5.3                        | 1.09                                   | 1249.77                   | 15.6 250.1                            | 5.30 S 14.64 W                    |
| 1300.00                   | 0.27            | 222.00          | -5.5                        | 0.11                                   | 1299.77                   | 15.8 249.6                            | 5.50 S 14.81 W                    |
| 1350.00                   | 0.24            | 217.37          | -5.7                        | 0.08                                   | 1349.77                   | 16.0 249.2                            | 5.67 S 14.95 W                    |
| 1400.00                   | 0.15            | 186.07          | -5.8                        | 0.27                                   | 1399.77                   | 16.1 248.8                            | 5.82 S 15.02 W                    |
| 1450.00                   | 0.24            | 185.35          | -6.0                        | 0.17                                   | 1449.77                   | 16.2 248.3                            | 5.99 S 15.04 W                    |
| 1500.00                   | 0.18            | 188.33          | -6.2                        | 0.12                                   | 1499.77                   | 16.3 247.7                            | 6.17 S 15.06 W                    |
| 1550.00                   | 0.12            | 126.61          | -6.3                        | 0.32                                   | 1549.77                   | 16.3 247.3                            | 6.28 S 15.02 W                    |
| 1600.00                   | 0.16            | 77.32           | -6.3                        | 0.25                                   | 1599.77                   | 16.2 247.1                            | 6.29 S 14.91 W                    |
| 1650.00                   | 0.18            | 72.97           | -6.3                        | 0.04                                   | 1649.77                   | 16.0 247.1                            | 6.25 S 14.77 W                    |
| 1700.00                   | 0.11            | 81.27           | -6.2                        | 0.15                                   | 1699.77                   | 15.9 247.0                            | 6.22 S 14.65 W                    |
| 1750.00                   | 0.04            | 132.44          | -6.2                        | 0.17                                   | 1749.77                   | 15.9 246.9                            | 6.23 S 14.59 W                    |
| 1800.00                   | 0.07            | 266.30          | -6.2                        | 0.22                                   | 1799.77                   | 15.9 246.9                            | 6.24 S 14.61 W                    |
| 1850.00                   | 0.19            | 278.73          | -6.2                        | 0.24                                   | 1849.77                   | 16.0 247.1                            | 6.23 S 14.73 W                    |
| 1900.00                   | 0.22            | 271.16          | -6.2                        | 0.08                                   | 1899.77                   | 16.1 247.4                            | 6.22 S 14.90 W                    |
| 1950.00                   | 0.33            | 263.96          | -6.2                        | 0.23                                   | 1949.77                   | 16.4 247.6                            | 6.23 S 15.14 W                    |
| 2000.00                   | 0.45            | 278.64          | -6.2                        | 0.30                                   | 1999.77                   | 16.7 248.1                            | 6.22 S 15.48 W                    |
| 2050.00                   | 0.42            | 272.71          | -6.2                        | 0.11                                   | 2049.77                   | 17.0 248.7                            | 6.18 S 15.85 W                    |
| 2100.00                   | 0.45            | 274.71          | -6.2                        | 0.07                                   | 2099.77                   | 17.4 249.2                            | 6.15 S 16.23 W                    |
| 2150.00                   | 0.41            | 270.62          | -6.1                        | 0.10                                   | 2149.77                   | 17.7 249.7                            | 6.14 S 16.60 W                    |
| 2200.00                   | 0.43            | 263.84          | -6.2                        | 0.11                                   | 2199.76                   | 18.0 250.1                            | 6.16 S 16.97 W                    |
| 2250.00                   | 0.42            | 255.76          | -6.2                        | 0.12                                   | 2249.76                   | 18.4 250.3                            | 6.22 S 17.33 W                    |

# A Gyrodata Directional Survey

## PARALLEL PETROLEUM

Lease: HOPE UNIT 1821-16 STATE Well: #1, 4-1/2 DRILLPIPE

Location: PATRIOT RIG # 1, EDDY COUNTY, NEW MEXICO

Job Number: MD0507GW190

| MEASURED<br>DEPTH<br>feet | I N C L<br>deg. | AZIMUTH<br>deg. | VERTICAL<br>SECTION<br>feet | DOGLEG<br>SEVERITY<br>deg./<br>100 ft. | VERTICAL<br>DEPTH<br>feet | CLOSURE<br>DIST. AZIMUTH<br>feet deg. | HORIZONTAL<br>COORDINATES<br>feet |
|---------------------------|-----------------|-----------------|-----------------------------|----------------------------------------|---------------------------|---------------------------------------|-----------------------------------|
| 2300.00                   | 0.44            | 251.92          | -6.3                        | 0.08                                   | 2299.76                   | 18.8 250.3                            | 6.32 S 17.69 W                    |
| 2350.00                   | 0.61            | 242.20          | -6.5                        | 0.38                                   | 2349.76                   | 19.2 250.2                            | 6.51 S 18.11 W                    |
| 2400.00                   | 0.76            | 235.42          | -6.8                        | 0.34                                   | 2399.76                   | 19.8 249.9                            | 6.82 S 18.62 W                    |
| 2450.00                   | 0.74            | 235.67          | -7.2                        | 0.03                                   | 2449.75                   | 20.5 249.4                            | 7.19 S 19.15 W                    |
| 2500.00                   | 0.72            | 239.94          | -7.5                        | 0.12                                   | 2499.75                   | 21.1 249.1                            | 7.53 S 19.69 W                    |
| 2550.00                   | 0.75            | 231.51          | -7.9                        | 0.22                                   | 2549.74                   | 21.7 248.7                            | 7.89 S 20.22 W                    |
| 2600.00                   | 0.91            | 232.75          | -8.3                        | 0.32                                   | 2599.74                   | 22.4 248.2                            | 8.33 S 20.79 W                    |
| 2650.00                   | 0.97            | 237.54          | -8.8                        | 0.20                                   | 2649.73                   | 23.2 247.7                            | 8.80 S 21.46 W                    |
| 2700.00                   | 1.00            | 234.18          | -9.3                        | 0.13                                   | 2699.72                   | 24.0 247.3                            | 9.28 S 22.17 W                    |
| 2750.00                   | 1.08            | 231.21          | -9.8                        | 0.21                                   | 2749.72                   | 24.9 246.8                            | 9.83 S 22.89 W                    |
| 2800.00                   | 1.03            | 227.58          | -10.4                       | 0.17                                   | 2799.71                   | 25.8 246.1                            | 10.43 S 23.59 W                   |
| 2850.00                   | 1.15            | 221.75          | -11.1                       | 0.33                                   | 2849.70                   | 26.7 245.4                            | 11.11 S 24.26 W                   |
| 2900.00                   | 1.25            | 223.09          | -11.9                       | 0.19                                   | 2899.69                   | 27.7 244.5                            | 11.88 S 24.97 W                   |
| 2950.00                   | 1.24            | 225.54          | -12.7                       | 0.11                                   | 2949.68                   | 28.7 243.8                            | 12.66 S 25.73 W                   |
| 3000.00                   | 1.13            | 221.13          | -13.4                       | 0.30                                   | 2999.66                   | 29.6 243.1                            | 13.41 S 26.44 W                   |
| 3050.00                   | 0.78            | 175.68          | -14.1                       | 1.60                                   | 3049.66                   | 30.2 242.2                            | 14.12 S 26.73 W                   |
| 3100.00                   | 0.68            | 159.95          | -14.7                       | 0.45                                   | 3099.65                   | 30.4 241.0                            | 14.74 S 26.60 W                   |
| 3150.00                   | 0.69            | 145.31          | -15.3                       | 0.35                                   | 3149.65                   | 30.4 239.9                            | 15.27 S 26.33 W                   |
| 3200.00                   | 0.74            | 142.68          | -15.8                       | 0.12                                   | 3199.65                   | 30.4 238.7                            | 15.77 S 25.97 W                   |
| 3250.00                   | 0.77            | 114.77          | -16.2                       | 0.73                                   | 3249.64                   | 30.2 237.6                            | 16.17 S 25.47 W                   |
| 3300.00                   | 0.91            | 104.32          | -16.4                       | 0.42                                   | 3299.64                   | 29.7 236.5                            | 16.41 S 24.77 W                   |
| 3350.00                   | 0.85            | 106.27          | -16.6                       | 0.13                                   | 3349.63                   | 29.2 235.3                            | 16.61 S 24.03 W                   |
| 3400.00                   | 0.81            | 111.95          | -16.9                       | 0.18                                   | 3399.63                   | 28.8 234.2                            | 16.85 S 23.34 W                   |
| 3450.00                   | 0.90            | 110.81          | -17.1                       | 0.17                                   | 3449.62                   | 28.4 232.9                            | 17.12 S 22.65 W                   |

# A Gyrodata Directional Survey

## PARALLEL PETROLEUM

Lease: HOPE UNIT 1821-16 STATE Well: #1, 4-1/2 DRILLPIPE

Location: PATRIOT RIG # 1, EDDY COUNTY, NEW MEXICO

Job Number: MD0507GW190

| MEASURED<br>DEPTH<br>feet | I N C L<br>deg. | AZIMUTH<br>deg. | VERTICAL<br>SECTION<br>feet | DOGLEG<br>SEVERITY<br>deg./<br>100 ft. | VERTICAL<br>DEPTH<br>feet | CLOSURE<br>DIST. AZIMUTH<br>feet deg. | HORIZONTAL<br>COORDINATES<br>feet |
|---------------------------|-----------------|-----------------|-----------------------------|----------------------------------------|---------------------------|---------------------------------------|-----------------------------------|
| 3500.00                   | 0.93            | 116.73          | -17.4                       | 0.20                                   | 3499.61                   | 28.0 231.5                            | 17.44 S 21.92 W                   |
| 3550.00                   | 0.88            | 122.28          | -17.8                       | 0.20                                   | 3549.61                   | 27.7 230.0                            | 17.83 S 21.24 W                   |
| 3600.00                   | 0.85            | 114.57          | -18.2                       | 0.24                                   | 3599.60                   | 27.5 228.5                            | 18.19 S 20.58 W                   |
| 3650.00                   | 1.05            | 101.88          | -18.4                       | 0.58                                   | 3649.60                   | 27.0 227.0                            | 18.43 S 19.79 W                   |
| 3700.00                   | 1.24            | 92.69           | -18.6                       | 0.53                                   | 3699.59                   | 26.4 225.4                            | 18.55 S 18.80 W                   |
| 3750.00                   | 1.35            | 87.58           | -18.6                       | 0.32                                   | 3749.57                   | 25.6 223.6                            | 18.55 S 17.67 W                   |
| 3800.00                   | 1.32            | 89.38           | -18.5                       | 0.11                                   | 3799.56                   | 24.8 221.7                            | 18.52 S 16.50 W                   |
| 3850.00                   | 1.34            | 87.22           | -18.5                       | 0.11                                   | 3849.55                   | 24.0 219.7                            | 18.49 S 15.34 W                   |
| 3900.00                   | 1.34            | 81.37           | -18.4                       | 0.27                                   | 3899.53                   | 23.2 217.7                            | 18.37 S 14.18 W                   |
| 3950.00                   | 1.46            | 78.94           | -18.2                       | 0.26                                   | 3949.52                   | 22.3 215.6                            | 18.16 S 12.98 W                   |
| 4000.00                   | 1.38            | 72.28           | -17.9                       | 0.36                                   | 3999.50                   | 21.4 213.4                            | 17.86 S 11.79 W                   |
| 4050.00                   | 1.34            | 72.49           | -17.5                       | 0.08                                   | 4049.49                   | 20.5 211.3                            | 17.50 S 10.65 W                   |
| 4100.00                   | 1.19            | 74.70           | -17.2                       | 0.32                                   | 4099.48                   | 19.7 209.2                            | 17.19 S 9.60 W                    |
| 4150.00                   | 0.96            | 75.61           | -16.9                       | 0.45                                   | 4149.47                   | 19.0 207.2                            | 16.95 S 8.69 W                    |
| 4200.00                   | 0.95            | 82.07           | -16.8                       | 0.22                                   | 4199.46                   | 18.5 205.1                            | 16.78 S 7.88 W                    |
| 4250.00                   | 0.67            | 100.65          | -16.8                       | 0.76                                   | 4249.45                   | 18.3 203.2                            | 16.78 S 7.18 W                    |
| 4300.00                   | 0.70            | 112.87          | -16.9                       | 0.30                                   | 4299.45                   | 18.2 201.3                            | 16.95 S 6.61 W                    |
| 4350.00                   | 0.76            | 118.61          | -17.2                       | 0.20                                   | 4349.45                   | 18.3 199.3                            | 17.23 S 6.04 W                    |
| 4400.00                   | 0.90            | 109.69          | -17.5                       | 0.38                                   | 4399.44                   | 18.3 197.1                            | 17.52 S 5.38 W                    |
| 4450.00                   | 1.01            | 120.87          | -17.9                       | 0.43                                   | 4449.44                   | 18.5 194.5                            | 17.88 S 4.63 W                    |
| 4500.00                   | 1.03            | 123.69          | -18.4                       | 0.10                                   | 4499.43                   | 18.8 191.9                            | 18.36 S 3.88 W                    |
| 4550.00                   | 0.98            | 133.57          | -18.9                       | 0.36                                   | 4549.42                   | 19.2 189.6                            | 18.90 S 3.19 W                    |
| 4583.22                   | 0.86            | 149.71          | -19.3                       | 0.85                                   | 4582.64                   | 19.5 188.4                            | 19.31 S 2.86 W                    |



# A Gyrodata Directional Survey

PARALLEL PETROLEUM

Lease: HOPE UNIT 1821-16 STATE Well: #1, 4-1/2 DRILLPIPE

Location: PATRIOT RIG # 1, EDDY COUNTY, NEW MEXICO

Job Number: MD0507GW190

| MEASURED<br>DEPTH<br>feet | I N C L<br>deg. | AZIMUTH<br>deg. | VERTICAL<br>SECTION<br>feet | DOGLEG<br>SEVERITY<br>deg./<br>100 ft. | VERTICAL<br>DEPTH<br>feet | CLOSURE<br>DIST. AZIMUTH<br>feet deg. | HORIZONTAL<br>COORDINATES<br>feet |
|---------------------------|-----------------|-----------------|-----------------------------|----------------------------------------|---------------------------|---------------------------------------|-----------------------------------|
|---------------------------|-----------------|-----------------|-----------------------------|----------------------------------------|---------------------------|---------------------------------------|-----------------------------------|

Final Station Closure: Distance: 19.52 ft Az: 188.43 deg.