

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT

|   |                   |                |  |                 |              |   |  |
|---|-------------------|----------------|--|-----------------|--------------|---|--|
| <b>APPLICATION FOR PERMIT TO DRILL</b>  |                   |                |  |                 |              | <b>1. WELL NAME and NUMBER</b><br>NBU 921-19F1BS  |  |
| <b>2. TYPE OF WORK</b><br>DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/> |                   |                |  |                 |              | <b>3. FIELD OR WILDCAT</b><br>NATURAL BUTTES  |  |
| <b>4. TYPE OF WELL</b><br>Gas Well Coalbed Methane Well: NO   |                   |                |  |                 |              | <b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b><br>NATURAL BUTTES  |  |
| <b>6. NAME OF OPERATOR</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.  |                   |                |  |                 |              | <b>7. OPERATOR PHONE</b><br>307-752-1169  |  |
| <b>8. ADDRESS OF OPERATOR</b><br>P.O. Box 173779, Denver, CO, 80217   |                   |                |  |                 |              | <b>9. OPERATOR E-MAIL</b><br>Laura.Gianakos@anadarko.com  |  |
| <b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b><br>UTU 0581   |                   |                | <b>11. MINERAL OWNERSHIP</b><br>FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>    |                 |              | <b>12. SURFACE OWNERSHIP</b><br>FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/> |  |
| <b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>  |                   |                |  |                 |              | <b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>  |  |
| <b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>   |                   |                |  |                 |              | <b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>   |  |
| <b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b><br>Ute Tribe  |                   |                | <b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b><br>YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/> |                 |              | <b>19. SLANT</b><br>VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>                               |  |
| <b>20. LOCATION OF WELL</b>   | <b>FOOTAGES</b>   | <b>QTR-QTR</b> | <b>SECTION</b>   | <b>TOWNSHIP</b> | <b>RANGE</b> | <b>MERIDIAN</b>   |  |
| <b>LOCATION AT SURFACE</b>  | 541 FNL 1368 FWL  | NWNW           | 19   | 9.0 S           | 21.0 E       | S   |  |
| <b>Top of Uppermost Producing Zone</b>  | 1623 FNL 2485 FWL | SENW           | 19   | 9.0 S           | 21.0 E       | S   |  |
| <b>At Total Depth</b>   | 1623 FNL 2485 FWL | SENW           | 19   | 9.0 S           | 21.0 E       | S   |  |
| <b>21. COUNTY</b><br>UINTAH   |                   |                | <b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b><br>1623   |                 |              | <b>23. NUMBER OF ACRES IN DRILLING UNIT</b><br>2400   |  |
|   |                   |                | <b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b><br>490  |                 |              | <b>26. PROPOSED DEPTH</b><br>MD: 10644 TVD: 10357   |  |
| <b>27. ELEVATION - GROUND LEVEL</b><br>4789   |                   |                | <b>28. BOND NUMBER</b><br>WYB000291  |                 |              | <b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b><br>Permit #43-8496   |  |

**ATTACHMENTS**

**VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

|   |   |
|---|---|
| <input checked="" type="checkbox"/> <b>WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER</b>         | <input checked="" type="checkbox"/> <b>COMPLETE DRILLING PLAN</b>                 |
| <input type="checkbox"/> <b>AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)</b>               | <input type="checkbox"/> <b>FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER</b> |
| <input checked="" type="checkbox"/> <b>DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)</b> | <input checked="" type="checkbox"/> <b>TOPOGRAPHICAL MAP</b>                      |

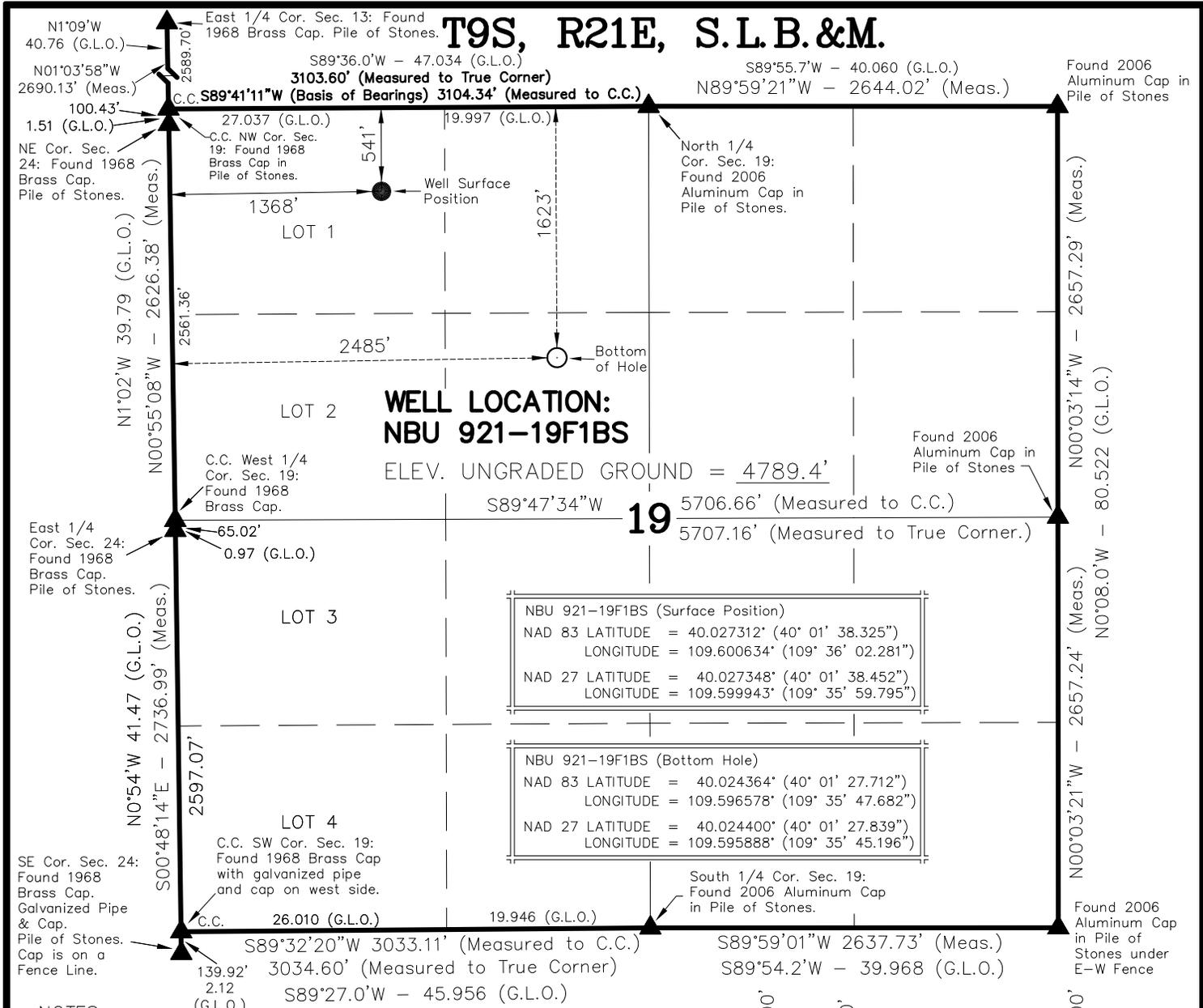
|  |   |   |
|--|---|---|
| <b>NAME</b> Danielle Piernot                 | <b>TITLE</b> Regulatory Analyst   | <b>PHONE</b> 720 929-6156               |
| <b>SIGNATURE</b>                             | <b>DATE</b> 04/12/2010  | <b>EMAIL</b> gnbregulatory@anadarko.com |
| <b>API NUMBER ASSIGNED</b><br>43047510560000 | <b>APPROVAL</b><br><br><br>Permit Manager |   |

| <b>Proposed Hole, Casing, and Cement</b> |                     |                    |                 |                    |  |  |
|--|---------------------|--------------------|-----------------|--------------------|--|--|
| <b>String</b>                            | <b>Hole Size</b>    | <b>Casing Size</b> | <b>Top (MD)</b> | <b>Bottom (MD)</b> |  |  |
| Prod                                     | 7.875               | 4.5                | 0               | 10644              |  |  |
| <b>Pipe</b>                              | <b>Grade</b>        | <b>Length</b>      | <b>Weight</b>   |                    |  |  |
|  | Grade HCP-110 LT&C  | 707                | 11.6            |                    |  |  |
|  | Grade I-80 Buttress | 9937               | 11.6            |                    |  |  |
|  |                     |                    |                 |                    |  |  |

**Proposed Hole, Casing, and Cement**

| <b>String</b> | <b>Hole Size</b> | <b>Casing Size</b> | <b>Top (MD)</b> | <b>Bottom (MD)</b> |  |  |
|---------------|------------------|--------------------|-----------------|--------------------|--|--|
| Surf          | 11               | 8.625              | 0               | 2430               |  |  |
| <b>Pipe</b>   | <b>Grade</b>     | <b>Length</b>      | <b>Weight</b>   |                    |  |  |
|               | Grade I-80 LT&C  | 2430               | 28.0            |                    |  |  |
|               |                  |                    |                 |                    |  |  |

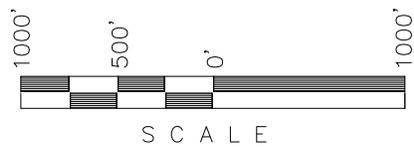
# T9S, R21E, S.L.B.&M.



**NOTES:**

- ▲ = Section Corners Located
- 1. Well footages are measured at right angles to the Section Lines.
- 2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
- 3. The Bottom of hole bears S46°30'57"E 1563.49' from the Surface Position.
- 4. Bearings are based on Global Positioning Satellite observations.
- 5. Basis of elevation is Tri-Sta "Two Water" located in the NW 1/4 of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack mtn NE 7.5 Min. Quadrangle as being 5238'.

**Kerr-McGee  
Oil & Gas Onshore, LP**  
1099 18th Street - Denver, Colorado 80202



**SURVEYOR'S CERTIFICATE**

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ANCESTRAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*Kolby R. Kay*  
 REGISTERED LAND SURVEYOR  
 REGISTRATION NO. 362251  
 STATE OF UTAH

**NBU 921-19F1BS  
WELL PLAT**  
 1623' FNL, 2485' FWL (Bottom Hole)  
 SE 1/4 NW 1/4 OF SECTION 19, T9S, R21E,  
 S.L.B.&M. UTAH COUNTY, UTAH.

CONSULTING, LLC  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

**TIMBERLINE** (435) 789-1365  
 ENGINEERING & LAND SURVEYING, INC.  
 209 NORTH 300 WEST - VERNAL, UTAH 84078

|                            |                                |  |
|----------------------------|--------------------------------|--|
| DATE SURVEYED:<br>01-07-09 | SURVEYED BY: M.S.B.            | <b>SHEET</b><br><b>1</b><br><b>OF 13</b> |
| DATE DRAWN:<br>01-13-09    | DRAWN BY: M.W.W.               |  |
| SCALE: 1" = 1000'          | Date Last Revised:<br>07-01-09 |  |



# **ANADARKO PETROLEUM CORP.**

**UINTAH COUNTY, UTAH (nad 27)**

**NBU 921-19D PAD**

**NBU 921-19F1BS**

**NBU 921-19F1BS**

**Plan: PLAN #1 11-16-09 RHS**

## **Standard Planning Report**

**16 November, 2009**



**Weatherford®**

'APIWellNo:43047510560000'



NBU 921-19F1BS  
 UTAH COUNTY, UTAH (nad 27)  
 541 FNL 1368 FWL  
 SECTION 19 T9S R21 E  
 LAT: 40° 1' 38.453 N  
 LONG: 109° 35' 59.795 W



**Weatherford**



| WELL DETAILS: NBU 921-19F1BS |       |             |               |            |                 |                   |  |
|------------------------------|-------|-------------|---------------|------------|-----------------|-------------------|--|
| +N/-S                        | +E/-W | Northing    | Ground Level: | 4789.00    | Longitude       | Slot              |  |
| 0.00                         | 0.00  | 14539082.96 | Easting       | 2032364.62 | 40° 1' 38.453 N | 109° 35' 59.795 W |  |

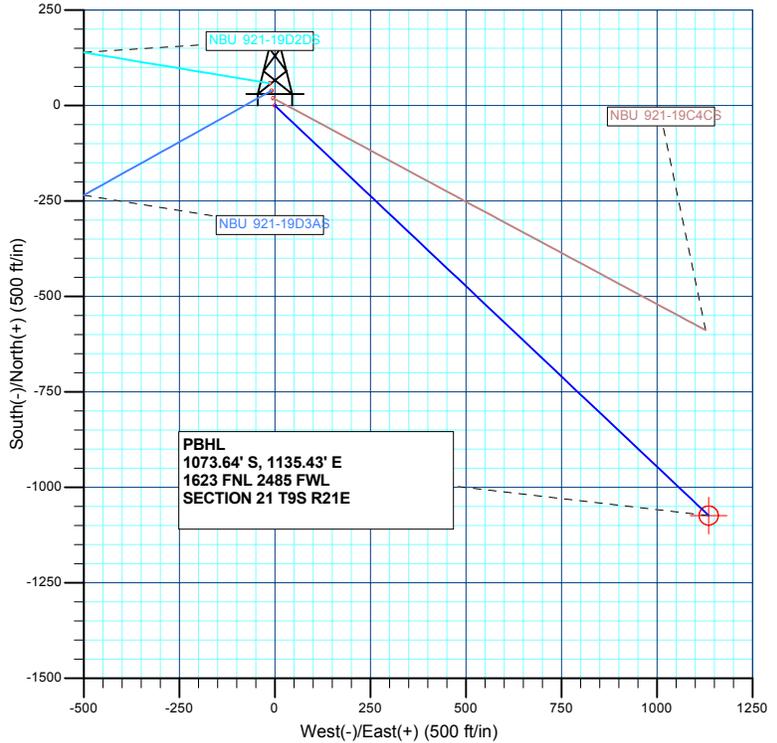
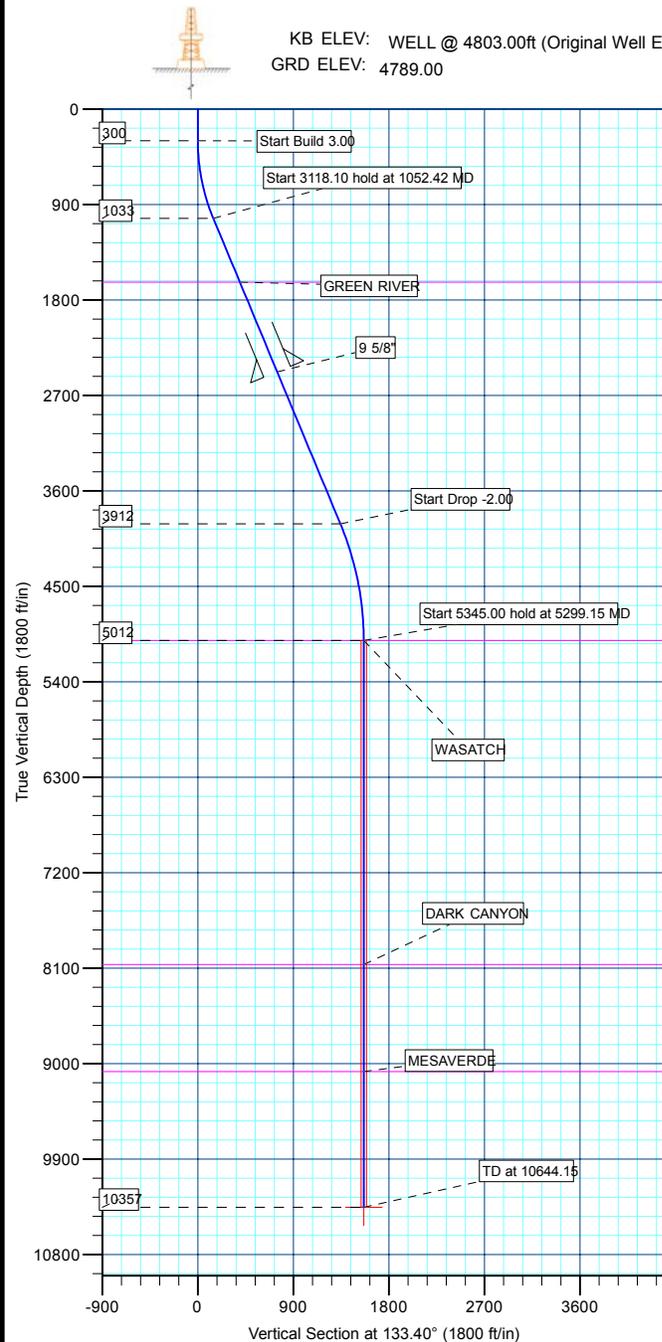
| WELLBORE TARGET DETAILS (LAT/LONG) |          |          |         |                 |                   |                        |  |
|------------------------------------|----------|----------|---------|-----------------|-------------------|------------------------|--|
| Name                               | TVD      | +N/-S    | +E/-W   | Latitude        | Longitude         | Shape                  |  |
| PBHL                               | 10357.00 | -1073.64 | 1135.43 | 40° 1' 27.840 N | 109° 35' 45.197 W | Circle (Radius: 25.00) |  |

| SECTION DETAILS |       |        |          |          |         |      |        |         |        |   |
|-----------------|-------|--------|----------|----------|---------|------|--------|---------|--------|---|
| MD              | Inc   | Azi    | TVD      | +N/-S    | +E/-W   | DLeg | TFace  | VSec    | Target |   |
| 0.00            | 0.00  | 0.00   | 0.00     | 0.00     | 0.00    | 0.00 | 0.00   | 0.00    |        |   |
| 300.00          | 0.00  | 0.00   | 300.00   | 0.00     | 0.00    | 0.00 | 0.00   | 0.00    |        |   |
| 1052.42         | 22.57 | 133.40 | 1033.11  | -100.52  | 106.31  | 3.00 | 133.40 | 146.31  |        |   |
| 4170.52         | 22.57 | 133.40 | 3912.34  | -922.86  | 975.97  | 0.00 | 0.00   | 1343.20 |        |   |
| 5299.15         | 0.00  | 0.00   | 5012.00  | -1073.64 | 1135.43 | 2.00 | 180.00 | 1562.66 |        |   |
| 10644.15        | 0.00  | 0.00   | 10357.00 | -1073.64 | 1135.43 | 0.00 | 0.00   | 1562.66 |        | PBHL_NBU 921-19F1BS(1623 FNL 2485 FWL)25' TGT RAD |

| FORMATION TOP DETAILS |         |             |
|-----------------------|---------|-------------|
| TVDPath               | MDPath  | Formation   |
| 1634.00               | 1703.16 | GREEN RIVER |
| 5012.00               | 5299.15 | WASATCH     |
| 8067.00               | 8354.15 | DARK CANYON |
| 9076.00               | 9363.15 | MESAVERDE   |

| CASING DETAILS |         |        |      |
|----------------|---------|--------|------|
| TVD            | MD      | Name   | Size |
| 2479.00        | 2618.27 | 9 5/8" | 9.62 |

KB ELEV: WELL @ 4803.00ft (Original Well Elev)  
 GRD ELEV: 4789.00





|                  |                              |                                     |                                       |
|------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | EDM 2003.21 Single User Db   | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Company:</b>  | ANADARKO PETROLEUM CORP.     | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Project:</b>  | UINTAH COUNTY, UTAH (nad 27) | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site:</b>     | NBU 921-19D PAD              | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Wellbore:</b> | NBU 921-19F1BS               |                                     |                                       |
| <b>Design:</b>   | PLAN #1 11-16-09 RHS         |                                     |                                       |

|                    |  |                      |                |
|--------------------|--|----------------------|----------------|
| <b>Project</b>     | UINTAH COUNTY, UTAH (nad 27),                |                      |                |
| <b>Map System:</b> | Universal Transverse Mercator (US Survey Fee | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | NAD 1927 (NADCON CONUS)                      |                      |                |
| <b>Map Zone:</b>   | Zone 12N (114 W to 108 W)                    |                      |                |

|                              |                                       |                     |                 |                          |                   |
|------------------------------|---------------------------------------|---------------------|-----------------|--------------------------|-------------------|
| <b>Site</b>                  | NBU 921-19D PAD, SECTION 19 T9S R21 E |                     |                 |                          |                   |
| <b>Site Position:</b>        |                                       | <b>Northing:</b>    | 14,539,141.03ft | <b>Latitude:</b>         | 40° 1' 39.029 N   |
| <b>From:</b>                 | Lat/Long                              | <b>Easting:</b>     | 2,032,350.83ft  | <b>Longitude:</b>        | 109° 35' 59.960 W |
| <b>Position Uncertainty:</b> | 0.00 ft                               | <b>Slot Radius:</b> | in              | <b>Grid Convergence:</b> | 0.90 °            |

|                             |                |           |                            |                  |                      |                   |
|-----------------------------|----------------|-----------|----------------------------|------------------|----------------------|-------------------|
| <b>Well</b>                 | NBU 921-19F1BS |           |                            |                  |                      |                   |
| <b>Well Position</b>        | <b>+N/-S</b>   | -58.27 ft | <b>Northing:</b>           | 14,539,082.96 ft | <b>Latitude:</b>     | 40° 1' 38.453 N   |
|                             | <b>+E/-W</b>   | 12.88 ft  | <b>Easting:</b>            | 2,032,364.62 ft  | <b>Longitude:</b>    | 109° 35' 59.795 W |
| <b>Position Uncertainty</b> |                | 0.00 ft   | <b>Wellhead Elevation:</b> | ft               | <b>Ground Level:</b> | 4,789.00 ft       |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | NBU 921-19F1BS    |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | BGGM2009          | 11/16/2009         | 11.35                  | 65.93                | 52,498                     |

|                          |                              |                   |                      |                      |
|--------------------------|------------------------------|-------------------|----------------------|----------------------|
| <b>Design</b>            | PLAN #1 11-16-09 RHS         |                   |                      |                      |
| <b>Audit Notes:</b>      |                              |                   |                      |                      |
| <b>Version:</b>          | <b>Phase:</b>                | PLAN              | <b>Tie On Depth:</b> | 0.00                 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b>    | <b>Direction (°)</b> |
|                          | 0.00                         | 0.00              | 0.00                 | 133.40               |

| <b>Plan Sections</b> |                 |             |                     |            |            |                       |                      |                     |         |                 |
|----------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|----------------------|---------------------|---------|-----------------|
| Measured Depth (ft)  | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) | TFO (°) | Target          |
| 0.00                 | 0.00            | 0.00        | 0.00                | 0.00       | 0.00       | 0.00                  | 0.00                 | 0.00                | 0.00    |                 |
| 300.00               | 0.00            | 0.00        | 300.00              | 0.00       | 0.00       | 0.00                  | 0.00                 | 0.00                | 0.00    |                 |
| 1,052.42             | 22.57           | 133.40      | 1,033.11            | -100.52    | 106.31     | 3.00                  | 3.00                 | 0.00                | 133.40  |                 |
| 4,170.52             | 22.57           | 133.40      | 3,912.34            | -922.86    | 975.97     | 0.00                  | 0.00                 | 0.00                | 0.00    |                 |
| 5,299.15             | 0.00            | 0.00        | 5,012.00            | -1,073.64  | 1,135.43   | 2.00                  | -2.00                | 0.00                | 180.00  |                 |
| 10,644.15            | 0.00            | 0.00        | 10,357.00           | -1,073.64  | 1,135.43   | 0.00                  | 0.00                 | 0.00                | 0.00    | PBHL_NBU 921-19 |



|                  |                              |                                     |                                       |
|------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | EDM 2003.21 Single User Db   | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Company:</b>  | ANADARKO PETROLEUM CORP.     | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Project:</b>  | UINTAH COUNTY, UTAH (nad 27) | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site:</b>     | NBU 921-19D PAD              | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Wellbore:</b> | NBU 921-19F1BS               |                                     |                                       |
| <b>Design:</b>   | PLAN #1 11-16-09 RHS         |                                     |                                       |

| Planned Survey                          |                 |             |                     |            |            |                       |                       |                      |                     |      |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|------|
| Measured Depth (ft)                     | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |      |
| <b>Start Build 3.00</b>                 |                 |             |                     |            |            |                       |                       |                      |                     |      |
| 300.00                                  | 0.00            | 0.00        | 300.00              | 0.00       | 0.00       | 0.00                  | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 400.00                                  | 3.00            | 133.40      | 399.95              | -1.80      | 1.90       | 2.62                  | 3.00                  | 3.00                 | 0.00                | 0.00 |
| 500.00                                  | 6.00            | 133.40      | 499.63              | -7.19      | 7.60       | 10.46                 | 3.00                  | 3.00                 | 0.00                | 0.00 |
| 600.00                                  | 9.00            | 133.40      | 598.77              | -16.16     | 17.08      | 23.51                 | 3.00                  | 3.00                 | 0.00                | 0.00 |
| 700.00                                  | 12.00           | 133.40      | 697.08              | -28.67     | 30.32      | 41.74                 | 3.00                  | 3.00                 | 0.00                | 0.00 |
| 800.00                                  | 15.00           | 133.40      | 794.31              | -44.71     | 47.29      | 65.08                 | 3.00                  | 3.00                 | 0.00                | 0.00 |
| 900.00                                  | 18.00           | 133.40      | 890.18              | -64.22     | 67.92      | 93.48                 | 3.00                  | 3.00                 | 0.00                | 0.00 |
| 1,000.00                                | 21.00           | 133.40      | 984.43              | -87.15     | 92.17      | 126.85                | 3.00                  | 3.00                 | 0.00                | 0.00 |
| <b>Start 3118.10 hold at 1052.42 MD</b> |                 |             |                     |            |            |                       |                       |                      |                     |      |
| 1,052.42                                | 22.57           | 133.40      | 1,033.11            | -100.52    | 106.31     | 146.31                | 3.00                  | 3.00                 | 0.00                | 0.00 |
| 1,100.00                                | 22.57           | 133.40      | 1,077.04            | -113.07    | 119.58     | 164.57                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 1,200.00                                | 22.57           | 133.40      | 1,169.38            | -139.44    | 147.47     | 202.96                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 1,300.00                                | 22.57           | 133.40      | 1,261.72            | -165.82    | 175.36     | 241.34                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 1,400.00                                | 22.57           | 133.40      | 1,354.06            | -192.19    | 203.25     | 279.73                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 1,500.00                                | 22.57           | 133.40      | 1,446.40            | -218.56    | 231.14     | 318.11                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 1,600.00                                | 22.57           | 133.40      | 1,538.74            | -244.93    | 259.03     | 356.50                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 1,700.00                                | 22.57           | 133.40      | 1,631.08            | -271.31    | 286.92     | 394.88                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| <b>GREEN RIVER</b>                      |                 |             |                     |            |            |                       |                       |                      |                     |      |
| 1,703.16                                | 22.57           | 133.40      | 1,634.00            | -272.14    | 287.81     | 396.10                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 1,800.00                                | 22.57           | 133.40      | 1,723.42            | -297.68    | 314.81     | 433.27                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 1,900.00                                | 22.57           | 133.40      | 1,815.76            | -324.05    | 342.70     | 471.65                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 2,000.00                                | 22.57           | 133.40      | 1,908.10            | -350.43    | 370.60     | 510.04                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 2,100.00                                | 22.57           | 133.40      | 2,000.44            | -376.80    | 398.49     | 548.42                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 2,200.00                                | 22.57           | 133.40      | 2,092.78            | -403.17    | 426.38     | 586.81                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 2,300.00                                | 22.57           | 133.40      | 2,185.11            | -429.55    | 454.27     | 625.20                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 2,400.00                                | 22.57           | 133.40      | 2,277.45            | -455.92    | 482.16     | 663.58                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 2,500.00                                | 22.57           | 133.40      | 2,369.79            | -482.29    | 510.05     | 701.97                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 2,600.00                                | 22.57           | 133.40      | 2,462.13            | -508.66    | 537.94     | 740.35                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| <b>9 5/8"</b>                           |                 |             |                     |            |            |                       |                       |                      |                     |      |
| 2,618.27                                | 22.57           | 133.40      | 2,479.00            | -513.48    | 543.04     | 747.36                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 2,700.00                                | 22.57           | 133.40      | 2,554.47            | -535.04    | 565.83     | 778.74                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 2,800.00                                | 22.57           | 133.40      | 2,646.81            | -561.41    | 593.72     | 817.12                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 2,900.00                                | 22.57           | 133.40      | 2,739.15            | -587.78    | 621.61     | 855.51                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 3,000.00                                | 22.57           | 133.40      | 2,831.49            | -614.16    | 649.50     | 893.89                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 3,100.00                                | 22.57           | 133.40      | 2,923.83            | -640.53    | 677.40     | 932.28                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 3,200.00                                | 22.57           | 133.40      | 3,016.17            | -666.90    | 705.29     | 970.66                | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 3,300.00                                | 22.57           | 133.40      | 3,108.51            | -693.28    | 733.18     | 1,009.05              | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 3,400.00                                | 22.57           | 133.40      | 3,200.85            | -719.65    | 761.07     | 1,047.43              | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 3,500.00                                | 22.57           | 133.40      | 3,293.19            | -746.02    | 788.96     | 1,085.82              | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 3,600.00                                | 22.57           | 133.40      | 3,385.53            | -772.39    | 816.85     | 1,124.20              | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 3,700.00                                | 22.57           | 133.40      | 3,477.87            | -798.77    | 844.74     | 1,162.59              | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 3,800.00                                | 22.57           | 133.40      | 3,570.21            | -825.14    | 872.63     | 1,200.98              | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 3,900.00                                | 22.57           | 133.40      | 3,662.54            | -851.51    | 900.52     | 1,239.36              | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 4,000.00                                | 22.57           | 133.40      | 3,754.88            | -877.89    | 928.41     | 1,277.75              | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 4,100.00                                | 22.57           | 133.40      | 3,847.22            | -904.26    | 956.30     | 1,316.13              | 0.00                  | 0.00                 | 0.00                | 0.00 |
| <b>Start Drop -2.00</b>                 |                 |             |                     |            |            |                       |                       |                      |                     |      |
| 4,170.52                                | 22.57           | 133.40      | 3,912.34            | -922.86    | 975.97     | 1,343.20              | 0.00                  | 0.00                 | 0.00                | 0.00 |
| 4,200.00                                | 21.98           | 133.40      | 3,939.62            | -930.54    | 984.09     | 1,354.38              | 2.00                  | -2.00                | 0.00                | 0.00 |
| 4,300.00                                | 19.98           | 133.40      | 4,032.98            | -955.14    | 1,010.11   | 1,390.18              | 2.00                  | -2.00                | 0.00                | 0.00 |
| 4,400.00                                | 17.98           | 133.40      | 4,127.54            | -977.49    | 1,033.75   | 1,422.71              | 2.00                  | -2.00                | 0.00                | 0.00 |
| 4,500.00                                | 15.98           | 133.40      | 4,223.18            | -997.55    | 1,054.97   | 1,451.92              | 2.00                  | -2.00                | 0.00                | 0.00 |
| 4,600.00                                | 13.98           | 133.40      | 4,319.77            | -1,015.31  | 1,073.75   | 1,477.77              | 2.00                  | -2.00                | 0.00                | 0.00 |



|                  |                              |                                     |                                       |
|------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | EDM 2003.21 Single User Db   | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Company:</b>  | ANADARKO PETROLEUM CORP.     | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Project:</b>  | UINTAH COUNTY, UTAH (nad 27) | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site:</b>     | NBU 921-19D PAD              | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Wellbore:</b> | NBU 921-19F1BS               |                                     |                                       |
| <b>Design:</b>   | PLAN #1 11-16-09 RHS         |                                     |                                       |

| Planned Survey                                    |                 |             |                     |            |            |                       |                       |                      |                     |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| Measured Depth (ft)                               | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
| 4,700.00  | 11.98           | 133.40      | 4,417.21            | -1,030.75  | 1,090.07   | 1,500.24              | 2.00                  | -2.00                | 0.00                |
| 4,800.00  | 9.98            | 133.40      | 4,515.37            | -1,043.84  | 1,103.92   | 1,519.29              | 2.00                  | -2.00                | 0.00                |
| 4,900.00  | 7.98            | 133.40      | 4,614.14            | -1,054.57  | 1,115.26   | 1,534.90              | 2.00                  | -2.00                | 0.00                |
| 5,000.00  | 5.98            | 133.40      | 4,713.39            | -1,062.92  | 1,124.09   | 1,547.06              | 2.00                  | -2.00                | 0.00                |
| 5,100.00  | 3.98            | 133.40      | 4,813.01            | -1,068.88  | 1,130.41   | 1,555.74              | 2.00                  | -2.00                | 0.00                |
| 5,200.00  | 1.98            | 133.40      | 4,912.87            | -1,072.46  | 1,134.19   | 1,560.95              | 2.00                  | -2.00                | 0.00                |
| <b>Start 5345.00 hold at 5299.15 MD - WASATCH</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 5,299.15  | 0.00            | 0.00        | 5,012.00            | -1,073.64  | 1,135.43   | 1,562.66              | 2.00                  | -2.00                | -134.54             |
| 5,300.00  | 0.00            | 0.00        | 5,012.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 5,400.00  | 0.00            | 0.00        | 5,112.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 5,500.00  | 0.00            | 0.00        | 5,212.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 5,600.00  | 0.00            | 0.00        | 5,312.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 5,700.00  | 0.00            | 0.00        | 5,412.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 5,800.00  | 0.00            | 0.00        | 5,512.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 5,900.00  | 0.00            | 0.00        | 5,612.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 6,000.00  | 0.00            | 0.00        | 5,712.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 6,100.00  | 0.00            | 0.00        | 5,812.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 6,200.00  | 0.00            | 0.00        | 5,912.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 6,300.00  | 0.00            | 0.00        | 6,012.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 6,400.00  | 0.00            | 0.00        | 6,112.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 6,500.00  | 0.00            | 0.00        | 6,212.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 6,600.00  | 0.00            | 0.00        | 6,312.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 6,700.00  | 0.00            | 0.00        | 6,412.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 6,800.00  | 0.00            | 0.00        | 6,512.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 6,900.00  | 0.00            | 0.00        | 6,612.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 7,000.00  | 0.00            | 0.00        | 6,712.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 7,100.00  | 0.00            | 0.00        | 6,812.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 7,200.00  | 0.00            | 0.00        | 6,912.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 7,300.00  | 0.00            | 0.00        | 7,012.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 7,400.00  | 0.00            | 0.00        | 7,112.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 7,500.00  | 0.00            | 0.00        | 7,212.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 7,600.00  | 0.00            | 0.00        | 7,312.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 7,700.00  | 0.00            | 0.00        | 7,412.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 7,800.00  | 0.00            | 0.00        | 7,512.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 7,900.00  | 0.00            | 0.00        | 7,612.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 8,000.00  | 0.00            | 0.00        | 7,712.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 8,100.00  | 0.00            | 0.00        | 7,812.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 8,200.00  | 0.00            | 0.00        | 7,912.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 8,300.00  | 0.00            | 0.00        | 8,012.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| <b>DARK CANYON</b>                                |                 |             |                     |            |            |                       |                       |                      |                     |
| 8,354.15  | 0.00            | 0.00        | 8,067.00            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 8,400.00  | 0.00            | 0.00        | 8,112.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 8,500.00  | 0.00            | 0.00        | 8,212.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 8,600.00  | 0.00            | 0.00        | 8,312.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 8,700.00  | 0.00            | 0.00        | 8,412.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 8,800.00  | 0.00            | 0.00        | 8,512.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 8,900.00  | 0.00            | 0.00        | 8,612.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 9,000.00  | 0.00            | 0.00        | 8,712.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 9,100.00  | 0.00            | 0.00        | 8,812.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 9,200.00  | 0.00            | 0.00        | 8,912.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| 9,300.00  | 0.00            | 0.00        | 9,012.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |
| <b>MESAVERDE</b>                                  |                 |             |                     |            |            |                       |                       |                      |                     |
| 9,363.15  | 0.00            | 0.00        | 9,076.00            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |



|                  |                              |                                     |                                       |
|------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | EDM 2003.21 Single User Db   | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Company:</b>  | ANADARKO PETROLEUM CORP.     | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Project:</b>  | UINTAH COUNTY, UTAH (nad 27) | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site:</b>     | NBU 921-19D PAD              | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Wellbore:</b> | NBU 921-19F1BS               |                                     |                                       |
| <b>Design:</b>   | PLAN #1 11-16-09 RHS         |                                     |                                       |

| Planned Survey   |                 |             |                     |            |            |                       |                       |                      |                     |  |
|--|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|--|
| Measured Depth (ft)                                      | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |  |
| 9,400.00   | 0.00            | 0.00        | 9,112.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |  |
| 9,500.00   | 0.00            | 0.00        | 9,212.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |  |
| 9,600.00   | 0.00            | 0.00        | 9,312.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |  |
| 9,700.00   | 0.00            | 0.00        | 9,412.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |  |
| 9,800.00   | 0.00            | 0.00        | 9,512.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |  |
| 9,900.00   | 0.00            | 0.00        | 9,612.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |  |
| 10,000.00  | 0.00            | 0.00        | 9,712.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |  |
| 10,100.00  | 0.00            | 0.00        | 9,812.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |  |
| 10,200.00  | 0.00            | 0.00        | 9,912.85            | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |  |
| 10,300.00  | 0.00            | 0.00        | 10,012.85           | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |  |
| 10,400.00  | 0.00            | 0.00        | 10,112.85           | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |  |
| 10,500.00  | 0.00            | 0.00        | 10,212.85           | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |  |
| 10,600.00  | 0.00            | 0.00        | 10,312.85           | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |  |
| <b>PBHL_NBU 921-19F1BS(1623 FNL 2485 FWL)25' TGT RAD</b> |                 |             |                     |            |            |                       |                       |                      |                     |  |
| 10,644.15  | 0.00            | 0.00        | 10,357.00           | -1,073.64  | 1,135.43   | 1,562.66              | 0.00                  | 0.00                 | 0.00                |  |

| Design Targets            |               |              |           |            |            |               |              |                 |                   |  |
|---------------------------|---------------|--------------|-----------|------------|------------|---------------|--------------|-----------------|-------------------|--|
| Target Name               | Dip Angle (°) | Dip Dir. (°) | TVD (ft)  | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude        | Longitude         |  |
| PBHL_NBU 921-19F1         | 0.00          | 0.00         | 10,357.00 | -1,073.64  | 1,135.43   | 14,538,027.31 | 2,033,516.79 | 40° 1' 27.840 N | 109° 35' 45.197 W |  |
| - hit/miss target         |               |              |           |            |            |               |              |                 |                   |  |
| - Shape                   |               |              |           |            |            |               |              |                 |                   |  |
| - plan hits target center |               |              |           |            |            |               |              |                 |                   |  |
| - Circle (radius 25.00)   |               |              |           |            |            |               |              |                 |                   |  |

| Casing Points       |                     |        |                      |                    |  |  |
|---------------------|---------------------|--------|----------------------|--------------------|--|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name   | Casing Diameter (in) | Hole Diameter (in) |  |  |
| 2,618.27            | 2,479.00            | 9 5/8" | 9.62                 | 12.25              |  |  |

| Formations          |                     |             |           |         |                   |  |
|---------------------|---------------------|-------------|-----------|---------|-------------------|--|
| Measured Depth (ft) | Vertical Depth (ft) | Name        | Lithology | Dip (°) | Dip Direction (°) |  |
| 1,703.16            | 1,634.00            | GREEN RIVER |           |         |                   |  |
| 5,299.15            | 5,012.00            | WASATCH     |           |         |                   |  |
| 8,354.15            | 8,067.00            | DARK CANYON |           |         |                   |  |
| 9,363.15            | 9,076.00            | MESAVERDE   |           |         |                   |  |



|                  |                              |                                     |                                       |
|------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Database:</b> | EDM 2003.21 Single User Db   | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Company:</b>  | ANADARKO PETROLEUM CORP.     | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Project:</b>  | UINTAH COUNTY, UTAH (nad 27) | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site:</b>     | NBU 921-19D PAD              | <b>North Reference:</b>             | True                                  |
| <b>Well:</b>     | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Wellbore:</b> | NBU 921-19F1BS               |                                     |                                       |
| <b>Design:</b>   | PLAN #1 11-16-09 RHS         |                                     |                                       |

**Plan Annotations**

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            | Comment                          |
|---------------------|---------------------|-------------------|------------|----------------------------------|
|                     |                     | +N/-S (ft)        | +E/-W (ft) |                                  |
| 300.00              | 300.00              | 0.00              | 0.00       | Start Build 3.00                 |
| 1,052.42            | 1,033.11            | -100.52           | 106.31     | Start 3118.10 hold at 1052.42 MD |
| 4,170.52            | 3,912.34            | -922.86           | 975.97     | Start Drop -2.00                 |
| 5,299.15            | 5,012.00            | -1,073.64         | 1,135.43   | Start 5345.00 hold at 5299.15 MD |
| 10,644.15           | 10,357.00           | -1,073.64         | 1,135.43   | TD at 10644.15                   |



# **ANADARKO PETROLEUM CORP.**

**UINTAH COUNTY, UTAH (nad 27)  
NBU 921-19D PAD  
NBU 921-19F1BS**

**NBU 921-19F1BS  
PLAN #1 11-16-09 RHS**

## **Anticollision Report**

**16 November, 2009**



**Weatherford®**



|                           |                              |                                     |                                       |
|---------------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>           | ANADARKO PETROLEUM CORP.     | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Project:</b>           | UINTAH COUNTY, UTAH (nad 27) | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Reference Site:</b>    | NBU 921-19D PAD              | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.00ft                       | <b>North Reference:</b>             | True                                  |
| <b>Reference Well:</b>    | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Well Error:</b>        | 0.00ft                       | <b>Output errors are at</b>         | 2.00 sigma                            |
| <b>Reference Wellbore</b> | NBU 921-19F1BS               | <b>Database:</b>                    | EDM 2003.21 Single User Db            |
| <b>Reference Design:</b>  | PLAN #1 11-16-09 RHS         | <b>Offset TVD Reference:</b>        | Offset Datum                          |

|                                     |   |                       |                     |
|-------------------------------------|---|-----------------------|---------------------|
| <b>Reference</b>                    | PLAN #1 11-16-09 RHS  |                       |                     |
| <b>Filter type:</b>                 | NO GLOBAL FILTER: Using user defined selection & filtering criteria |                       |                     |
| <b>Interpolation Method:</b>        | Stations  | <b>Error Model:</b>   | ISCWSA              |
| <b>Depth Range:</b>                 | 0.00 to 20,000.00ft   | <b>Scan Method:</b>   | Closest Approach 3D |
| <b>Results Limited by:</b>          | Maximum center-center distance of 10,000.00ft                       | <b>Error Surface:</b> | Elliptical Conic    |
| <b>Warning Levels Evaluated at:</b> | 2.00 Sigma  |                       |                     |

|                            |                |                                     |                  |                    |
|----------------------------|----------------|-------------------------------------|------------------|--------------------|
| <b>Survey Tool Program</b> | <b>Date</b>    | 11/16/2009                          |                  |                    |
| <b>From (ft)</b>           | <b>To (ft)</b> | <b>Survey (Wellbore)</b>            | <b>Tool Name</b> | <b>Description</b> |
| 0.00                       | 10,644.15      | PLAN #1 11-16-09 RHS (NBU 921-19F1B | MWD              | MWD - Standard     |

| Summary  |                               |                            |                               |                                |                   |         |
|--|-------------------------------|----------------------------|-------------------------------|--------------------------------|-------------------|---------|
| Site Name  | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning |
| Offset Well - Wellbore - Design                  |                               |                            |                               |                                |                   |         |
| NBU 921-19D PAD                                  |                               |                            |                               |                                |                   |         |
| NBU 921-19C4CS - NBU 921-19C4CS - PLAN #1 11-16- | 300.00                        | 300.00                     | 19.75                         | 18.66                          | 18.084            | CC, ES  |
| NBU 921-19C4CS - NBU 921-19C4CS - PLAN #1 11-16- | 10,644.15                     | 10,566.25                  | 485.55                        | 422.20                         | 7.664             | SF      |
| NBU 921-19D2DS - NBU 921-19D2DS - PLAN #1 11-16- | 300.00                        | 300.00                     | 59.68                         | 58.59                          | 54.632            | CC, ES  |
| NBU 921-19D2DS - NBU 921-19D2DS - PLAN #1 11-16- | 600.00                        | 598.77                     | 80.23                         | 77.80                          | 33.002            | SF      |
| NBU 921-19D3AS - NBU 921-19D3AS - PLAN #1 11-16- | 300.00                        | 300.00                     | 39.92                         | 38.83                          | 36.549            | CC, ES  |
| NBU 921-19D3AS - NBU 921-19D3AS - PLAN #1 11-16- | 500.00                        | 499.63                     | 48.95                         | 46.97                          | 24.819            | SF      |

| <b>Offset Design</b> NBU 921-19D PAD - NBU 921-19C4CS - NBU 921-19C4CS - PLAN #1 11-16-09 RHS |                     |                     |                     |                |             |                       |                                   |                                   |                               |                                |                         |                   | <b>Offset Site Error:</b> | 0.00 ft |
|---|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|-----------------------------------|-------------------------------|--------------------------------|-------------------------|-------------------|---------------------------|---------|
| Survey Program: 0-MWD   |                     |                     |                     |                |             |                       |                                   |                                   |                               |                                |                         |                   | <b>Offset Well Error:</b> | 0.00 ft |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | Offset Wellbore Centre +E/-W (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor | Warning                   |         |
| 0.00  | 0.00                | 0.00                | 0.00                | 0.00           | 0.00        | -12.28                | 19.30                             | -4.20                             | 19.75                         |                                |                         |                   |                           |         |
| 100.00  | 100.00              | 100.00              | 100.00              | 0.10           | 0.10        | -12.28                | 19.30                             | -4.20                             | 19.75                         | 19.56                          | 0.19                    | 102.195           |                           |         |
| 200.00  | 200.00              | 200.00              | 200.00              | 0.32           | 0.32        | -12.28                | 19.30                             | -4.20                             | 19.75                         | 19.11                          | 0.64                    | 30.730            |                           |         |
| 300.00  | 300.00              | 300.00              | 300.00              | 0.55           | 0.55        | -12.28                | 19.30                             | -4.20                             | 19.75                         | 18.66                          | 1.09                    | 18.084            | CC, ES                    |         |
| 400.00  | 399.95              | 399.95              | 399.95              | 0.75           | 0.77        | -149.49               | 19.30                             | -4.20                             | 21.97                         | 20.43                          | 1.53                    | 14.352            |                           |         |
| 500.00  | 499.63              | 499.63              | 499.63              | 0.97           | 0.99        | -157.30               | 19.30                             | -4.20                             | 29.00                         | 27.03                          | 1.97                    | 14.701            |                           |         |
| 600.00  | 598.77              | 598.77              | 598.77              | 1.24           | 1.22        | -164.19               | 19.30                             | -4.20                             | 41.36                         | 38.93                          | 2.43                    | 17.036            |                           |         |
| 700.00  | 697.08              | 697.08              | 697.08              | 1.58           | 1.44        | -168.90               | 19.30                             | -4.20                             | 59.11                         | 56.22                          | 2.89                    | 20.475            |                           |         |
| 800.00  | 794.31              | 794.31              | 794.31              | 2.02           | 1.66        | -171.94               | 19.30                             | -4.20                             | 82.15                         | 78.80                          | 3.35                    | 24.530            |                           |         |
| 900.00  | 890.18              | 890.18              | 890.18              | 2.55           | 1.87        | -173.91               | 19.30                             | -4.20                             | 110.35                        | 106.54                         | 3.81                    | 28.934            |                           |         |
| 1,000.00  | 984.43              | 984.43              | 984.43              | 3.20           | 2.08        | -175.24               | 19.30                             | -4.20                             | 143.60                        | 139.32                         | 4.28                    | 33.534            |                           |         |
| 1,052.42  | 1,033.11            | 1,033.11            | 1,033.11            | 3.57           | 2.19        | -175.76               | 19.30                             | -4.20                             | 163.00                        | 158.47                         | 4.53                    | 35.994            |                           |         |
| 1,100.00  | 1,077.04            | 1,077.04            | 1,077.04            | 3.94           | 2.29        | -176.18               | 19.30                             | -4.20                             | 181.23                        | 176.47                         | 4.76                    | 38.057            |                           |         |
| 1,200.00  | 1,169.38            | 1,169.38            | 1,169.38            | 4.71           | 2.50        | -176.85               | 19.30                             | -4.20                             | 219.55                        | 214.29                         | 5.26                    | 41.731            |                           |         |
| 1,300.00  | 1,261.72            | 1,261.72            | 1,261.72            | 5.49           | 2.71        | -177.32               | 19.30                             | -4.20                             | 257.90                        | 252.13                         | 5.77                    | 44.702            |                           |         |
| 1,400.00  | 1,354.06            | 1,354.06            | 1,354.06            | 6.28           | 2.92        | -177.67               | 19.30                             | -4.20                             | 296.25                        | 289.97                         | 6.28                    | 47.143            |                           |         |
| 1,500.00  | 1,446.40            | 1,446.40            | 1,446.40            | 7.08           | 3.12        | -177.93               | 19.30                             | -4.20                             | 334.61                        | 327.81                         | 6.80                    | 49.178            |                           |         |
| 1,600.00  | 1,538.74            | 1,538.74            | 1,538.74            | 7.88           | 3.33        | -178.15               | 19.30                             | -4.20                             | 372.98                        | 365.65                         | 7.33                    | 50.898            |                           |         |
| 1,700.00  | 1,631.08            | 1,631.08            | 1,631.08            | 8.68           | 3.54        | -178.32               | 19.30                             | -4.20                             | 411.35                        | 403.49                         | 7.86                    | 52.367            |                           |         |
| 1,800.00  | 1,723.42            | 1,723.42            | 1,723.42            | 9.48           | 3.75        | -178.46               | 19.30                             | -4.20                             | 449.72                        | 441.34                         | 8.38                    | 53.636            |                           |         |
| 1,900.00  | 1,815.76            | 1,815.76            | 1,815.76            | 10.29          | 3.95        | -178.58               | 19.30                             | -4.20                             | 488.09                        | 479.18                         | 8.92                    | 54.742            |                           |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



|                           |                              |                                     |                                       |
|---------------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>           | ANADARKO PETROLEUM CORP.     | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Project:</b>           | UINTAH COUNTY, UTAH (nad 27) | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Reference Site:</b>    | NBU 921-19D PAD              | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.00ft                       | <b>North Reference:</b>             | True                                  |
| <b>Reference Well:</b>    | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Well Error:</b>        | 0.00ft                       | <b>Output errors are at</b>         | 2.00 sigma                            |
| <b>Reference Wellbore</b> | NBU 921-19F1BS               | <b>Database:</b>                    | EDM 2003.21 Single User Db            |
| <b>Reference Design:</b>  | PLAN #1 11-16-09 RHS         | <b>Offset TVD Reference:</b>        | Offset Datum                          |

| Offset Design         |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.00 ft |         |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|---------|
| Survey Program: 0-MWD |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: |         | 0.00 ft |
| Reference             |                     |                     |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   | Warning            |         |         |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |         |         |
| 2,000.00              | 1,908.10            | 1,908.10            | 1,908.10            | 11.10           | 4.16        | -178.69               | 19.30                             | -4.20      | 526.47               | 517.02                | 9.45                    | 55.713            |                    |         |         |
| 2,100.00              | 2,000.44            | 2,000.44            | 2,000.44            | 11.90           | 4.37        | -178.78               | 19.30                             | -4.20      | 564.85               | 554.86                | 9.98                    | 56.572            |                    |         |         |
| 2,200.00              | 2,092.78            | 2,092.78            | 2,092.78            | 12.71           | 4.58        | -178.85               | 19.30                             | -4.20      | 603.23               | 592.71                | 10.52                   | 57.337            |                    |         |         |
| 2,300.00              | 2,185.11            | 2,185.11            | 2,185.11            | 13.52           | 4.78        | -178.92               | 19.30                             | -4.20      | 641.61               | 630.55                | 11.06                   | 58.022            |                    |         |         |
| 2,400.00              | 2,277.45            | 2,277.45            | 2,277.45            | 14.33           | 4.99        | -178.98               | 19.30                             | -4.20      | 679.99               | 668.39                | 11.60                   | 58.639            |                    |         |         |
| 2,500.00              | 2,369.79            | 2,369.79            | 2,369.79            | 15.14           | 5.20        | -179.04               | 19.30                             | -4.20      | 718.37               | 706.23                | 12.14                   | 59.198            |                    |         |         |
| 2,600.00              | 2,462.13            | 2,462.13            | 2,462.13            | 15.95           | 5.41        | -179.09               | 19.30                             | -4.20      | 756.75               | 744.07                | 12.67                   | 59.705            |                    |         |         |
| 2,700.00              | 2,554.47            | 2,554.47            | 2,554.47            | 16.76           | 5.61        | -179.13               | 19.30                             | -4.20      | 795.13               | 781.91                | 13.22                   | 60.168            |                    |         |         |
| 2,800.00              | 2,646.81            | 2,692.12            | 2,692.06            | 17.57           | 5.88        | -179.13               | 17.86                             | -1.50      | 831.80               | 818.00                | 13.80                   | 60.256            |                    |         |         |
| 2,900.00              | 2,739.15            | 2,858.69            | 2,857.74            | 18.38           | 6.21        | -178.88               | 9.97                              | 13.17      | 861.15               | 846.71                | 14.43                   | 59.659            |                    |         |         |
| 3,000.00              | 2,831.49            | 3,032.58            | 3,028.47            | 19.19           | 6.62        | -178.36               | -5.51                             | 42.00      | 882.22               | 867.11                | 15.11                   | 58.391            |                    |         |         |
| 3,100.00              | 2,923.83            | 3,211.28            | 3,200.06            | 20.00           | 7.17        | -177.57               | -29.00                            | 85.74      | 894.61               | 878.77                | 15.84                   | 56.477            |                    |         |         |
| 3,200.00              | 3,016.17            | 3,328.35            | 3,310.21            | 20.81           | 7.65        | -176.93               | -47.76                            | 120.68     | 900.87               | 884.39                | 16.48                   | 54.651            |                    |         |         |
| 3,300.00              | 3,108.51            | 3,427.79            | 3,403.65            | 21.62           | 8.10        | -176.38               | -63.85                            | 150.64     | 907.00               | 889.89                | 17.10                   | 53.034            |                    |         |         |
| 3,400.00              | 3,200.85            | 3,527.23            | 3,497.10            | 22.44           | 8.60        | -175.85               | -79.93                            | 180.60     | 913.20               | 895.46                | 17.74                   | 51.472            |                    |         |         |
| 3,500.00              | 3,293.19            | 3,626.67            | 3,590.55            | 23.25           | 9.12        | -175.32               | -96.02                            | 210.56     | 919.49               | 901.09                | 18.40                   | 49.975            |                    |         |         |
| 3,600.00              | 3,385.53            | 3,726.12            | 3,683.99            | 24.06           | 9.67        | -174.80               | -112.11                           | 240.52     | 925.86               | 906.78                | 19.07                   | 48.540            |                    |         |         |
| 3,700.00              | 3,477.87            | 3,825.56            | 3,777.44            | 24.87           | 10.24       | -174.28               | -128.20                           | 270.48     | 932.30               | 912.53                | 19.77                   | 47.165            |                    |         |         |
| 3,800.00              | 3,570.21            | 3,925.00            | 3,870.89            | 25.68           | 10.83       | -173.78               | -144.29                           | 300.44     | 938.81               | 918.33                | 20.48                   | 45.848            |                    |         |         |
| 3,900.00              | 3,662.54            | 4,024.44            | 3,964.33            | 26.50           | 11.43       | -173.27               | -160.38                           | 330.40     | 945.40               | 924.20                | 21.20                   | 44.588            |                    |         |         |
| 4,000.00              | 3,754.88            | 4,123.88            | 4,057.78            | 27.31           | 12.05       | -172.78               | -176.47                           | 360.36     | 952.06               | 930.11                | 21.95                   | 43.382            |                    |         |         |
| 4,100.00              | 3,847.22            | 4,223.33            | 4,151.22            | 28.12           | 12.68       | -172.29               | -192.56                           | 390.32     | 958.79               | 936.08                | 22.70                   | 42.229            |                    |         |         |
| 4,170.52              | 3,912.34            | 4,293.45            | 4,217.12            | 28.69           | 13.13       | -171.96               | -203.90                           | 411.45     | 963.57               | 940.32                | 23.25                   | 41.446            |                    |         |         |
| 4,200.00              | 3,939.62            | 4,322.78            | 4,244.68            | 28.90           | 13.32       | -171.82               | -208.65                           | 420.29     | 965.43               | 941.93                | 23.50                   | 41.081            |                    |         |         |
| 4,300.00              | 4,032.98            | 4,422.33            | 4,338.23            | 29.50           | 13.96       | -171.33               | -224.75                           | 450.28     | 969.56               | 945.23                | 24.33                   | 39.858            |                    |         |         |
| 4,400.00              | 4,127.54            | 4,521.92            | 4,431.82            | 30.04           | 14.62       | -170.81               | -240.87                           | 480.29     | 970.31               | 945.18                | 25.13                   | 38.608            |                    |         |         |
| 4,500.00              | 4,223.18            | 4,621.43            | 4,525.33            | 30.53           | 15.28       | -170.24               | -256.97                           | 510.27     | 967.71               | 941.78                | 25.92                   | 37.331            |                    |         |         |
| 4,600.00              | 4,319.77            | 4,720.73            | 4,618.64            | 30.96           | 15.95       | -169.62               | -273.03                           | 540.19     | 961.77               | 935.07                | 26.70                   | 36.025            |                    |         |         |
| 4,700.00              | 4,417.21            | 4,819.71            | 4,711.65            | 31.35           | 16.61       | -168.94               | -289.05                           | 570.01     | 952.51               | 925.06                | 27.46                   | 34.688            |                    |         |         |
| 4,800.00              | 4,515.37            | 4,918.25            | 4,804.25            | 31.68           | 17.28       | -168.19               | -304.99                           | 599.70     | 939.99               | 911.78                | 28.21                   | 33.317            |                    |         |         |
| 4,900.00              | 4,614.14            | 5,016.21            | 4,896.31            | 31.96           | 17.95       | -167.36               | -320.84                           | 629.21     | 924.24               | 895.27                | 28.97                   | 31.908            |                    |         |         |
| 5,000.00              | 4,713.39            | 5,113.50            | 4,987.72            | 32.19           | 18.62       | -166.43               | -336.58                           | 658.52     | 905.31               | 875.58                | 29.72                   | 30.458            |                    |         |         |
| 5,100.00              | 4,813.01            | 5,209.97            | 5,078.38            | 32.36           | 19.29       | -165.39               | -352.19                           | 687.59     | 883.27               | 852.77                | 30.50                   | 28.963            |                    |         |         |
| 5,200.00              | 4,912.87            | 5,305.53            | 5,168.18            | 32.49           | 19.95       | -164.22               | -367.65                           | 716.38     | 858.20               | 826.90                | 31.30                   | 27.419            |                    |         |         |
| 5,299.15              | 5,012.00            | 5,399.25            | 5,256.25            | 32.58           | 20.60       | -162.50               | -382.81                           | 744.62     | 830.44               | 798.30                | 32.15                   | 25.834            |                    |         |         |
| 5,400.00              | 5,112.85            | 5,494.02            | 5,345.30            | 32.65           | 21.26       | -162.20               | -398.15                           | 773.17     | 800.97               | 767.79                | 33.18                   | 24.140            |                    |         |         |
| 5,500.00              | 5,212.85            | 5,587.99            | 5,433.61            | 32.71           | 21.91       | -162.83               | -413.35                           | 801.48     | 772.16               | 737.89                | 34.27                   | 22.529            |                    |         |         |
| 5,600.00              | 5,312.85            | 5,681.96            | 5,521.91            | 32.78           | 22.57       | -163.35               | -428.55                           | 829.79     | 743.81               | 708.37                | 35.45                   | 20.985            |                    |         |         |
| 5,700.00              | 5,412.85            | 5,775.93            | 5,610.22            | 32.85           | 23.23       | -163.76               | -443.76                           | 858.11     | 715.97               | 679.27                | 36.70                   | 19.509            |                    |         |         |
| 5,800.00              | 5,512.85            | 5,869.90            | 5,698.52            | 32.92           | 23.89       | -164.05               | -458.96                           | 886.42     | 688.70               | 650.66                | 38.04                   | 18.103            |                    |         |         |
| 5,900.00              | 5,612.85            | 5,963.87            | 5,786.83            | 32.99           | 24.55       | -164.21               | -474.16                           | 914.73     | 662.08               | 622.59                | 39.48                   | 16.768            |                    |         |         |
| 6,000.00              | 5,712.85            | 6,057.84            | 5,875.13            | 33.07           | 25.22       | -164.23               | -489.37                           | 943.04     | 636.18               | 595.15                | 41.03                   | 15.507            |                    |         |         |
| 6,100.00              | 5,812.85            | 6,151.81            | 5,963.44            | 33.14           | 25.88       | -164.08               | -504.57                           | 971.36     | 611.09               | 568.42                | 42.67                   | 14.321            |                    |         |         |
| 6,200.00              | 5,912.85            | 6,235.53            | 6,042.41            | 33.22           | 26.38       | -163.76               | -517.71                           | 995.83     | 587.65               | 543.50                | 44.15                   | 13.312            |                    |         |         |
| 6,300.00              | 6,012.85            | 6,319.33            | 6,122.23            | 33.30           | 26.81       | -163.16               | -529.78                           | 1,018.29   | 566.99               | 521.43                | 45.56                   | 12.445            |                    |         |         |
| 6,400.00              | 6,112.85            | 6,400.00            | 6,199.75            | 33.38           | 27.19       | -162.36               | -540.34                           | 1,037.96   | 549.05               | 502.18                | 46.87                   | 11.715            |                    |         |         |
| 6,500.00              | 6,212.85            | 6,491.35            | 6,288.24            | 33.46           | 27.58       | -161.44               | -551.05                           | 1,057.91   | 533.66               | 485.41                | 48.24                   | 11.062            |                    |         |         |
| 6,600.00              | 6,312.85            | 6,579.33            | 6,374.12            | 33.54           | 27.91       | -160.74               | -560.10                           | 1,074.77   | 520.72               | 471.26                | 49.46                   | 10.528            |                    |         |         |
| 6,700.00              | 6,412.85            | 6,668.45            | 6,461.65            | 33.62           | 28.22       | -160.20               | -567.99                           | 1,089.46   | 510.07               | 459.50                | 50.57                   | 10.087            |                    |         |         |
| 6,800.00              | 6,512.85            | 6,758.54            | 6,550.63            | 33.70           | 28.49       | -159.85               | -574.66                           | 1,101.87   | 501.53               | 449.99                | 51.55                   | 9.730             |                    |         |         |
| 6,900.00              | 6,612.85            | 6,849.44            | 6,640.82            | 33.79           | 28.72       | -159.73               | -580.04                           | 1,111.88   | 494.95               | 442.57                | 52.38                   | 9.449             |                    |         |         |
| 7,000.00              | 6,712.85            | 6,940.98            | 6,731.95            | 33.88           | 28.92       | -159.87               | -584.08                           | 1,119.42   | 490.19               | 437.13                | 53.06                   | 9.238             |                    |         |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



|                           |                              |                                     |                                       |
|---------------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>           | ANADARKO PETROLEUM CORP.     | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Project:</b>           | UINTAH COUNTY, UTAH (nad 27) | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Reference Site:</b>    | NBU 921-19D PAD              | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.00ft                       | <b>North Reference:</b>             | True                                  |
| <b>Reference Well:</b>    | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Well Error:</b>        | 0.00ft                       | <b>Output errors are at</b>         | 2.00 sigma                            |
| <b>Reference Wellbore</b> | NBU 921-19F1BS               | <b>Database:</b>                    | EDM 2003.21 Single User Db            |
| <b>Reference Design:</b>  | PLAN #1 11-16-09 RHS         | <b>Offset TVD Reference:</b>        | Offset Datum                          |

| Offset Design         |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         | Offset Site Error: | 0.00 ft           |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|-------------------|
| Survey Program: 0-MWD |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         | Offset Well Error: | 0.00 ft           |
| Reference             |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         | Warning            |                   |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) |                    | Separation Factor |
| 7,100.00              | 6,812.85            | 7,032.98            | 6,823.78            | 33.96           | 29.08       | -1.30                 | -586.76                           | 1,124.40   | 487.13               | 433.54                | 53.59                   | 9.090              |                   |
| 7,200.00              | 6,912.85            | 7,125.25            | 6,916.00            | 34.05           | 29.20       | -1.02                 | -588.04                           | 1,126.79   | 485.69               | 431.73                | 53.95                   | 9.002              |                   |
| 7,256.62              | 6,969.48            | 7,178.73            | 6,969.48            | 34.10           | 29.26       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 431.46                | 54.09                   | 8.976              |                   |
| 7,300.00              | 7,012.85            | 7,222.10            | 7,012.85            | 34.14           | 29.31       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 431.36                | 54.19                   | 8.960              |                   |
| 7,400.00              | 7,112.85            | 7,322.10            | 7,112.85            | 34.24           | 29.42       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 431.12                | 54.43                   | 8.921              |                   |
| 7,500.00              | 7,212.85            | 7,422.10            | 7,212.85            | 34.33           | 29.53       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 430.89                | 54.67                   | 8.882              |                   |
| 7,600.00              | 7,312.85            | 7,522.10            | 7,312.85            | 34.42           | 29.65       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 430.64                | 54.91                   | 8.843              |                   |
| 7,700.00              | 7,412.85            | 7,622.10            | 7,412.85            | 34.52           | 29.76       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 430.40                | 55.15                   | 8.804              |                   |
| 7,800.00              | 7,512.85            | 7,722.10            | 7,512.85            | 34.61           | 29.88       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 430.15                | 55.40                   | 8.765              |                   |
| 7,900.00              | 7,612.85            | 7,822.10            | 7,612.85            | 34.71           | 29.99       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 429.90                | 55.65                   | 8.725              |                   |
| 8,000.00              | 7,712.85            | 7,922.10            | 7,712.85            | 34.81           | 30.11       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 429.65                | 55.90                   | 8.686              |                   |
| 8,100.00              | 7,812.85            | 8,022.10            | 7,812.85            | 34.91           | 30.23       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 429.40                | 56.15                   | 8.647              |                   |
| 8,200.00              | 7,912.85            | 8,122.10            | 7,912.85            | 35.01           | 30.35       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 429.14                | 56.41                   | 8.607              |                   |
| 8,300.00              | 8,012.85            | 8,222.10            | 8,012.85            | 35.12           | 30.47       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 428.88                | 56.67                   | 8.568              |                   |
| 8,400.00              | 8,112.85            | 8,322.10            | 8,112.85            | 35.22           | 30.60       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 428.62                | 56.93                   | 8.529              |                   |
| 8,500.00              | 8,212.85            | 8,422.10            | 8,212.85            | 35.32           | 30.72       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 428.36                | 57.20                   | 8.489              |                   |
| 8,600.00              | 8,312.85            | 8,522.10            | 8,312.85            | 35.43           | 30.85       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 428.09                | 57.46                   | 8.450              |                   |
| 8,700.00              | 8,412.85            | 8,622.10            | 8,412.85            | 35.54           | 30.97       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 427.82                | 57.73                   | 8.411              |                   |
| 8,800.00              | 8,512.85            | 8,722.10            | 8,512.85            | 35.64           | 31.10       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 427.55                | 58.00                   | 8.371              |                   |
| 8,900.00              | 8,612.85            | 8,822.10            | 8,612.85            | 35.75           | 31.23       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 427.28                | 58.27                   | 8.332              |                   |
| 9,000.00              | 8,712.85            | 8,922.10            | 8,712.85            | 35.86           | 31.36       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 427.00                | 58.55                   | 8.293              |                   |
| 9,100.00              | 8,812.85            | 9,022.10            | 8,812.85            | 35.97           | 31.49       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 426.73                | 58.83                   | 8.254              |                   |
| 9,200.00              | 8,912.85            | 9,122.10            | 8,912.85            | 36.09           | 31.62       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 426.45                | 59.11                   | 8.215              |                   |
| 9,300.00              | 9,012.85            | 9,222.10            | 9,012.85            | 36.20           | 31.76       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 426.17                | 59.39                   | 8.176              |                   |
| 9,400.00              | 9,112.85            | 9,322.10            | 9,112.85            | 36.31           | 31.89       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 425.88                | 59.67                   | 8.137              |                   |
| 9,500.00              | 9,212.85            | 9,422.10            | 9,212.85            | 36.43           | 32.03       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 425.60                | 59.96                   | 8.099              |                   |
| 9,600.00              | 9,312.85            | 9,522.10            | 9,312.85            | 36.55           | 32.16       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 425.31                | 60.24                   | 8.060              |                   |
| 9,700.00              | 9,412.85            | 9,622.10            | 9,412.85            | 36.66           | 32.30       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 425.02                | 60.53                   | 8.021              |                   |
| 9,800.00              | 9,512.85            | 9,722.10            | 9,512.85            | 36.78           | 32.44       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 424.73                | 60.82                   | 7.983              |                   |
| 9,900.00              | 9,612.85            | 9,822.10            | 9,612.85            | 36.90           | 32.58       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 424.44                | 61.12                   | 7.945              |                   |
| 10,000.00             | 9,712.85            | 9,922.10            | 9,712.85            | 37.02           | 32.72       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 424.14                | 61.41                   | 7.906              |                   |
| 10,100.00             | 9,812.85            | 10,022.10           | 9,812.85            | 37.14           | 32.86       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 423.84                | 61.71                   | 7.868              |                   |
| 10,200.00             | 9,912.85            | 10,122.10           | 9,912.85            | 37.27           | 33.00       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 423.54                | 62.01                   | 7.830              |                   |
| 10,300.00             | 10,012.85           | 10,222.10           | 10,012.85           | 37.39           | 33.14       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 423.24                | 62.31                   | 7.793              |                   |
| 10,400.00             | 10,112.85           | 10,322.10           | 10,112.85           | 37.51           | 33.29       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 422.94                | 62.61                   | 7.755              |                   |
| 10,500.00             | 10,212.85           | 10,422.10           | 10,212.85           | 37.64           | 33.43       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 422.64                | 62.92                   | 7.718              |                   |
| 10,600.00             | 10,312.85           | 10,522.10           | 10,312.85           | 37.77           | 33.58       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 422.33                | 63.22                   | 7.680              |                   |
| 10,644.15             | 10,357.00           | 10,566.25           | 10,357.00           | 37.82           | 33.64       | -0.99                 | -588.16                           | 1,127.01   | 485.55               | 422.20                | 63.36                   | 7.664 SF           |                   |



|                           |                              |                                     |                                       |
|---------------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>           | ANADARKO PETROLEUM CORP.     | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Project:</b>           | UINTAH COUNTY, UTAH (nad 27) | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Reference Site:</b>    | NBU 921-19D PAD              | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.00ft                       | <b>North Reference:</b>             | True                                  |
| <b>Reference Well:</b>    | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Well Error:</b>        | 0.00ft                       | <b>Output errors are at</b>         | 2.00 sigma                            |
| <b>Reference Wellbore</b> | NBU 921-19F1BS               | <b>Database:</b>                    | EDM 2003.21 Single User Db            |
| <b>Reference Design:</b>  | PLAN #1 11-16-09 RHS         | <b>Offset TVD Reference:</b>        | Offset Datum                          |

| Offset Design         |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Site Error: | 0.00 ft |         |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|-------------------|--------------------|---------|---------|
| Survey Program: 0-MWD |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         |                   | Offset Well Error: |         | 0.00 ft |
| Reference             |                     |                     |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                   | Warning            |         |         |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor |                    |         |         |
| 0.00                  | 0.00                | 0.00                | 0.00                | 0.00            | 0.00        | -12.46                | 58.27                             | -12.88     | 59.68                |                       |                         |                   |                    |         |         |
| 100.00                | 100.00              | 100.00              | 100.00              | 0.10            | 0.10        | -12.46                | 58.27                             | -12.88     | 59.68                | 59.49                 | 0.19                    | 308.737           |                    |         |         |
| 200.00                | 200.00              | 200.00              | 200.00              | 0.32            | 0.32        | -12.46                | 58.27                             | -12.88     | 59.68                | 59.04                 | 0.64                    | 92.837            |                    |         |         |
| 300.00                | 300.00              | 300.00              | 300.00              | 0.55            | 0.55        | -12.46                | 58.27                             | -12.88     | 59.68                | 58.59                 | 1.09                    | 54.632 CC, ES     |                    |         |         |
| 400.00                | 399.95              | 399.95              | 399.95              | 0.75            | 0.77        | -147.19               | 58.27                             | -12.88     | 61.86                | 60.33                 | 1.53                    | 40.430            |                    |         |         |
| 500.00                | 499.63              | 499.63              | 499.63              | 0.97            | 0.99        | -150.64               | 58.27                             | -12.88     | 68.59                | 66.62                 | 1.97                    | 34.785            |                    |         |         |
| 600.00                | 598.77              | 598.77              | 598.77              | 1.24            | 1.22        | -155.06               | 58.27                             | -12.88     | 80.23                | 77.80                 | 2.43                    | 33.002 SF         |                    |         |         |
| 700.00                | 697.08              | 697.08              | 697.08              | 1.58            | 1.44        | -159.41               | 58.27                             | -12.88     | 97.09                | 94.19                 | 2.90                    | 33.482            |                    |         |         |
| 800.00                | 794.31              | 794.31              | 794.31              | 2.02            | 1.66        | -163.15               | 58.27                             | -12.88     | 119.27               | 115.90                | 3.37                    | 35.372            |                    |         |         |
| 900.00                | 890.18              | 890.18              | 890.18              | 2.55            | 1.87        | -166.15               | 58.27                             | -12.88     | 146.74               | 142.90                | 3.85                    | 38.163            |                    |         |         |
| 1,000.00              | 984.43              | 984.43              | 984.43              | 3.20            | 2.08        | -168.49               | 58.27                             | -12.88     | 179.40               | 175.08                | 4.32                    | 41.534            |                    |         |         |
| 1,052.42              | 1,033.11            | 1,033.11            | 1,033.11            | 3.57            | 2.19        | -169.50               | 58.27                             | -12.88     | 198.55               | 193.98                | 4.57                    | 43.464            |                    |         |         |
| 1,100.00              | 1,077.04            | 1,077.04            | 1,077.04            | 3.94            | 2.29        | -170.38               | 58.27                             | -12.88     | 216.57               | 211.77                | 4.80                    | 45.102            |                    |         |         |
| 1,200.00              | 1,169.38            | 1,169.38            | 1,169.38            | 4.71            | 2.50        | -171.82               | 58.27                             | -12.88     | 254.56               | 249.26                | 5.30                    | 48.028            |                    |         |         |
| 1,300.00              | 1,261.72            | 1,261.72            | 1,261.72            | 5.49            | 2.71        | -172.89               | 58.27                             | -12.88     | 292.66               | 286.85                | 5.81                    | 50.400            |                    |         |         |
| 1,400.00              | 1,354.06            | 1,354.06            | 1,354.06            | 6.28            | 2.92        | -173.71               | 58.27                             | -12.88     | 330.82               | 324.50                | 6.32                    | 52.350            |                    |         |         |
| 1,500.00              | 1,446.40            | 1,446.40            | 1,446.40            | 7.08            | 3.12        | -174.36               | 58.27                             | -12.88     | 369.03               | 362.19                | 6.84                    | 53.975            |                    |         |         |
| 1,600.00              | 1,538.74            | 1,538.74            | 1,538.74            | 7.88            | 3.33        | -174.89               | 58.27                             | -12.88     | 407.27               | 399.91                | 7.36                    | 55.346            |                    |         |         |
| 1,700.00              | 1,631.08            | 1,631.08            | 1,631.08            | 8.68            | 3.54        | -175.33               | 58.27                             | -12.88     | 445.54               | 437.65                | 7.88                    | 56.515            |                    |         |         |
| 1,800.00              | 1,723.42            | 1,723.42            | 1,723.42            | 9.48            | 3.75        | -175.70               | 58.27                             | -12.88     | 483.82               | 475.41                | 8.41                    | 57.522            |                    |         |         |
| 1,900.00              | 1,815.76            | 1,815.76            | 1,815.76            | 10.29           | 3.95        | -176.02               | 58.27                             | -12.88     | 522.12               | 513.18                | 8.94                    | 58.397            |                    |         |         |
| 2,000.00              | 1,908.10            | 1,908.10            | 1,908.10            | 11.10           | 4.16        | -176.29               | 58.27                             | -12.88     | 560.44               | 550.96                | 9.47                    | 59.164            |                    |         |         |
| 2,100.00              | 2,000.44            | 2,000.44            | 2,000.44            | 11.90           | 4.37        | -176.53               | 58.27                             | -12.88     | 598.76               | 588.75                | 10.01                   | 59.841            |                    |         |         |
| 2,200.00              | 2,092.78            | 2,092.78            | 2,092.78            | 12.71           | 4.58        | -176.74               | 58.27                             | -12.88     | 637.09               | 626.54                | 10.54                   | 60.442            |                    |         |         |
| 2,300.00              | 2,185.11            | 2,185.11            | 2,185.11            | 13.52           | 4.78        | -176.92               | 58.27                             | -12.88     | 675.42               | 664.34                | 11.08                   | 60.979            |                    |         |         |
| 2,400.00              | 2,277.45            | 2,277.45            | 2,277.45            | 14.33           | 4.99        | -177.09               | 58.27                             | -12.88     | 713.76               | 702.15                | 11.61                   | 61.461            |                    |         |         |
| 2,500.00              | 2,369.79            | 2,369.79            | 2,369.79            | 15.14           | 5.20        | -177.24               | 58.27                             | -12.88     | 752.11               | 739.96                | 12.15                   | 61.896            |                    |         |         |
| 2,600.00              | 2,462.13            | 2,462.13            | 2,462.13            | 15.95           | 5.41        | -177.37               | 58.27                             | -12.88     | 790.46               | 777.77                | 12.69                   | 62.291            |                    |         |         |
| 2,700.00              | 2,554.47            | 2,554.47            | 2,554.47            | 16.76           | 5.61        | -177.49               | 58.27                             | -12.88     | 828.81               | 815.58                | 13.23                   | 62.651            |                    |         |         |
| 2,800.00              | 2,646.81            | 2,646.81            | 2,646.81            | 17.57           | 5.79        | -177.60               | 58.31                             | -13.09     | 867.40               | 853.65                | 13.75                   | 63.106            |                    |         |         |
| 2,900.00              | 2,739.15            | 2,739.15            | 2,739.15            | 18.38           | 5.93        | -177.75               | 58.63                             | -15.07     | 908.16               | 893.94                | 14.22                   | 63.849            |                    |         |         |
| 3,000.00              | 2,831.49            | 2,831.49            | 2,831.49            | 19.19           | 6.07        | -178.00               | 59.36                             | -19.43     | 951.44               | 936.74                | 14.70                   | 64.707            |                    |         |         |
| 3,100.00              | 2,923.83            | 2,923.83            | 2,923.83            | 20.00           | 6.21        | -178.29               | 60.38                             | -25.59     | 997.18               | 982.00                | 15.18                   | 65.705            |                    |         |         |
| 3,200.00              | 3,016.17            | 3,016.17            | 3,016.17            | 20.81           | 6.36        | -178.68               | 61.92                             | -34.86     | 1,045.35             | 1,029.69              | 15.66                   | 66.734            |                    |         |         |
| 3,300.00              | 3,108.51            | 3,108.51            | 3,108.51            | 21.62           | 6.48        | -178.99               | 63.26                             | -42.93     | 1,095.69             | 1,079.57              | 16.12                   | 67.992            |                    |         |         |
| 3,400.00              | 3,200.85            | 3,200.85            | 3,200.85            | 22.44           | 6.60        | -179.34               | 64.84                             | -52.43     | 1,148.32             | 1,131.75              | 16.57                   | 69.308            |                    |         |         |
| 3,500.00              | 3,293.19            | 3,293.19            | 3,293.19            | 23.25           | 6.77        | -179.79               | 67.04                             | -65.69     | 1,203.03             | 1,185.97              | 17.05                   | 70.553            |                    |         |         |
| 3,600.00              | 3,385.53            | 3,385.53            | 3,385.53            | 24.06           | 6.88        | -179.90               | 68.59                             | -75.05     | 1,259.92             | 1,242.44              | 17.49                   | 72.054            |                    |         |         |
| 3,700.00              | 3,477.87            | 3,477.87            | 3,477.87            | 24.87           | 7.09        | -179.37               | 71.49                             | -92.51     | 1,318.52             | 1,300.53              | 17.99                   | 73.295            |                    |         |         |
| 3,800.00              | 3,570.21            | 3,570.21            | 3,570.21            | 25.68           | 7.20        | -179.08               | 73.18                             | -102.67    | 1,379.25             | 1,360.82              | 18.42                   | 74.864            |                    |         |         |
| 3,900.00              | 3,662.54            | 3,662.54            | 3,662.54            | 26.50           | 7.44        | -178.54               | 76.41                             | -122.15    | 1,441.51             | 1,422.58              | 18.93                   | 76.137            |                    |         |         |
| 4,000.00              | 3,754.88            | 3,754.88            | 3,754.88            | 27.31           | 7.59        | -178.20               | 78.58                             | -135.21    | 1,505.64             | 1,486.25              | 19.39                   | 77.660            |                    |         |         |
| 4,100.00              | 3,847.22            | 3,847.22            | 3,847.22            | 28.12           | 7.83        | -177.74               | 81.64                             | -153.62    | 1,571.33             | 1,551.44              | 19.89                   | 79.001            |                    |         |         |
| 4,170.52              | 3,912.34            | 3,912.34            | 3,912.34            | 28.69           | 7.98        | -177.47               | 83.53                             | -164.99    | 1,618.61             | 1,598.39              | 20.23                   | 80.028            |                    |         |         |
| 4,200.00              | 3,939.62            | 3,939.62            | 3,939.62            | 28.90           | 8.08        | -177.28               | 85.02                             | -174.01    | 1,638.55             | 1,618.13              | 20.42                   | 80.254            |                    |         |         |
| 4,300.00              | 4,032.98            | 4,032.98            | 4,032.98            | 29.50           | 8.39        | -176.89               | 88.66                             | -195.89    | 1,704.82             | 1,683.84              | 20.98                   | 81.262            |                    |         |         |
| 4,400.00              | 4,127.54            | 4,127.54            | 4,127.54            | 30.04           | 8.82        | -176.37               | 93.66                             | -226.05    | 1,768.68             | 1,747.10              | 21.58                   | 81.970            |                    |         |         |
| 4,500.00              | 4,223.18            | 4,223.18            | 4,223.18            | 30.53           | 9.30        | -175.90               | 98.81                             | -257.04    | 1,829.94             | 1,807.79              | 22.16                   | 82.595            |                    |         |         |
| 4,600.00              | 4,319.77            | 4,319.77            | 4,319.77            | 30.96           | 9.81        | -175.45               | 104.09                            | -288.84    | 1,888.54             | 1,865.82              | 22.72                   | 83.122            |                    |         |         |
| 4,700.00              | 4,417.21            | 4,417.21            | 4,417.21            | 31.35           | 10.36       | -175.03               | 109.50                            | -321.40    | 1,944.39             | 1,921.13              | 23.27                   | 83.566            |                    |         |         |
| 4,800.00              | 4,515.37            | 4,515.37            | 4,515.37            | 31.68           | 10.93       | -174.63               | 115.02                            | -354.68    | 1,997.46             | 1,973.66              | 23.80                   | 83.942            |                    |         |         |
| 4,900.00              | 4,614.14            | 4,614.14            | 4,614.14            | 31.96           | 11.54       | -174.24               | 120.66                            | -388.64    | 2,047.66             | 2,023.36              | 24.30                   | 84.259            |                    |         |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



|                           |                              |                                     |                                       |
|---------------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>           | ANADARKO PETROLEUM CORP.     | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Project:</b>           | UINTAH COUNTY, UTAH (nad 27) | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Reference Site:</b>    | NBU 921-19D PAD              | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.00ft                       | <b>North Reference:</b>             | True                                  |
| <b>Reference Well:</b>    | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Well Error:</b>        | 0.00ft                       | <b>Output errors are at</b>         | 2.00 sigma                            |
| <b>Reference Wellbore</b> | NBU 921-19F1BS               | <b>Database:</b>                    | EDM 2003.21 Single User Db            |
| <b>Reference Design:</b>  | PLAN #1 11-16-09 RHS         | <b>Offset TVD Reference:</b>        | Offset Datum                          |

| Offset Design         |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         | Offset Site Error: | 0.00 ft           |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|-------------------|
| Survey Program: 0-MWD |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         | Offset Well Error: | 0.00 ft           |
| Reference             |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         | Warning            |                   |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) |                    | Separation Factor |
| 5,000.00              | 4,713.39            | 4,027.99            | 3,951.78            | 32.19           | 12.18       | 173.87                | 126.41                            | -423.25    | 2,094.95             | 2,070.16              | 24.79                   | 84.523             |                   |
| 5,100.00              | 4,813.01            | 4,116.18            | 4,032.42            | 32.36           | 12.83       | 173.50                | 132.25                            | -458.45    | 2,139.27             | 2,114.03              | 25.24                   | 84.742             |                   |
| 5,200.00              | 4,912.87            | 4,205.75            | 4,114.33            | 32.49           | 13.51       | 173.13                | 138.19                            | -494.20    | 2,180.59             | 2,154.91              | 25.68                   | 84.923             |                   |
| 5,299.15              | 5,012.00            | 4,874.11            | 4,755.44            | 32.58           | 16.62       | -55.52                | 167.73                            | -672.12    | 2,207.73             | 2,179.98              | 27.75                   | 79.558             |                   |
| 5,400.00              | 5,112.85            | 5,232.32            | 5,112.85            | 32.65           | 17.29       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,181.32              | 28.57                   | 77.342             |                   |
| 5,500.00              | 5,212.85            | 5,332.32            | 5,212.85            | 32.71           | 17.43       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,181.00              | 28.89                   | 76.506             |                   |
| 5,600.00              | 5,312.85            | 5,432.32            | 5,312.85            | 32.78           | 17.57       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,180.69              | 29.20                   | 75.680             |                   |
| 5,700.00              | 5,412.85            | 5,532.32            | 5,412.85            | 32.85           | 17.72       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,180.37              | 29.52                   | 74.862             |                   |
| 5,800.00              | 5,512.85            | 5,632.32            | 5,512.85            | 32.92           | 17.87       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,180.05              | 29.84                   | 74.055             |                   |
| 5,900.00              | 5,612.85            | 5,732.32            | 5,612.85            | 32.99           | 18.02       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,179.72              | 30.17                   | 73.257             |                   |
| 6,000.00              | 5,712.85            | 5,832.32            | 5,712.85            | 33.07           | 18.17       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,179.39              | 30.49                   | 72.469             |                   |
| 6,100.00              | 5,812.85            | 5,932.32            | 5,812.85            | 33.14           | 18.32       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,179.06              | 30.83                   | 71.691             |                   |
| 6,200.00              | 5,912.85            | 6,032.32            | 5,912.85            | 33.22           | 18.47       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,178.73              | 31.16                   | 70.923             |                   |
| 6,300.00              | 6,012.85            | 6,132.32            | 6,012.85            | 33.30           | 18.63       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,178.39              | 31.50                   | 70.165             |                   |
| 6,400.00              | 6,112.85            | 6,232.32            | 6,112.85            | 33.38           | 18.78       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,178.05              | 31.83                   | 69.417             |                   |
| 6,500.00              | 6,212.85            | 6,332.32            | 6,212.85            | 33.46           | 18.94       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,177.71              | 32.18                   | 68.680             |                   |
| 6,600.00              | 6,312.85            | 6,432.32            | 6,312.85            | 33.54           | 19.10       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,177.37              | 32.52                   | 67.953             |                   |
| 6,700.00              | 6,412.85            | 6,532.32            | 6,412.85            | 33.62           | 19.26       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,177.02              | 32.87                   | 67.237             |                   |
| 6,800.00              | 6,512.85            | 6,632.32            | 6,512.85            | 33.70           | 19.42       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,176.67              | 33.22                   | 66.530             |                   |
| 6,900.00              | 6,612.85            | 6,732.32            | 6,612.85            | 33.79           | 19.58       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,176.32              | 33.57                   | 65.834             |                   |
| 7,000.00              | 6,712.85            | 6,832.32            | 6,712.85            | 33.88           | 19.75       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,175.97              | 33.92                   | 65.148             |                   |
| 7,100.00              | 6,812.85            | 6,932.32            | 6,812.85            | 33.96           | 19.91       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,175.61              | 34.28                   | 64.472             |                   |
| 7,200.00              | 6,912.85            | 7,032.32            | 6,912.85            | 34.05           | 20.08       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,175.25              | 34.63                   | 63.806             |                   |
| 7,300.00              | 7,012.85            | 7,132.32            | 7,012.85            | 34.14           | 20.25       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,174.89              | 34.99                   | 63.150             |                   |
| 7,400.00              | 7,112.85            | 7,232.32            | 7,112.85            | 34.24           | 20.41       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,174.53              | 35.36                   | 62.504             |                   |
| 7,500.00              | 7,212.85            | 7,332.32            | 7,212.85            | 34.33           | 20.58       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,174.17              | 35.72                   | 61.868             |                   |
| 7,600.00              | 7,312.85            | 7,432.32            | 7,312.85            | 34.42           | 20.76       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,173.80              | 36.09                   | 61.241             |                   |
| 7,700.00              | 7,412.85            | 7,532.32            | 7,412.85            | 34.52           | 20.93       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,173.44              | 36.45                   | 60.624             |                   |
| 7,800.00              | 7,512.85            | 7,632.32            | 7,512.85            | 34.61           | 21.10       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,173.07              | 36.82                   | 60.017             |                   |
| 7,900.00              | 7,612.85            | 7,732.32            | 7,612.85            | 34.71           | 21.27       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,172.70              | 37.19                   | 59.418             |                   |
| 8,000.00              | 7,712.85            | 7,832.32            | 7,712.85            | 34.81           | 21.45       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,172.32              | 37.56                   | 58.829             |                   |
| 8,100.00              | 7,812.85            | 7,932.32            | 7,812.85            | 34.91           | 21.62       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,171.95              | 37.94                   | 58.249             |                   |
| 8,200.00              | 7,912.85            | 8,032.32            | 7,912.85            | 35.01           | 21.80       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,171.57              | 38.31                   | 57.678             |                   |
| 8,300.00              | 8,012.85            | 8,132.32            | 8,012.85            | 35.12           | 21.98       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,171.20              | 38.69                   | 57.116             |                   |
| 8,400.00              | 8,112.85            | 8,232.32            | 8,112.85            | 35.22           | 22.16       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,170.82              | 39.07                   | 56.563             |                   |
| 8,500.00              | 8,212.85            | 8,332.32            | 8,212.85            | 35.32           | 22.33       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,170.44              | 39.45                   | 56.018             |                   |
| 8,600.00              | 8,312.85            | 8,432.32            | 8,312.85            | 35.43           | 22.51       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,170.06              | 39.83                   | 55.481             |                   |
| 8,700.00              | 8,412.85            | 8,532.32            | 8,412.85            | 35.54           | 22.69       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,169.67              | 40.21                   | 54.953             |                   |
| 8,800.00              | 8,512.85            | 8,632.32            | 8,512.85            | 35.64           | 22.88       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,169.29              | 40.60                   | 54.433             |                   |
| 8,900.00              | 8,612.85            | 8,732.32            | 8,612.85            | 35.75           | 23.06       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,168.91              | 40.98                   | 53.922             |                   |
| 9,000.00              | 8,712.85            | 8,832.32            | 8,712.85            | 35.86           | 23.24       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,168.52              | 41.37                   | 53.418             |                   |
| 9,100.00              | 8,812.85            | 8,932.32            | 8,812.85            | 35.97           | 23.43       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,168.13              | 41.76                   | 52.922             |                   |
| 9,200.00              | 8,912.85            | 9,032.32            | 8,912.85            | 36.09           | 23.61       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,167.74              | 42.15                   | 52.433             |                   |
| 9,300.00              | 9,012.85            | 9,132.32            | 9,012.85            | 36.20           | 23.79       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,167.35              | 42.54                   | 51.952             |                   |
| 9,400.00              | 9,112.85            | 9,232.32            | 9,112.85            | 36.31           | 23.98       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,166.96              | 42.93                   | 51.479             |                   |
| 9,500.00              | 9,212.85            | 9,332.32            | 9,212.85            | 36.43           | 24.17       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,166.57              | 43.32                   | 51.012             |                   |
| 9,600.00              | 9,312.85            | 9,432.32            | 9,312.85            | 36.55           | 24.35       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,166.17              | 43.71                   | 50.553             |                   |
| 9,700.00              | 9,412.85            | 9,532.32            | 9,412.85            | 36.66           | 24.54       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,165.78              | 44.11                   | 50.101             |                   |
| 9,800.00              | 9,512.85            | 9,632.32            | 9,512.85            | 36.78           | 24.73       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,165.38              | 44.50                   | 49.656             |                   |
| 9,900.00              | 9,612.85            | 9,732.32            | 9,612.85            | 36.90           | 24.92       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,164.99              | 44.90                   | 49.217             |                   |
| 10,000.00             | 9,712.85            | 9,832.32            | 9,712.85            | 37.02           | 25.11       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,164.59              | 45.30                   | 48.785             |                   |
| 10,100.00             | 9,812.85            | 9,932.32            | 9,812.85            | 37.14           | 25.30       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,164.19              | 45.70                   | 48.360             |                   |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



|                           |                              |                                     |                                       |
|---------------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>           | ANADARKO PETROLEUM CORP.     | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Project:</b>           | UINTAH COUNTY, UTAH (nad 27) | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Reference Site:</b>    | NBU 921-19D PAD              | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.00ft                       | <b>North Reference:</b>             | True                                  |
| <b>Reference Well:</b>    | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Well Error:</b>        | 0.00ft                       | <b>Output errors are at</b>         | 2.00 sigma                            |
| <b>Reference Wellbore</b> | NBU 921-19F1BS               | <b>Database:</b>                    | EDM 2003.21 Single User Db            |
| <b>Reference Design:</b>  | PLAN #1 11-16-09 RHS         | <b>Offset TVD Reference:</b>        | Offset Datum                          |

| Offset Design         |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         | Offset Site Error: | 0.00 ft |         |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|---------|
| Survey Program: 0-MWD |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         | Offset Well Error: |         | 0.00 ft |
| Reference             |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         | Warning            |         |         |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor  |         |         |
| 10,200.00             | 9,912.85            | 10,032.32           | 9,912.85            | 37.27           | 25.49       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,163.79              | 46.10                   | 47.941             |         |         |
| 10,300.00             | 10,012.85           | 10,132.32           | 10,012.85           | 37.39           | 25.68       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,163.39              | 46.50                   | 47.528             |         |         |
| 10,400.00             | 10,112.85           | 10,232.32           | 10,112.85           | 37.51           | 25.87       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,162.99              | 46.90                   | 47.122             |         |         |
| 10,500.00             | 10,212.85           | 10,332.32           | 10,212.85           | 37.64           | 26.06       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,162.59              | 47.30                   | 46.721             |         |         |
| 10,600.00             | 10,312.85           | 10,432.32           | 10,312.85           | 37.77           | 26.26       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,162.19              | 47.70                   | 46.327             |         |         |
| 10,644.15             | 10,357.00           | 10,476.47           | 10,357.00           | 37.82           | 26.34       | -55.73                | 170.82                            | -690.75    | 2,209.89             | 2,162.01              | 47.88                   | 46.154             |         |         |



|                           |                              |                                     |                                       |
|---------------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>           | ANADARKO PETROLEUM CORP.     | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Project:</b>           | UINTAH COUNTY, UTAH (nad 27) | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Reference Site:</b>    | NBU 921-19D PAD              | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.00ft                       | <b>North Reference:</b>             | True                                  |
| <b>Reference Well:</b>    | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Well Error:</b>        | 0.00ft                       | <b>Output errors are at</b>         | 2.00 sigma                            |
| <b>Reference Wellbore</b> | NBU 921-19F1BS               | <b>Database:</b>                    | EDM 2003.21 Single User Db            |
| <b>Reference Design:</b>  | PLAN #1 11-16-09 RHS         | <b>Offset TVD Reference:</b>        | Offset Datum                          |

| Offset Design         |                     |                     |                     |                 |             |                      |                                   |            |                      |                       |                         | Offset Site Error: | 0.00 ft |
|-----------------------|---------------------|---------------------|---------------------|-----------------|-------------|----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|
| Survey Program: 0-MWD |                     |                     |                     |                 |             |                      |                                   |            |                      |                       |                         | Offset Well Error: | 0.00 ft |
| Reference             |                     |                     |                     | Semi Major Axis |             |                      | Distance                          |            |                      |                       |                         | Warning            |         |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Tooface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor  |         |
| 0.00                  | 0.00                | 0.00                | 0.00                | 0.00            | 0.00        | -12.56               | 38.97                             | -8.68      | 39.92                |                       |                         |                    |         |
| 100.00                | 100.00              | 100.00              | 100.00              | 0.10            | 0.10        | -12.56               | 38.97                             | -8.68      | 39.92                | 39.73                 | 0.19                    | 206.542            |         |
| 200.00                | 200.00              | 200.00              | 200.00              | 0.32            | 0.32        | -12.56               | 38.97                             | -8.68      | 39.92                | 39.28                 | 0.64                    | 62.107             |         |
| 300.00                | 300.00              | 300.00              | 300.00              | 0.55            | 0.55        | -12.56               | 38.97                             | -8.68      | 39.92                | 38.83                 | 1.09                    | 36.549 CC, ES      |         |
| 400.00                | 399.95              | 399.95              | 399.95              | 0.75            | 0.77        | -147.91              | 38.97                             | -8.68      | 42.12                | 40.59                 | 1.53                    | 27.525             |         |
| 500.00                | 499.63              | 499.63              | 499.63              | 0.97            | 0.99        | -152.70              | 38.97                             | -8.68      | 48.95                | 46.97                 | 1.97                    | 24.819 SF          |         |
| 600.00                | 598.77              | 598.77              | 598.77              | 1.24            | 1.22        | -158.21              | 38.97                             | -8.68      | 60.85                | 58.42                 | 2.43                    | 25.043             |         |
| 700.00                | 697.08              | 697.08              | 697.08              | 1.58            | 1.44        | -163.02              | 38.97                             | -8.68      | 78.08                | 75.19                 | 2.89                    | 26.981             |         |
| 800.00                | 794.31              | 794.31              | 794.31              | 2.02            | 1.66        | -166.74              | 38.97                             | -8.68      | 100.67               | 97.31                 | 3.36                    | 29.956             |         |
| 900.00                | 890.18              | 890.18              | 890.18              | 2.55            | 1.87        | -169.48              | 38.97                             | -8.68      | 128.51               | 124.69                | 3.83                    | 33.566             |         |
| 1,000.00              | 984.43              | 984.43              | 984.43              | 3.20            | 2.08        | -171.49              | 38.97                             | -8.68      | 161.49               | 157.19                | 4.30                    | 37.565             |         |
| 1,052.42              | 1,033.11            | 1,033.11            | 1,033.11            | 3.57            | 2.19        | -172.32              | 38.97                             | -8.68      | 180.78               | 176.23                | 4.55                    | 39.767             |         |
| 1,100.00              | 1,077.04            | 1,077.04            | 1,077.04            | 3.94            | 2.29        | -173.02              | 38.97                             | -8.68      | 198.91               | 194.13                | 4.78                    | 41.622             |         |
| 1,200.00              | 1,169.38            | 1,169.38            | 1,169.38            | 4.71            | 2.50        | -174.14              | 38.97                             | -8.68      | 237.09               | 231.82                | 5.28                    | 44.927             |         |
| 1,300.00              | 1,261.72            | 1,261.72            | 1,261.72            | 5.49            | 2.71        | -174.96              | 38.97                             | -8.68      | 275.33               | 269.55                | 5.78                    | 47.999             |         |
| 1,400.00              | 1,354.06            | 1,354.06            | 1,354.06            | 6.28            | 2.92        | -175.58              | 38.97                             | -8.68      | 313.61               | 307.31                | 6.30                    | 49.794             |         |
| 1,500.00              | 1,446.40            | 1,446.40            | 1,446.40            | 7.08            | 3.12        | -176.06              | 38.97                             | -8.68      | 351.90               | 345.09                | 6.82                    | 51.623             |         |
| 1,600.00              | 1,538.74            | 1,538.74            | 1,538.74            | 7.88            | 3.33        | -176.44              | 38.97                             | -8.68      | 390.22               | 382.88                | 7.34                    | 53.166             |         |
| 1,700.00              | 1,631.08            | 1,631.08            | 1,631.08            | 8.68            | 3.54        | -176.76              | 38.97                             | -8.68      | 428.55               | 420.68                | 7.87                    | 54.483             |         |
| 1,800.00              | 1,723.42            | 1,723.42            | 1,723.42            | 9.48            | 3.75        | -177.03              | 38.97                             | -8.68      | 466.88               | 458.49                | 8.39                    | 55.619             |         |
| 1,900.00              | 1,815.76            | 1,815.76            | 1,815.76            | 10.29           | 3.95        | -177.25              | 38.97                             | -8.68      | 505.23               | 496.30                | 8.93                    | 56.608             |         |
| 2,000.00              | 1,908.10            | 1,908.10            | 1,908.10            | 11.10           | 4.16        | -177.45              | 38.97                             | -8.68      | 543.58               | 534.12                | 9.46                    | 57.474             |         |
| 2,100.00              | 2,000.44            | 2,000.44            | 2,000.44            | 11.90           | 4.37        | -177.62              | 38.97                             | -8.68      | 581.93               | 571.94                | 9.99                    | 58.240             |         |
| 2,200.00              | 2,092.78            | 2,092.78            | 2,092.78            | 12.71           | 4.58        | -177.76              | 38.97                             | -8.68      | 620.29               | 609.77                | 10.53                   | 58.922             |         |
| 2,300.00              | 2,185.11            | 2,185.11            | 2,185.11            | 13.52           | 4.78        | -177.89              | 38.97                             | -8.68      | 658.66               | 647.59                | 11.06                   | 59.531             |         |
| 2,400.00              | 2,277.45            | 2,277.45            | 2,277.45            | 14.33           | 4.99        | -178.01              | 38.97                             | -8.68      | 697.02               | 685.42                | 11.60                   | 60.079             |         |
| 2,500.00              | 2,369.79            | 2,369.79            | 2,369.79            | 15.14           | 5.20        | -178.11              | 38.97                             | -8.68      | 735.39               | 723.25                | 12.14                   | 60.575             |         |
| 2,600.00              | 2,462.13            | 2,462.13            | 2,462.13            | 15.95           | 5.41        | -178.21              | 38.97                             | -8.68      | 773.76               | 761.08                | 12.68                   | 61.024             |         |
| 2,700.00              | 2,554.47            | 2,554.47            | 2,554.47            | 16.76           | 5.61        | -178.29              | 38.97                             | -8.68      | 812.13               | 798.91                | 13.22                   | 61.434             |         |
| 2,800.00              | 2,646.81            | 2,641.03            | 2,641.03            | 17.57           | 5.79        | -178.41              | 38.69                             | -9.19      | 850.68               | 836.94                | 13.73                   | 61.951             |         |
| 2,900.00              | 2,739.15            | 2,722.40            | 2,722.31            | 18.38           | 5.94        | -178.72              | 36.87                             | -12.45     | 890.23               | 876.01                | 14.22                   | 62.604             |         |
| 3,000.00              | 2,831.49            | 2,800.00            | 2,799.60            | 19.19           | 6.09        | -179.20              | 33.57                             | -18.38     | 930.93               | 916.22                | 14.71                   | 63.302             |         |
| 3,100.00              | 2,923.83            | 2,880.94            | 2,879.86            | 20.00           | 6.25        | -179.88              | 28.50                             | -27.48     | 972.82               | 957.61                | 15.21                   | 63.966             |         |
| 3,200.00              | 3,016.17            | 2,957.66            | 2,955.46            | 20.81           | 6.42        | 179.34               | 22.18                             | -38.84     | 1,015.99             | 1,000.27              | 15.72                   | 64.633             |         |
| 3,300.00              | 3,108.51            | 3,032.41            | 3,028.57            | 21.62           | 6.60        | 178.46               | 14.60                             | -52.45     | 1,060.51             | 1,044.27              | 16.25                   | 65.268             |         |
| 3,400.00              | 3,200.85            | 3,100.00            | 3,094.10            | 22.44           | 6.78        | 177.58               | 6.55                              | -66.90     | 1,106.48             | 1,089.70              | 16.78                   | 65.923             |         |
| 3,500.00              | 3,293.19            | 3,175.51            | 3,166.57            | 23.25           | 7.02        | 176.52               | -3.76                             | -85.43     | 1,153.92             | 1,136.54              | 17.39                   | 66.375             |         |
| 3,600.00              | 3,385.53            | 3,243.66            | 3,231.20            | 24.06           | 7.26        | 175.49               | -14.26                            | -104.29    | 1,202.95             | 1,184.95              | 18.00                   | 66.833             |         |
| 3,700.00              | 3,477.87            | 3,322.36            | 3,305.18            | 24.87           | 7.57        | 174.29               | -27.32                            | -127.75    | 1,253.27             | 1,234.56              | 18.71                   | 67.001             |         |
| 3,800.00              | 3,570.21            | 3,405.18            | 3,383.01            | 25.68           | 7.93        | 173.10               | -41.10                            | -152.50    | 1,304.09             | 1,284.64              | 19.46                   | 67.027             |         |
| 3,900.00              | 3,662.54            | 3,488.00            | 3,460.83            | 26.50           | 8.32        | 172.01               | -54.88                            | -177.25    | 1,355.33             | 1,335.08              | 20.24                   | 66.951             |         |
| 4,000.00              | 3,754.88            | 3,570.82            | 3,538.66            | 27.31           | 8.74        | 170.98               | -68.66                            | -202.00    | 1,406.93             | 1,385.87              | 21.06                   | 66.813             |         |
| 4,100.00              | 3,847.22            | 3,653.65            | 3,616.49            | 28.12           | 9.17        | 170.03               | -82.44                            | -226.75    | 1,458.85             | 1,436.96              | 21.89                   | 66.635             |         |
| 4,170.52              | 3,912.34            | 3,712.05            | 3,671.37            | 28.69           | 9.48        | 169.39               | -92.16                            | -244.21    | 1,495.65             | 1,473.16              | 22.49                   | 66.495             |         |
| 4,200.00              | 3,939.62            | 3,736.54            | 3,694.38            | 28.90           | 9.62        | 169.20               | -96.23                            | -251.53    | 1,510.95             | 1,488.18              | 22.77                   | 66.370             |         |
| 4,300.00              | 4,032.98            | 3,820.59            | 3,773.36            | 29.50           | 10.09       | 168.56               | -110.22                           | -276.64    | 1,561.10             | 1,537.44              | 23.66                   | 65.985             |         |
| 4,400.00              | 4,127.54            | 3,906.10            | 3,853.71            | 30.04           | 10.58       | 167.95               | -124.44                           | -302.20    | 1,608.54             | 1,584.00              | 24.54                   | 65.546             |         |
| 4,500.00              | 4,223.18            | 3,992.96            | 3,935.34            | 30.53           | 11.09       | 167.35               | -138.90                           | -328.16    | 1,653.23             | 1,627.82              | 25.41                   | 65.064             |         |
| 4,600.00              | 4,319.77            | 4,081.07            | 4,018.13            | 30.96           | 11.63       | 166.75               | -153.56                           | -354.49    | 1,695.13             | 1,668.87              | 26.26                   | 64.548             |         |
| 4,700.00              | 4,417.21            | 4,170.32            | 4,102.00            | 31.35           | 12.17       | 166.16               | -168.40                           | -381.16    | 1,734.22             | 1,707.13              | 27.09                   | 64.008             |         |
| 4,800.00              | 4,515.37            | 4,260.61            | 4,186.84            | 31.68           | 12.74       | 165.57               | -183.43                           | -408.14    | 1,770.47             | 1,742.57              | 27.90                   | 63.451             |         |
| 4,900.00              | 4,614.14            | 4,351.81            | 4,272.55            | 31.96           | 13.32       | 164.96               | -198.60                           | -435.40    | 1,803.86             | 1,775.17              | 28.69                   | 62.881             |         |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



|                           |                              |                                     |                                       |
|---------------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>           | ANADARKO PETROLEUM CORP.     | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Project:</b>           | UINTAH COUNTY, UTAH (nad 27) | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Reference Site:</b>    | NBU 921-19D PAD              | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.00ft                       | <b>North Reference:</b>             | True                                  |
| <b>Reference Well:</b>    | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Well Error:</b>        | 0.00ft                       | <b>Output errors are at</b>         | 2.00 sigma                            |
| <b>Reference Wellbore</b> | NBU 921-19F1BS               | <b>Database:</b>                    | EDM 2003.21 Single User Db            |
| <b>Reference Design:</b>  | PLAN #1 11-16-09 RHS         | <b>Offset TVD Reference:</b>        | Offset Datum                          |

| Offset Design         |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         | Offset Site Error: | 0.00 ft |         |  |
|-----------------------|---------------------|---------------------|---------------------|----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|--------------------|---------|---------|--|
| Survey Program: 0-MWD |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         | Offset Well Error: |         | 0.00 ft |  |
| Reference             |                     |                     |                     |                |             |                       |                                   |            |                      |                       |                         | Distance           |         | Warning |  |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft) | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor  |         |         |  |
| 5,000.00              | 4,713.39            | 4,443.83            | 4,359.01            | 32.19          | 13.90       | 164.35                | -213.91                           | -462.90    | 1,834.38             | 1,804.94              | 29.44                   | 62.304             |         |         |  |
| 5,100.00              | 4,813.01            | 4,536.55            | 4,446.14            | 32.36          | 14.50       | 163.72                | -229.34                           | -490.60    | 1,862.02             | 1,831.85              | 30.17                   | 61.724             |         |         |  |
| 5,200.00              | 4,912.87            | 4,629.85            | 4,533.81            | 32.49          | 15.11       | 163.07                | -244.86                           | -518.49    | 1,886.78             | 1,855.92              | 30.86                   | 61.143             |         |         |  |
| 5,299.15              | 5,012.00            | 4,757.07            | 4,653.79            | 32.58          | 15.83       | -64.45                | -265.44                           | -555.45    | 1,908.03             | 1,876.37              | 31.66                   | 60.258             |         |         |  |
| 5,400.00              | 5,112.85            | 4,919.10            | 4,808.99            | 32.65          | 16.58       | -65.60                | -288.03                           | -596.03    | 1,925.48             | 1,892.85              | 32.64                   | 58.998             |         |         |  |
| 5,500.00              | 5,212.85            | 5,084.78            | 4,970.15            | 32.71          | 17.25       | -66.51                | -306.69                           | -629.54    | 1,939.65             | 1,906.16              | 33.49                   | 57.910             |         |         |  |
| 5,600.00              | 5,312.85            | 5,254.52            | 5,137.27            | 32.78          | 17.82       | -67.21                | -321.07                           | -655.37    | 1,950.43             | 1,916.19              | 34.23                   | 56.973             |         |         |  |
| 5,700.00              | 5,412.85            | 5,427.26            | 5,308.84            | 32.85          | 18.27       | -67.66                | -330.73                           | -672.73    | 1,957.60             | 1,922.74              | 34.85                   | 56.170             |         |         |  |
| 5,800.00              | 5,512.85            | 5,601.80            | 5,483.09            | 32.92          | 18.61       | -67.88                | -335.37                           | -681.07    | 1,961.02             | 1,925.68              | 35.34                   | 55.493             |         |         |  |
| 5,900.00              | 5,612.85            | 5,731.57            | 5,612.85            | 32.99          | 18.78       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,925.67              | 35.65                   | 55.013             |         |         |  |
| 6,000.00              | 5,712.85            | 5,831.57            | 5,712.85            | 33.07          | 18.92       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,925.40              | 35.92                   | 54.598             |         |         |  |
| 6,100.00              | 5,812.85            | 5,931.57            | 5,812.85            | 33.14          | 19.06       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,925.12              | 36.20                   | 54.184             |         |         |  |
| 6,200.00              | 5,912.85            | 6,031.57            | 5,912.85            | 33.22          | 19.21       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,924.84              | 36.48                   | 53.771             |         |         |  |
| 6,300.00              | 6,012.85            | 6,131.57            | 6,012.85            | 33.30          | 19.35       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,924.56              | 36.76                   | 53.360             |         |         |  |
| 6,400.00              | 6,112.85            | 6,231.57            | 6,112.85            | 33.38          | 19.49       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,924.28              | 37.04                   | 52.950             |         |         |  |
| 6,500.00              | 6,212.85            | 6,331.57            | 6,212.85            | 33.46          | 19.64       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,923.99              | 37.33                   | 52.542             |         |         |  |
| 6,600.00              | 6,312.85            | 6,431.57            | 6,312.85            | 33.54          | 19.79       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,923.70              | 37.62                   | 52.136             |         |         |  |
| 6,700.00              | 6,412.85            | 6,531.57            | 6,412.85            | 33.62          | 19.94       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,923.40              | 37.91                   | 51.731             |         |         |  |
| 6,800.00              | 6,512.85            | 6,631.57            | 6,512.85            | 33.70          | 20.09       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,923.11              | 38.21                   | 51.329             |         |         |  |
| 6,900.00              | 6,612.85            | 6,731.57            | 6,612.85            | 33.79          | 20.24       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,922.81              | 38.51                   | 50.930             |         |         |  |
| 7,000.00              | 6,712.85            | 6,831.57            | 6,712.85            | 33.88          | 20.40       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,922.51              | 38.81                   | 50.533             |         |         |  |
| 7,100.00              | 6,812.85            | 6,931.57            | 6,812.85            | 33.96          | 20.55       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,922.20              | 39.12                   | 50.138             |         |         |  |
| 7,200.00              | 6,912.85            | 7,031.57            | 6,912.85            | 34.05          | 20.71       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,921.89              | 39.43                   | 49.746             |         |         |  |
| 7,300.00              | 7,012.85            | 7,131.57            | 7,012.85            | 34.14          | 20.86       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,921.58              | 39.74                   | 49.357             |         |         |  |
| 7,400.00              | 7,112.85            | 7,231.57            | 7,112.85            | 34.24          | 21.02       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,921.27              | 40.05                   | 48.971             |         |         |  |
| 7,500.00              | 7,212.85            | 7,331.57            | 7,212.85            | 34.33          | 21.18       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,920.95              | 40.37                   | 48.588             |         |         |  |
| 7,600.00              | 7,312.85            | 7,431.57            | 7,312.85            | 34.42          | 21.34       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,920.63              | 40.69                   | 48.207             |         |         |  |
| 7,700.00              | 7,412.85            | 7,531.57            | 7,412.85            | 34.52          | 21.51       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,920.31              | 41.01                   | 47.830             |         |         |  |
| 7,800.00              | 7,512.85            | 7,631.57            | 7,512.85            | 34.61          | 21.67       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,919.99              | 41.33                   | 47.456             |         |         |  |
| 7,900.00              | 7,612.85            | 7,731.57            | 7,612.85            | 34.71          | 21.83       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,919.66              | 41.65                   | 47.085             |         |         |  |
| 8,000.00              | 7,712.85            | 7,831.57            | 7,712.85            | 34.81          | 22.00       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,919.34              | 41.98                   | 46.718             |         |         |  |
| 8,100.00              | 7,812.85            | 7,931.57            | 7,812.85            | 34.91          | 22.17       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,919.01              | 42.31                   | 46.353             |         |         |  |
| 8,200.00              | 7,912.85            | 8,031.57            | 7,912.85            | 35.01          | 22.33       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,918.67              | 42.64                   | 45.992             |         |         |  |
| 8,300.00              | 8,012.85            | 8,131.57            | 8,012.85            | 35.12          | 22.50       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,918.34              | 42.98                   | 45.635             |         |         |  |
| 8,400.00              | 8,112.85            | 8,231.57            | 8,112.85            | 35.22          | 22.67       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,918.00              | 43.32                   | 45.280             |         |         |  |
| 8,500.00              | 8,212.85            | 8,331.57            | 8,212.85            | 35.32          | 22.84       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,917.66              | 43.65                   | 44.929             |         |         |  |
| 8,600.00              | 8,312.85            | 8,431.57            | 8,312.85            | 35.43          | 23.01       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,917.32              | 43.99                   | 44.582             |         |         |  |
| 8,700.00              | 8,412.85            | 8,531.57            | 8,412.85            | 35.54          | 23.19       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,916.98              | 44.34                   | 44.238             |         |         |  |
| 8,800.00              | 8,512.85            | 8,631.57            | 8,512.85            | 35.64          | 23.36       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,916.64              | 44.68                   | 43.897             |         |         |  |
| 8,900.00              | 8,612.85            | 8,731.57            | 8,612.85            | 35.75          | 23.53       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,916.29              | 45.03                   | 43.560             |         |         |  |
| 9,000.00              | 8,712.85            | 8,831.57            | 8,712.85            | 35.86          | 23.71       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,915.94              | 45.37                   | 43.226             |         |         |  |
| 9,100.00              | 8,812.85            | 8,931.57            | 8,812.85            | 35.97          | 23.88       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,915.59              | 45.72                   | 42.896             |         |         |  |
| 9,200.00              | 8,912.85            | 9,031.57            | 8,912.85            | 36.09          | 24.06       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,915.24              | 46.07                   | 42.569             |         |         |  |
| 9,300.00              | 9,012.85            | 9,131.57            | 9,012.85            | 36.20          | 24.24       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,914.89              | 46.43                   | 42.245             |         |         |  |
| 9,400.00              | 9,112.85            | 9,231.57            | 9,112.85            | 36.31          | 24.42       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,914.54              | 46.78                   | 41.925             |         |         |  |
| 9,500.00              | 9,212.85            | 9,331.57            | 9,212.85            | 36.43          | 24.60       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,914.18              | 47.14                   | 41.608             |         |         |  |
| 9,600.00              | 9,312.85            | 9,431.57            | 9,312.85            | 36.55          | 24.77       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,913.82              | 47.50                   | 41.295             |         |         |  |
| 9,700.00              | 9,412.85            | 9,531.57            | 9,412.85            | 36.66          | 24.96       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,913.46              | 47.85                   | 40.985             |         |         |  |
| 9,800.00              | 9,512.85            | 9,631.57            | 9,512.85            | 36.78          | 25.14       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,913.10              | 48.22                   | 40.678             |         |         |  |
| 9,900.00              | 9,612.85            | 9,731.57            | 9,612.85            | 36.90          | 25.32       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,912.74              | 48.58                   | 40.375             |         |         |  |
| 10,000.00             | 9,712.85            | 9,831.57            | 9,712.85            | 37.02          | 25.50       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,912.38              | 48.94                   | 40.075             |         |         |  |
| 10,100.00             | 9,812.85            | 9,931.57            | 9,812.85            | 37.14          | 25.68       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,912.01              | 49.31                   | 39.779             |         |         |  |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



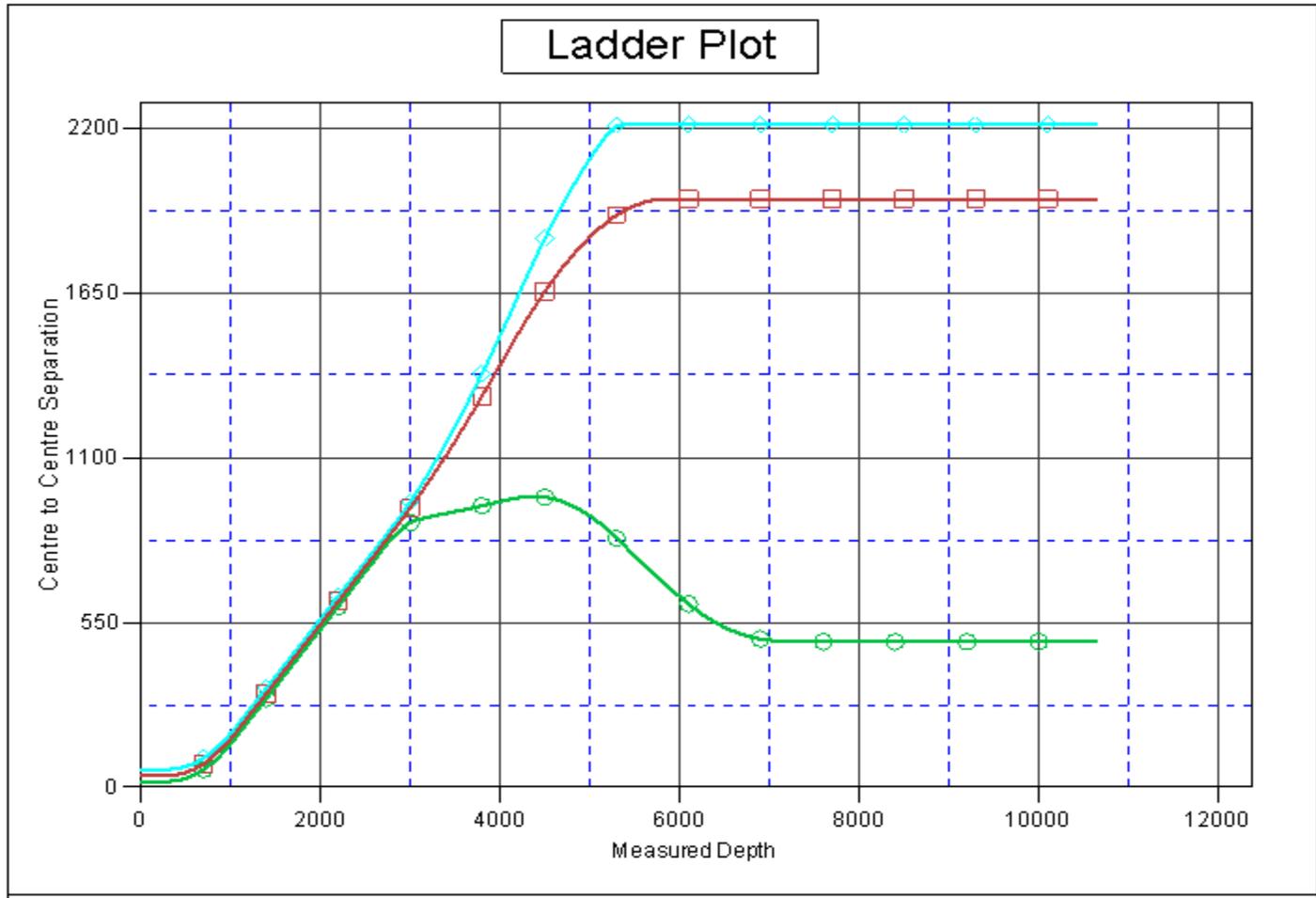
|                           |                              |                                     |                                       |
|---------------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>           | ANADARKO PETROLEUM CORP.     | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Project:</b>           | UINTAH COUNTY, UTAH (nad 27) | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Reference Site:</b>    | NBU 921-19D PAD              | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.00ft                       | <b>North Reference:</b>             | True                                  |
| <b>Reference Well:</b>    | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Well Error:</b>        | 0.00ft                       | <b>Output errors are at</b>         | 2.00 sigma                            |
| <b>Reference Wellbore</b> | NBU 921-19F1BS               | <b>Database:</b>                    | EDM 2003.21 Single User Db            |
| <b>Reference Design:</b>  | PLAN #1 11-16-09 RHS         | <b>Offset TVD Reference:</b>        | Offset Datum                          |

| <b>Offset Design</b> NBU 921-19D PAD - NBU 921-19D3AS - NBU 921-19D3AS - PLAN #1 11-16-09 RHS |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         | <b>Offset Site Error:</b> | 0.00 ft |
|---|---------------------|---------------------|---------------------|-----------------|-------------|-----------------------|-----------------------------------|------------|----------------------|-----------------------|-------------------------|---------------------------|---------|
| Survey Program: 0-MWD   |                     |                     |                     |                 |             |                       |                                   |            |                      |                       |                         | <b>Offset Well Error:</b> | 0.00 ft |
| Reference   |                     | Offset              |                     | Semi Major Axis |             |                       | Distance                          |            |                      |                       |                         |                           | Warning |
| Measured Depth (ft)   | Vertical Depth (ft) | Measured Depth (ft) | Vertical Depth (ft) | Reference (ft)  | Offset (ft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (ft) | +E/-W (ft) | Between Centres (ft) | Between Ellipses (ft) | Minimum Separation (ft) | Separation Factor         |         |
| 10,200.00   | 9,912.85            | 10,031.57           | 9,912.85            | 37.27           | 25.87       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,911.65              | 49.67                   | 39.485                    |         |
| 10,300.00   | 10,012.85           | 10,131.57           | 10,012.85           | 37.39           | 26.05       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,911.28              | 50.04                   | 39.195                    |         |
| 10,400.00   | 10,112.85           | 10,231.57           | 10,112.85           | 37.51           | 26.24       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,910.91              | 50.41                   | 38.908                    |         |
| 10,500.00   | 10,212.85           | 10,331.57           | 10,212.85           | 37.64           | 26.42       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,910.54              | 50.78                   | 38.624                    |         |
| 10,600.00   | 10,312.85           | 10,431.57           | 10,312.85           | 37.77           | 26.61       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,910.17              | 51.15                   | 38.344                    |         |
| 10,644.15   | 10,357.00           | 10,475.72           | 10,357.00           | 37.82           | 26.69       | -67.90                | -335.78                           | -681.80    | 1,961.32             | 1,910.00              | 51.32                   | 38.221                    |         |



|                           |                              |                                     |                                       |
|---------------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>           | ANADARKO PETROLEUM CORP.     | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Project:</b>           | UINTAH COUNTY, UTAH (nad 27) | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Reference Site:</b>    | NBU 921-19D PAD              | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.00ft                       | <b>North Reference:</b>             | True                                  |
| <b>Reference Well:</b>    | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Well Error:</b>        | 0.00ft                       | <b>Output errors are at</b>         | 2.00 sigma                            |
| <b>Reference Wellbore</b> | NBU 921-19F1BS               | <b>Database:</b>                    | EDM 2003.21 Single User Db            |
| <b>Reference Design:</b>  | PLAN #1 11-16-09 RHS         | <b>Offset TVD Reference:</b>        | Offset Datum                          |

Reference Depths are relative to WELL @ 4803.00ft (Original Well Elev) Coordinates are relative to: NBU 921-19F1BS  
 Offset Depths are relative to Offset Datum Coordinate System is Universal Transverse Mercator (US Survey Feet), Zone 12N  
 Central Meridian is 111° 0' 0.000 W ° Grid Convergence at Surface is: 0.90°



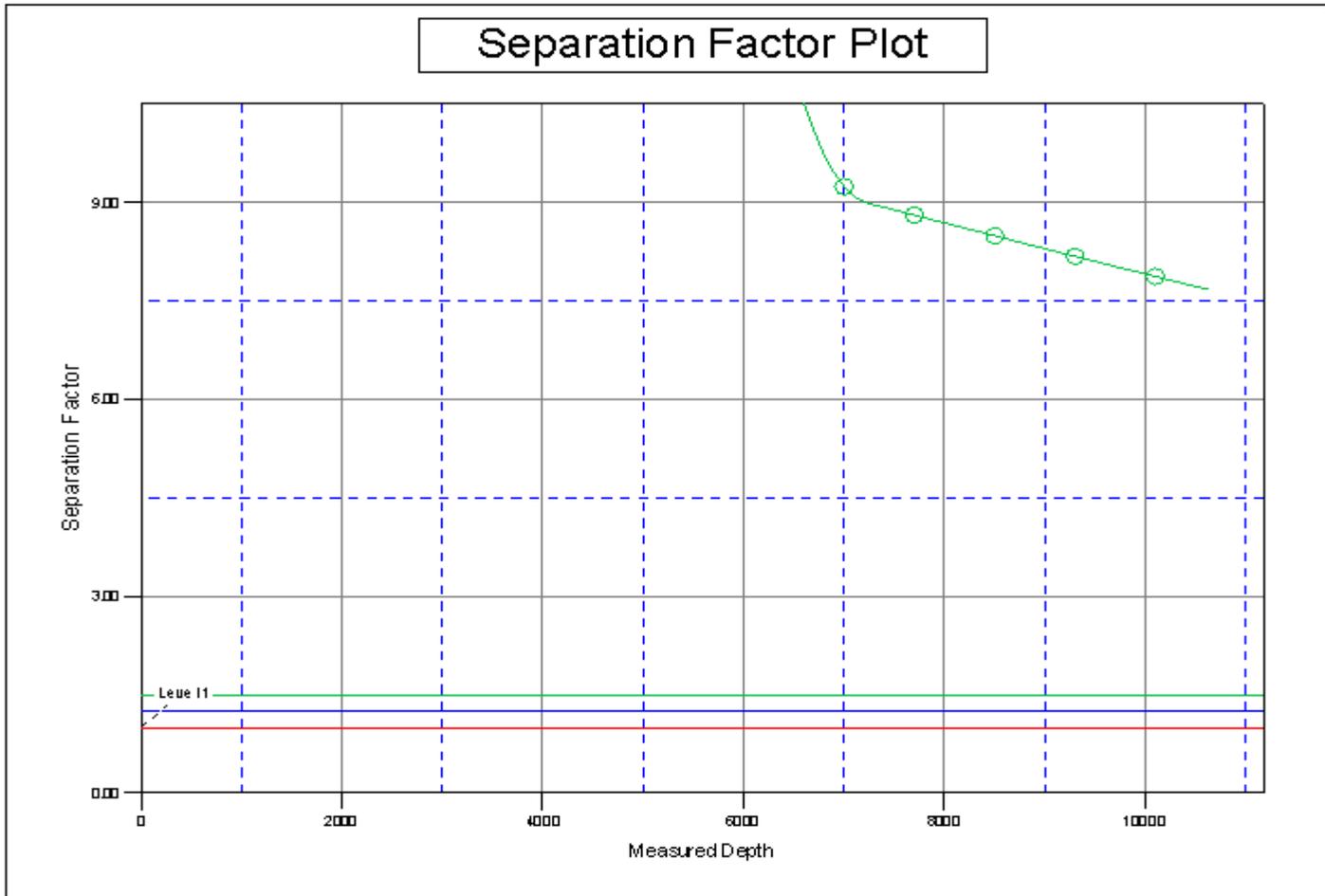
LEGEND

19C4CS, NBU921-19C4CS, PLAN#1 11-16-09 RHS \0    ◆ NBU921-19D2DS, NBU921-19D2DS, PLAN#1 11-16-09 RHS \0    ■ NBU 921-19D3AS, NBU921-19D3AS, PLAN#1



|                           |                              |                                     |                                       |
|---------------------------|------------------------------|-------------------------------------|---------------------------------------|
| <b>Company:</b>           | ANADARKO PETROLEUM CORP.     | <b>Local Co-ordinate Reference:</b> | Well NBU 921-19F1BS                   |
| <b>Project:</b>           | UINTAH COUNTY, UTAH (nad 27) | <b>TVD Reference:</b>               | WELL @ 4803.00ft (Original Well Elev) |
| <b>Reference Site:</b>    | NBU 921-19D PAD              | <b>MD Reference:</b>                | WELL @ 4803.00ft (Original Well Elev) |
| <b>Site Error:</b>        | 0.00ft                       | <b>North Reference:</b>             | True                                  |
| <b>Reference Well:</b>    | NBU 921-19F1BS               | <b>Survey Calculation Method:</b>   | Minimum Curvature                     |
| <b>Well Error:</b>        | 0.00ft                       | <b>Output errors are at</b>         | 2.00 sigma                            |
| <b>Reference Wellbore</b> | NBU 921-19F1BS               | <b>Database:</b>                    | EDM 2003.21 Single User Db            |
| <b>Reference Design:</b>  | PLAN #1 11-16-09 RHS         | <b>Offset TVD Reference:</b>        | Offset Datum                          |

Reference Depths are relative to WELL @ 4803.00ft (Original Well Elev) Coordinates are relative to: NBU 921-19F1BS  
 Offset Depths are relative to Offset Datum Coordinate System is Universal Transverse Mercator (US Survey Feet), Zone 12N  
 Central Meridian is 111° 0' 0.000 W ° Grid Convergence at Surface is: 0.90°



LEGEND

19C4CS, NBU921-19C4CS, PLAN#1 11-16-09 RHS \0    NBU921-19D2DS, NBU921-19D2DS, PLAN#1 11-16-09 RHS \0    NBU 921-19D3AS, NBU921-19D3AS, PLAN#1

**NBU 921-19F1BS**

Pad: NBU 921-19D

Surface: 541' FNL, 1,368' FWL (NW/4NW/4) Lot 1

BHL: 1,623' FNL 2,485' FWL (SE/4NW/4)

Sec. 19 T9S R21E

Uintah, Utah

Mineral Lease: UTU 0581

**ONSHORE ORDER NO. 1**

***DRILLING PROGRAM***

1. – 2. **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

| <u>Formation</u> | <u>Depth</u> | <u>Resource</u> |
|------------------|--------------|-----------------|
| Uinta            | 0 – Surface  |                 |
| Green River      | 1,634'       |                 |
| Birds Nest       | 1,897'       | Water           |
| Mahogany         | 2,279'       | Water           |
| Wasatch          | 5,012'       | Gas             |
| Mesaverde        | 8,067'       | Gas             |
| MVU2             | 9,076'       | Gas             |
| MVL1             | 9,618'       | Gas             |
| TVD              | 10,357'      |                 |
| TD               | 10,644'      |                 |

3. **Pressure Control Equipment** (Schematic Attached)

*Please refer to the attached Drilling Program.*

4. **Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program.*

5. **Drilling Fluids Program:**

*Please refer to the attached Drilling Program.*

6. **Evaluation Program:**

*Please refer to the attached Drilling Program.*

**7. Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 10,357' TVD, approximately equals 6,560 psi (calculated at 0.63 psi/foot).

Maximum anticipated surface pressure equals approximately 4,282 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

**8. Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

**9. Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

***Background***

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*

*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.*

*The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

#### ***Variance for BOPE Requirements***

*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

#### ***Variance for Mud Material Requirements***

*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

#### ***Variance for Special Drilling Operation (surface equipment placement) Requirements***

*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

***Variance for FIT Requirements***

*Kerr-McGee Oil & Gas Onshore LP (KMG) also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). The air rig operation utilizes a 5M BOPE when drilling. This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.*

***Conclusion***

*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

**10. Other Information:**

*Please refer to the attached Drilling Program.*





**KERR-McGEE OIL & GAS ONSHORE LP**  
**DRILLING PROGRAM**

**CASING PROGRAM**

|            | SIZE   | INTERVAL             | WT.   | GR.     | CPLG. | DESIGN FACTORS |          |         |
|------------|--------|----------------------|-------|---------|-------|----------------|----------|---------|
|            |        |                      |       |         |       | BURST          | COLLAPSE | TENSION |
| CONDUCTOR  | 14"    | 0-40'                |       |         |       |                |          |         |
| SURFACE    | 8-5/8" | 0 to 2,430'          | 28.00 | IJ-55   | LTC   | 3,390          | 1,880    | 348,000 |
|            |        |                      |       |         |       | 0.75           | 1.65     | 5.06    |
| PRODUCTION | 4-1/2" | 0 to 9,937'          | 11.60 | I-80    | BTC   | 7,780          | 6,350    | 278,000 |
|            |        |                      |       |         |       | 1.77           | 1.06     | 2.78    |
|            |        |                      |       |         |       | 10,690         | 8,650    | 279,000 |
|            | 4-1/2" | 9,937' to 10,644'    | 11.60 | HCP-110 | LTC   | 68.73          | 1.30     | 41.97   |
|            |        | 707' of HCP-110 pipe |       |         |       |                |          |         |

\*Burst on surface casing is controlled by fracture gradient as shoe with gas gradient above.

D.F. = 2.21

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 12.4 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MASP 4,282 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 12.4 ppg)

0.63 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MABHP 6,560 psi**

**CEMENT PROGRAM**

|   |                      | FT. OF FILL | DESCRIPTION                            | SACKS   | EXCESS | WEIGHT | YIELD |
|---|----------------------|-------------|--|---------|--------|--------|-------|
| SURFACE   | TAIL                 | 500'        | Premium cmt + 2% CaCl                  | 180     | 60%    | 15.80  | 1.15  |
|   |                      |             | + 0.25 pps flocele                     |         |        |        |       |
| Option 1  | TOP OUT CMT (6 jobs) | 1,200'      | 20 gals sodium silicate + Premium cmt  | 270     | 0%     | 15.80  | 1.15  |
|   |                      |             | + 2% CaCl + 0.25 pps flocele           |         |        |        |       |
| <b>NOTE: If well will circulate water to surface, option 2 will be utilized</b> |                      |             |  |         |        |        |       |
| SURFACE   | LEAD                 | 1,930'      | 65/35 Poz + 6% Gel + 10 pps gilsonite  | 180     | 35%    | 11.00  | 3.82  |
|   |                      |             | + 0.25 pps Flocele + 3% salt BWOW      |         |        |        |       |
| Option 2  | TAIL                 | 500'        | Premium cmt + 2% CaCl                  | 150     | 35%    | 15.80  | 1.15  |
|   |                      |             | + 0.25 pps flocele                     |         |        |        |       |
|   | TOP OUT CMT          | as required | Premium cmt + 2% CaCl                  | as req. |        | 15.80  | 1.15  |
| PRODUCTION  | LEAD                 | 4,504'      | Premium Lite II + 3% KCl + 0.25 pps    | 370     | 40%    | 11.00  | 3.38  |
|   |                      |             | celloflake + 5 pps gilsonite + 10% gel |         |        |        |       |
|   |                      |             | + 0.5% extender                        |         |        |        |       |
|   | TAIL                 | 6,140'      | 50/50 Poz/G + 10% salt + 2% gel        | 1,500   | 40%    | 14.30  | 1.31  |
|   |                      |             | + 0.1% R-3                             |         |        |        |       |

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

**FLOAT EQUIPMENT & CENTRALIZERS**

|            |  |
|------------|--|
| SURFACE    | Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe |
| PRODUCTION | Float shoe, 1 jt, float collar. No centralizers will be used.  |

**ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

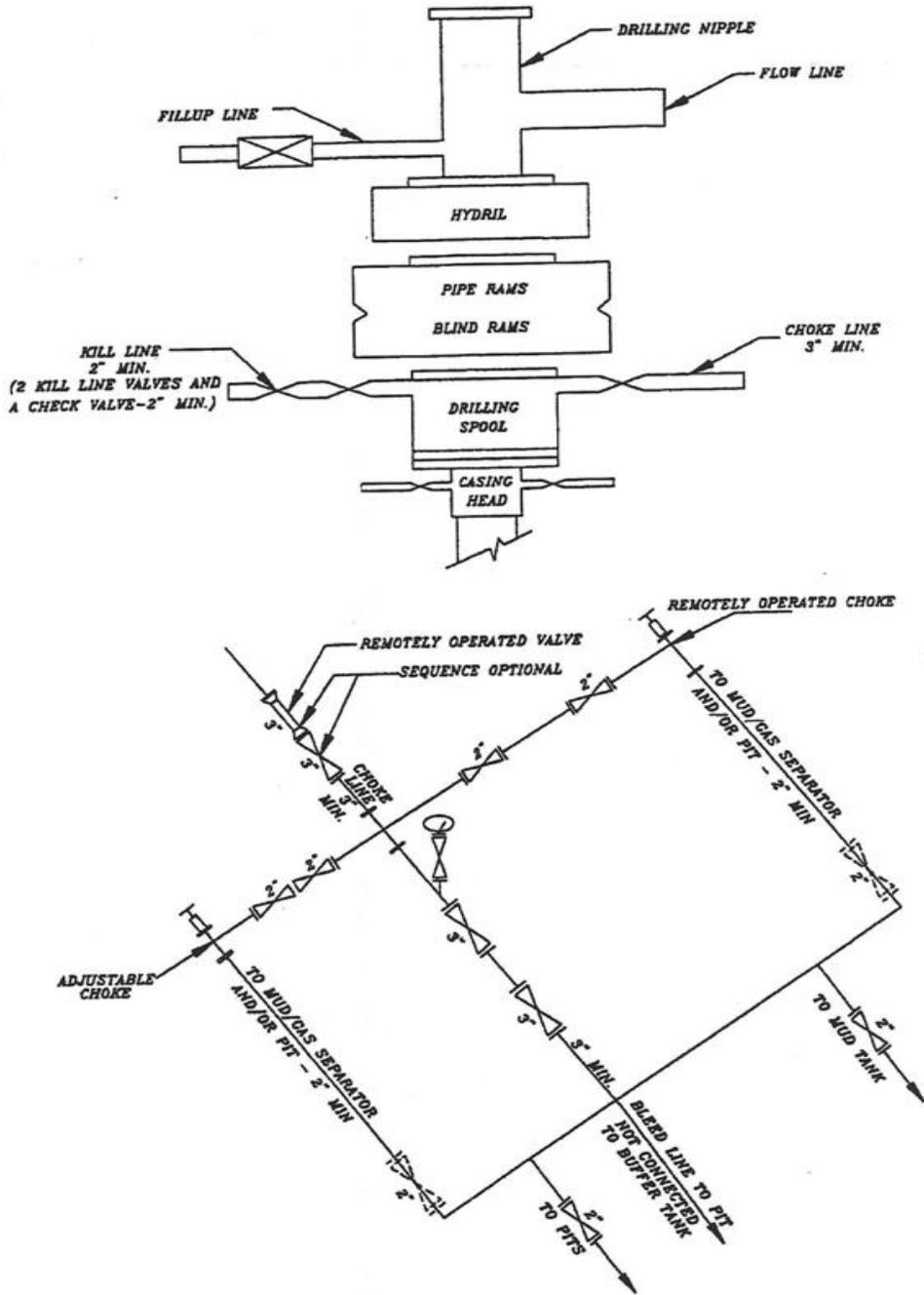
DRILLING ENGINEER: \_\_\_\_\_  
John Huycke / Emile Goodwin

DATE: \_\_\_\_\_

DRILLING SUPERINTENDENT: \_\_\_\_\_  
John Merkel / Lovel Young

DATE: \_\_\_\_\_

### EXHIBIT A NBU 921-19F1BS



**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

# WELL PAD INTERFERENCE PLAT

DIRECTIONAL PAD – NBU 921–19F1BS,  
NBU 921–19C4CS, NBU 921–19D3AS & NBU 921–19D2DS



| LATITUDE & LONGITUDE<br>Surface Position – (NAD 83) |                             |                               |
|---|-----------------------------|-------------------------------|
| WELL  | N. LATITUDE                 | W. LONGITUDE                  |
| 921–19F1BS  | 40°01'38.325"<br>40.027312' | 109°36'02.281"<br>109.600634' |
| 921–19C4CS  | 40°01'38.518"<br>40.027366' | 109°36'02.336"<br>109.600649' |
| 921–19D3AS  | 40°01'38.711"<br>40.027420" | 109°36'02.391"<br>109.600664' |
| 921–19D2DS  | 40°01'38.903"<br>40.027473' | 109°36'02.447"<br>109.600680' |

| LATITUDE & LONGITUDE<br>Bottom Hole – (NAD 83) |                             |                               |
|--|-----------------------------|-------------------------------|
| WELL   | N. LATITUDE                 | W. LONGITUDE                  |
| 921–19F1BS                                     | 40°01'27.712"<br>40.024364' | 109°35'47.682"<br>109.596578' |
| 921–19C4CS                                     | 40°01'32.513"<br>40.025698' | 109°35'47.791"<br>109.596609' |
| 921–19D3AS                                     | 40°01'35.006"<br>40.026391' | 109°36'11.048"<br>109.603069' |
| 921–19D2DS                                     | 40°01'40.014"<br>40.027782' | 109°36'11.163"<br>109.603101' |

| RELATIVE COORDINATES<br>From Surface Position to Bottom Hole |         |        |
|--|---------|--------|
| WELL   | NORTH   | EAST   |
| 921–19F1BS   | -1,076' | 1,134' |
| 921–19C4CS   | -609'   | 1,131' |
| 921–19D3AS   | -374'   | -674'  |
| 921–19D2DS   | 114'    | -678'  |

$AZ = 279.50806^\circ$   
 $N80^\circ29'31''W = 687.49'$   
(To Bottom Hole)

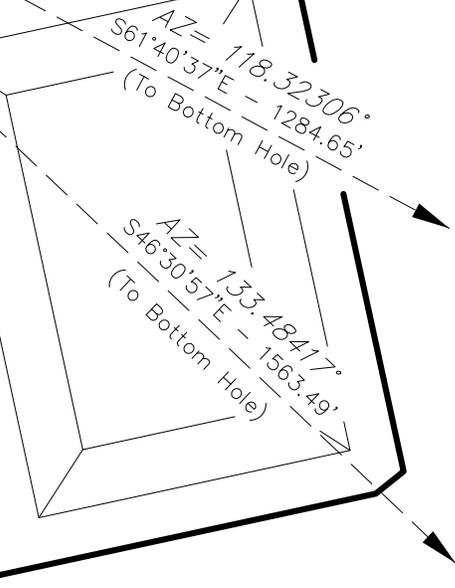
**SURFACE POSITION FOOTAGES:**  
NBU 921–19F1BS  
541' FNL & 1368' FWL  
NBU 921–19C4CS  
521' FNL & 1364' FWL  
NBU 921–19D3AS  
502' FNL & 1360' FWL  
NBU 921–19D2DS  
482' FNL & 1356' FWL

**NBU 921–19D2DS**  
**NBU 921–19D3AS**  
**NBU 921–19C4CS**  
**NBU 921–19F1BS**

$AZ = 240.98111^\circ$   
 $S60^\circ58'52''W = 770.99'$   
(To Bottom Hole)

**BOTTOM HOLE FOOTAGES**  
NBU 921–19F1BS  
1623' FNL & 2485' FWL  
NBU 921–19C4CS  
1137' FNL & 2485' FWL  
NBU 921–19D3AS  
872' FNL & 680' FWL  
NBU 921–19D2DS  
365' FNL & 680' FWL

BASIS OF BEARINGS IS THE NORTH LINE OF THE NW 1/4 OF SECTION 19, T9S, R21E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR  $S89^\circ41'11''W$ .



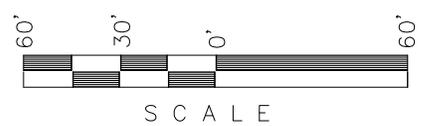
| LATITUDE & LONGITUDE<br>Surface Position – (NAD 27) |                             |                               |
|---|-----------------------------|-------------------------------|
| WELL  | N. LATITUDE                 | W. LONGITUDE                  |
| 921–19F1BS  | 40°01'38.452"<br>40.027348" | 109°35'59.795"<br>109.599943" |
| 921–19C4CS  | 40°01'38.645"<br>40.027401" | 109°35'59.850"<br>109.599958" |
| 921–19D3AS  | 40°01'38.839"<br>40.027455" | 109°35'59.905"<br>109.599974" |
| 921–19D2DS  | 40°01'39.030"<br>40.027508" | 109°35'59.961"<br>109.599989" |

| LATITUDE & LONGITUDE<br>Bottom Hole – (NAD 27) |                             |                               |
|--|-----------------------------|-------------------------------|
| WELL   | N. LATITUDE                 | W. LONGITUDE                  |
| 921–19F1BS                                     | 40°01'27.839"<br>40.024400" | 109°35'45.196"<br>109.595888" |
| 921–19C4CS                                     | 40°01'32.640"<br>40.025733" | 109°35'45.306"<br>109.595918" |
| 921–19D3AS                                     | 40°01'35.133"<br>40.026426" | 109°36'08.562"<br>109.602378" |
| 921–19D2DS                                     | 40°01'40.142"<br>40.027817" | 109°36'08.676"<br>109.602410" |

**Kerr–McGee**  
**Oil & Gas Onshore, LP**  
1099 18th Street – Denver, Colorado 80202



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

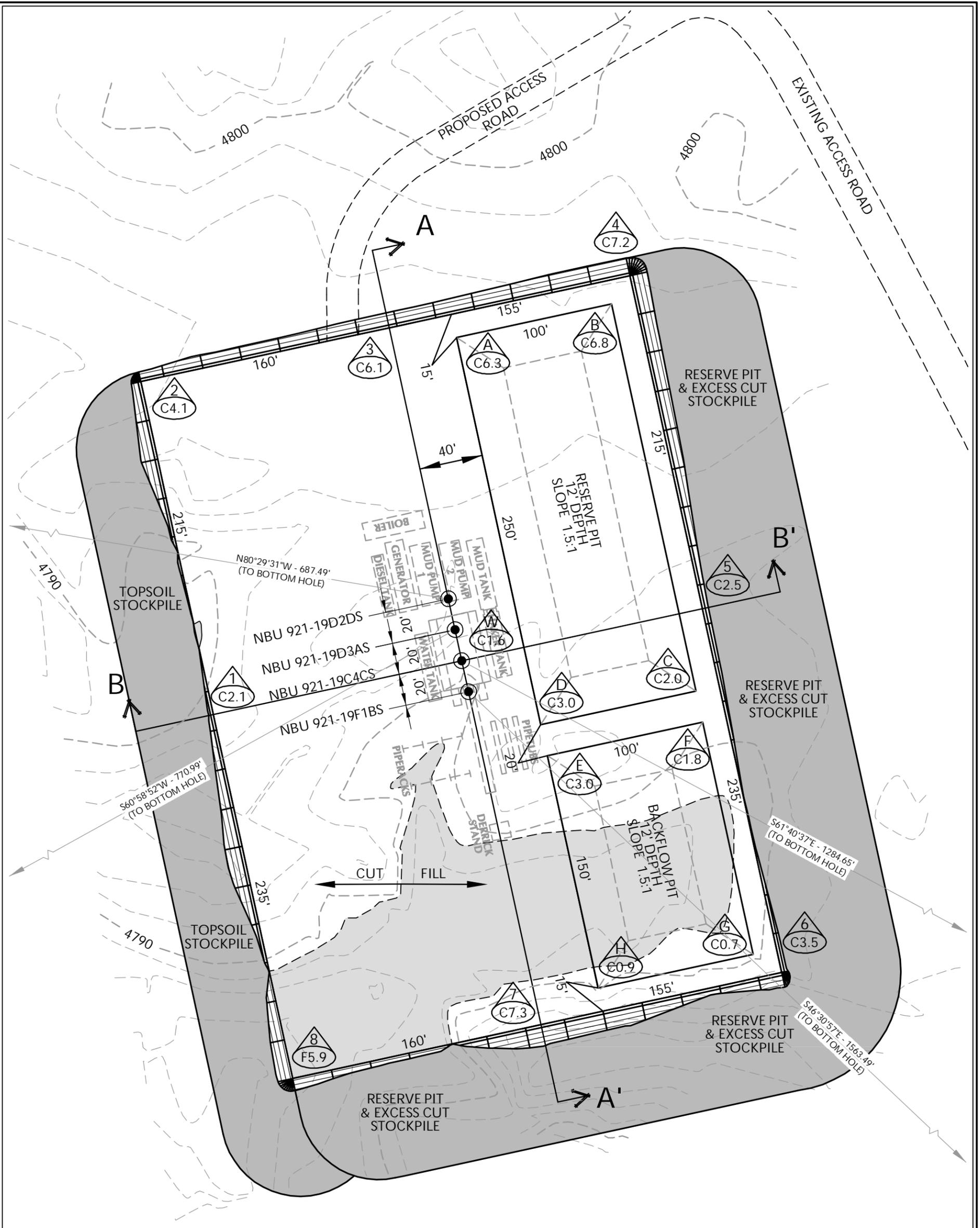


NBU 921–19F1BS, NBU 921–19C4CS,  
NBU 921–19D3AS & NBU 921–19D2DS  
LOCATED IN SECTION 19, T9S, R21E,  
S.L.B.&M. UTAH COUNTY, UTAH.

|                         |                     |
|-------------------------|---------------------|
| DATE SURVEYED: 01-07-09 | SURVEYED BY: M.S.B. |
| DATE DRAWN: 01-13-09    | DRAWN BY: M.W.W.    |
|                         | REVISED: 07-01-09   |

**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET  
**5**  
OF 13



**WELL PAD NBU 921-19D QUANTITIES**

EXISTING GRADE @ CENTER OF WELL PAD = 4790.4'  
 FINISHED GRADE ELEVATION = 4788.8'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 17,473 C.Y.  
 TOTAL FILL FOR WELL PAD = 4,067 C.Y.  
 TOPSOIL @ 6" DEPTH = 2,815 C.Y.  
 EXCESS MATERIAL = 13,406 C.Y.  
 TOTAL DISTURBANCE = 3.49 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00  
 RESERVE PIT CAPACITY (2' OF FREEBOARD)  
 +/- 32,370 BARRELS  
 RESERVE PIT VOLUME  
 +/- 8,510 CY  
 BACKFLOW PIT CAPACITY (2' OF FREEBOARD)  
 +/- 18,300 BARRELS  
 BACKFLOW PIT VOLUME  
 +/- 4,860 CY

**WELL PAD LEGEND**

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)



HORIZONTAL 0 30 60 1" = 60'  
 2' CONTOURS

**Kerr-McGee Oil & Gas Onshore, LP**  
 1099 18th Street - Denver, Colorado 80202



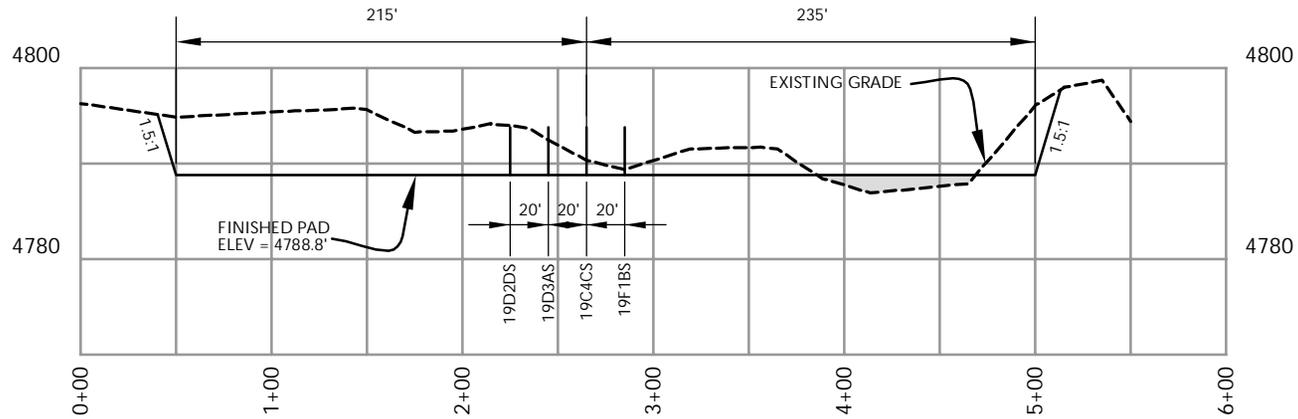
**609 CONSULTING, LLC**  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

|               |              |             |
|---------------|--------------|-------------|
| Scale: 1"=60' | Date: 3/5/09 | SHEET NO: 6 |
| REVISED:      | DJD 7/31/09  | 6 OF 13     |

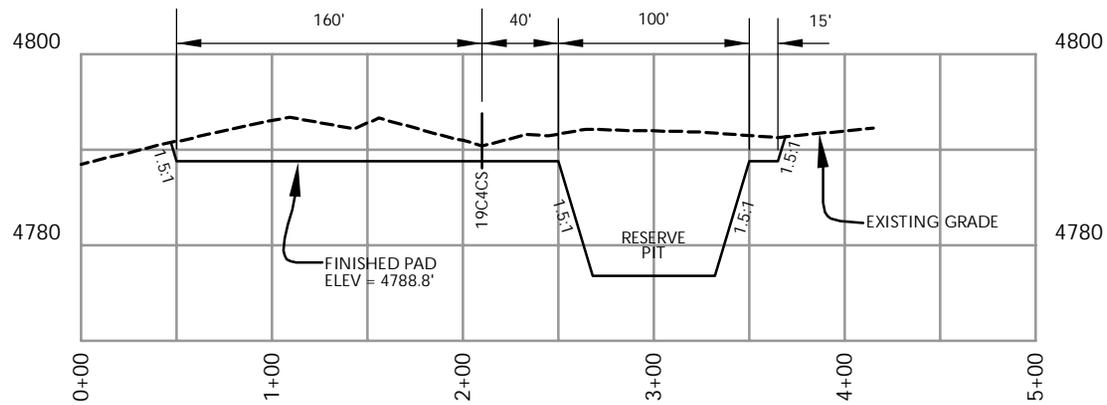
**WELL PAD - LOCATION LAYOUT**  
 NBU 921-19F1BS, NBU 921-19C4CS,  
 NBU 921-19D3AS & NBU 921-19D2DS  
 LOCATED IN SECTION 19, T.9S., R.21E.  
 S.L.B.&M., Uintah County, Utah

**TIMBERLINE ENGINEERING & LAND SURVEYING, INC.** (435) 789-1365  
 209 NORTH 300 WEST - VERNAL, UTAH 84078

K:\AMADAR\K02008\_27\_NBU\_Directional\_Wells\WORK\921\_19D.dwg, 7/31/2009 3:31:26 PM, PDF-XChange for Acrobat Pro



**CROSS SECTION A-A'**



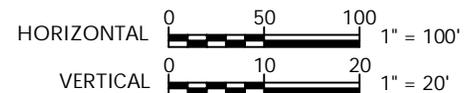
**CROSS SECTION B-B'**

**Kerr-McGee Oil & Gas Onshore, LP**  
 1099 18th Street - Denver, Colorado 80202

WELL PAD - CROSS SECTIONS  
 NBU 921-19F1BS, NBU 921-19C4CS,  
 NBU 921-19D3AS & NBU 921-19D2DS  
 LOCATED IN SECTION 19, T9S, R21E,  
 S.L.B.&M., Uintah County, Utah

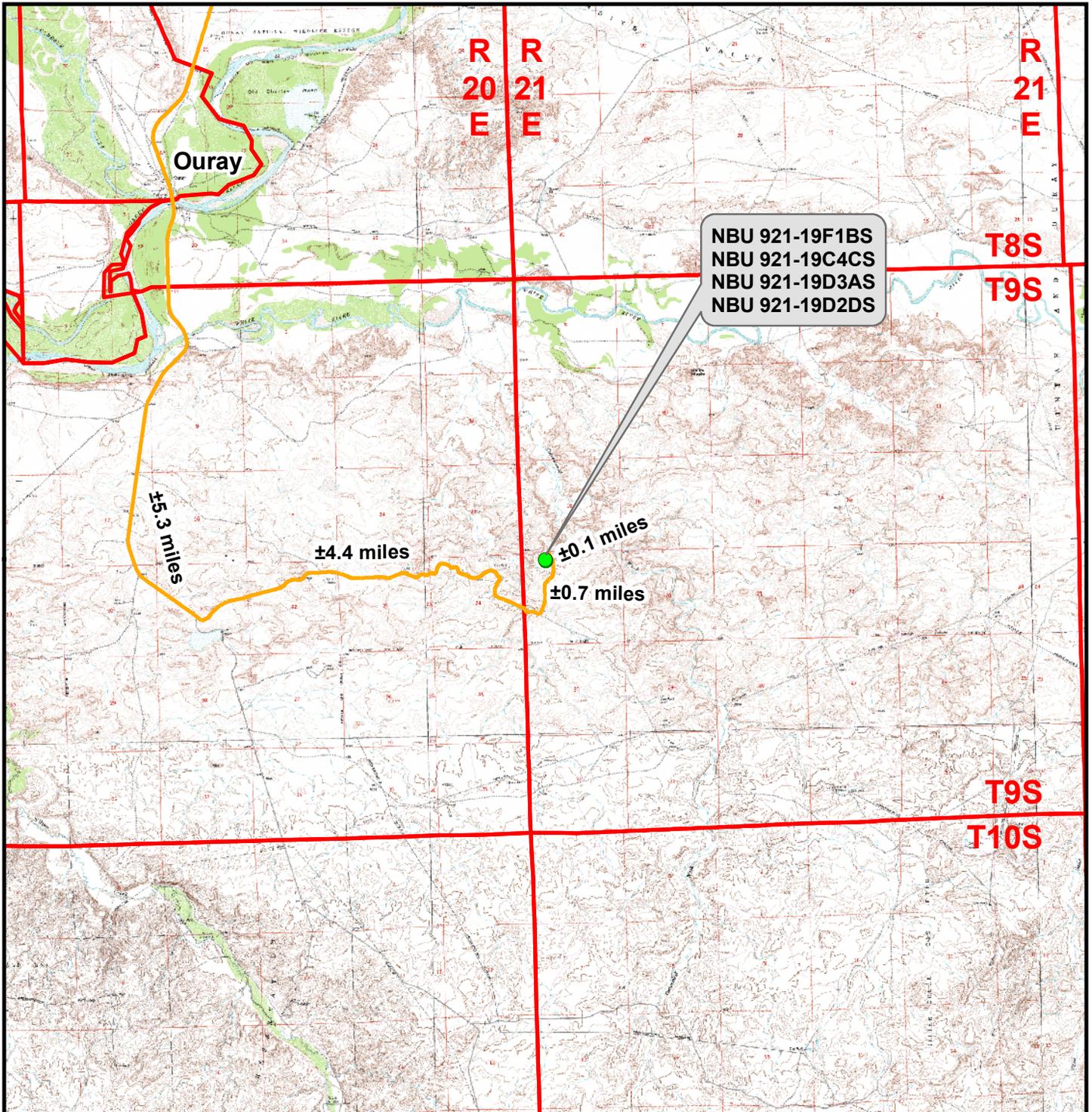


CONSULTING, LLC  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182



|                |                |                     |
|----------------|----------------|---------------------|
| Scale: 1"=100' | Date: 3/5/09   | SHEET NO:           |
| REVISED:       | DJD<br>7/31/09 | <b>7</b><br>7 OF 13 |

**TIMBERLINE** (435) 789-1365  
**ENGINEERING & LAND SURVEYING, INC.**  
 209 NORTH 300 WEST - VERNAL, UTAH 84078



**Legend**

- Proposed Well Location
- Access Route - Proposed

Kerr-McGee Oil & Gas Onshore, LP  
 1099 18th Street, Denver, Colorado 80202

**NBU 921-19F1BS, NBU 921-19C4CS,  
 NBU 921-19D3AS & NBU 921-19D2DS**

**Topo A**

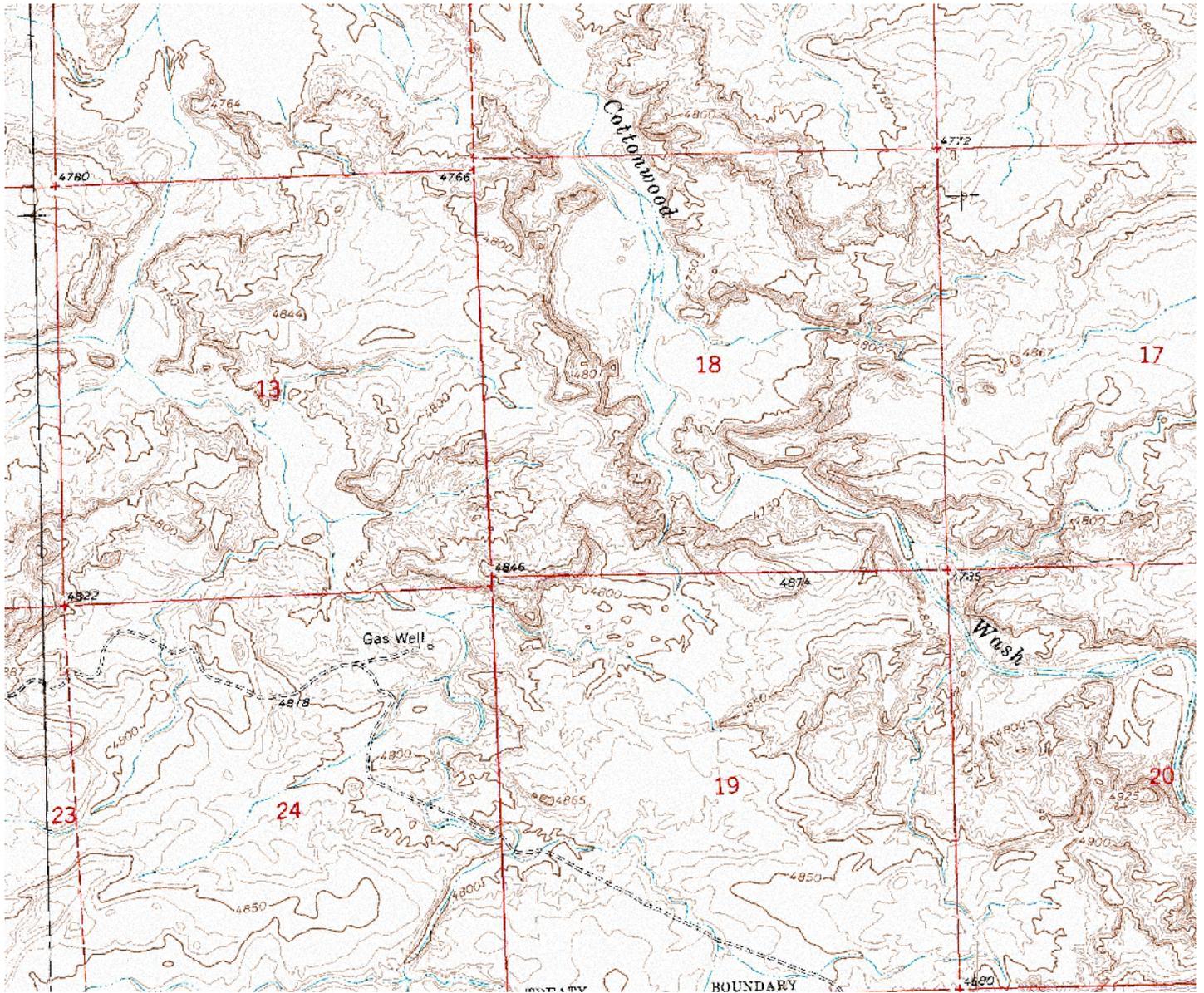
**Located In Section 19, T9S, R21E  
 S.L.B.&M., Uintah County, Utah**



|                  |                    |                     |
|------------------|--------------------|---------------------|
| Scale: 1:100,000 | NAD83 USP Central  | Sheet No:           |
| Drawn: JELO      | Date: 24 Feb 2009  | <b>9</b><br>9 of 13 |
| Revised: JELO    | Date: 31 July 2009 |                     |







**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182

Sheet No:

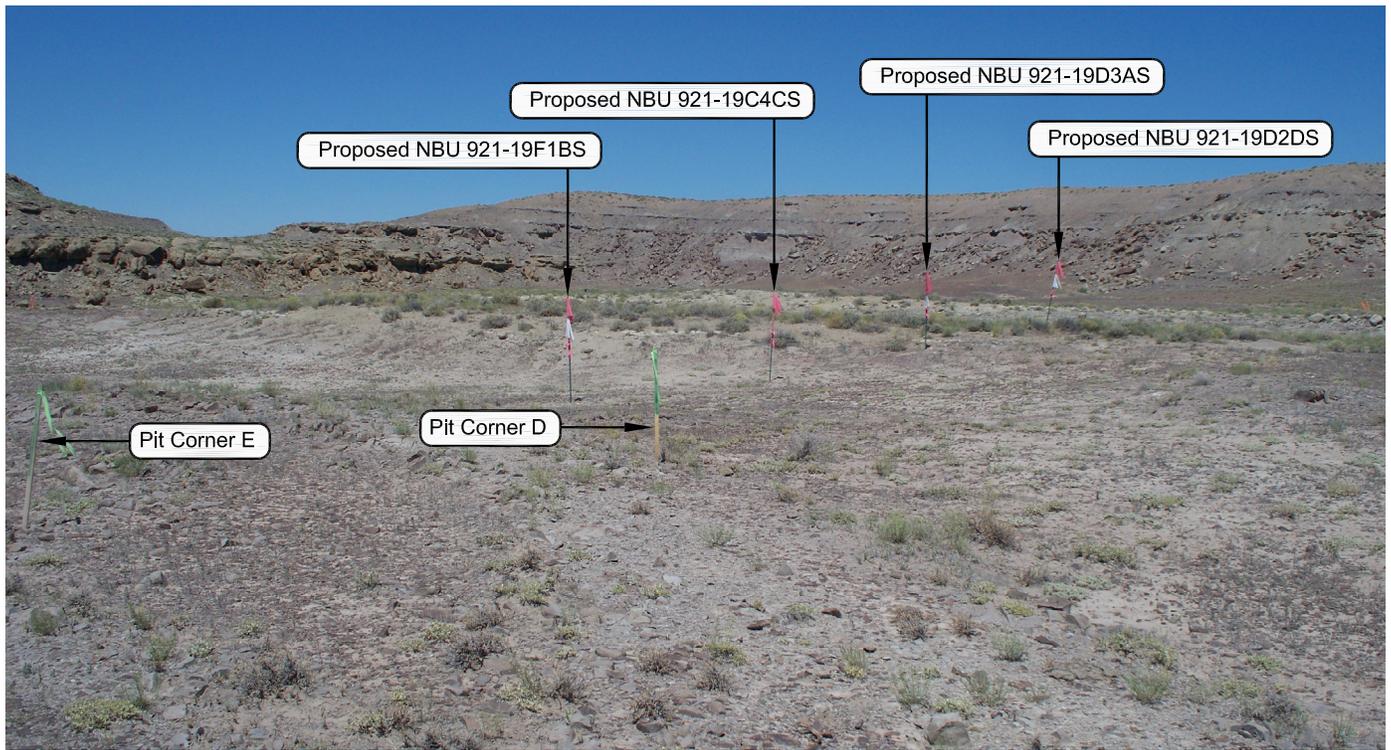


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKES

CAMERA ANGLE: NORTHWESTERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: WESTERLY

**Kerr-McGee  
Oil & Gas Onshore, LP**

1099 18th Street - Denver, Colorado 80202

NBU 921-19F1BS, NBU 921-19C4CS,  
NBU 921-19D3AS & NBU 921-19D2DS  
LOCATED IN SECTION 19, T9S, R21E,  
S.L.B.&M. UINTAH COUNTY, UTAH.



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

**LOCATION PHOTOS**

TAKEN BY: M.S.B.

DRAWN BY: M.W.W.

DATE TAKEN: 06-29-09

DATE DRAWN: 07-01-09

REVISED:

**Timberline**

Engineering & Land Surveying, Inc.  
209 NORTH 300 WEST VERNAL, UTAH 84078

(435) 789-1365

SHEET  
**8**  
OF 13

**Kerr-McGee Oil & Gas Onshore, LP**  
**NBU 921-19F1BS, NBU 921-19C4CS, NBU 921-19D3AS & NBU 921-19D2DS**  
**Section 19, T9S, R21E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 5.3 MILES TO THE INTERSECTION OF A SERVICE ROAD TO THE EAST. EXIT LEFT AND PROCEED IN A NORTHEASTERLY THEN SOUTHEASTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 4.4 MILES TO A SECOND SERVICE ROAD TO THE NORTH. EXIT LEFT AND PROCEED NORTHERLY ALONG THE SECOND SERVICE ROAD APPROXIMATELY 0.7 MILES TO THE PROPOSED ACCESS ROAD. FOLLOW ROAD FLAGS IN A SOUTHWESTERLY DIRECTION APPROXIMATELY 315 FEET TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 41.2 MILES IN A SOUTHERLY DIRECTION.

**NBU 921-19C4CS**

Surface: 521' FNL 1,364' FWL (NW/4NW/4) Lot 1  
BHL: 1,137' FNL 2,485' FWL (NE/4NW/4)

**NBU 921-19D2DS**

Surface: 482' FNL, 1,356' FWL (NW/4NW/4) Lot 1  
BHL: 365' FNL 680' FWL (NW/4NW/4) Lot 1

**NBU 921-19D3AS**

Surface: 502' FNL, 1,360' FWL (NW/4NW/4) Lot 1  
BHL: 872' FNL 680' FWL (NW/4NW/4) Lot 1

**NBU 921-19F1BS**

Surface: 541' FNL, 1,368' FWL (NW/4NW/4) Lot 1  
BHL: 1,623' FNL 2,485' FWL (SE/4NW/4)

Pad: NBU 921-19D  
Sec. 19 T9S R21E

Uintah, Utah

Operator: Kerr-McGee Oil & Gas Onshore LP  
Mineral Lease: UTU 0581  
Surface Owner: Ute Indian Tribe

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN  
SUBMITTED WITH SITE-SPECIFIC INFORMATION***

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA) documents. An NOS was submitted showing the surface locations in NW/4 NW/4 of Section 19 T9S R21E.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BIA-Ft Duchesne Office.

An on-site meeting was held on June 24, 2009. Present were:

- Verlyn Pindell and Dave Gordon – BLM;
- Kolby Kay and Mitch Batty – Timberline Surveying, Inc.
- Tony Kazeck, Jeff Samuels, Raleen White, David Liddell, and Hal Blanchard – Kerr-McGee
- Bucky Secakuku – BIA
- Nick Hall – Grasslands Consulting, Inc.
- Scott Carson – Smiling Lake Consulting
- Keith Montgomery – Montgomery Archaeological Consultants, Inc.

**Directional Drilling:**

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

**1. Existing Roads:**

- A) Refer to Topo Map A for directions to the location.
- B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

**2. Planned Access Roads:**

*See MDP for additional details on road construction.*

Approximately  $\pm 315'$  ( $\pm 0.06$  miles) of new access road is proposed. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

*Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.*

**3. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

**4. Location of Existing and Proposed Facilities:**

*See MDP for additional details on Existing and Proposed Facilities.*

*The following guidelines will apply if the well is productive.*

Approximately 660' ( $\pm 0.1$  miles) of buried pipeline is proposed around the well pad. Another approximately  $\pm 95'$  ( $\pm 0.02$  miles) of buried pipeline is proposed from the tie in point to the edge of the pad. Refer to Topo D for the existing pipeline. Appropriate surface use agreements have been or will be obtained from the Ute Indian Tribe. Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place

**5. Location and Type of Water Supply:**

*See MDP for additional details on Location and Type of Water Supply.*

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

No water well is to be drilled on this lease.

**6. Source of Construction Materials:**

*See MDP for additional details on Source of Construction Materials.*

**7. Methods of Handling Waste Materials:**

*See MDP for additional details on Methods of Handling Waste Materials.*

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E

NBU #159 in Sec. 35 T9S R21E

Ace Oilfield in Sec. 2 T6S R20E

MC&MC in Sec. 12 T6S R19E

Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

**8. Ancillary Facilities:**

*See MDP for additional details on Ancillary Facilities.*

None are anticipated.

**9. Well Site Layout:** (See Location Layout Diagram)

*See MDP for additional details on Well Site Layout.*

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

**10. Plans for Reclamation of the Surface:**

*See MDP for additional details on Plans for Reclamation of the Surface.*

Kerr-McGee shall call the BIA for the seed mixture prior to starting interim and/or final reclamation actions.

**11. Surface/Mineral Ownership:**

The well pad and access road are located on lands owned by:

Ute Indian Tribe

PO Box 70

Fort Duchesne, Utah 84026

435-722-5141

The mineral ownership is listed below:

United States of America  
Bureau of Land Management  
170 South 500 East  
Vernal, UT 84078  
435-781-4400

12. **Other Information:**  
*See MDP for additional details on Other Information.*

13. Lessee's or Operators' Representative & Certification:

Danielle Piernot  
Regulatory Analyst I  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6156

Tommy Thompson  
General Manager, Drilling  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720-929-6724

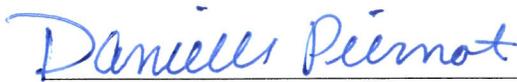
Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

  
Danielle Piernot

April 9, 2010  
Date

'APIWellNo:43047510560000'



Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
DENVER, CO 80217-3779

April 8, 2010

Ms. Diana Mason  
Division of Oil, Gas and Mining  
P.O. Box 145801  
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11  
NBU 921-19F1BS  
T9S-R21E  
Section 19: NWNW surface, SENW bottom hole  
Surface: 541' FNL, 1368' FWL  
Bottom Hole: 1623' FNL, 2485' FWL  
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

- Kerr-McGee's NBU 921-19F1BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information, Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

Joe Matney  
Sr. Staff Landman

'APIWellNo:43047510560000'

CLASS I REVIEW OF KERR-MCGEE OIL & GAS  
ONSHORE LP'S PROPOSED NBU #921-19C4CS,  
NBU #921-19D2DS, NBU #921-19D3AS, AND  
NBU #921-19F1BS DRILL LOCATIONS IN  
T9S, R21E SECTION 19, UINTAH COUNTY, UTAH

By:

Nicole Shelnut

Prepared For:

Ute Tribal Land  
Uintah and Ouray Agency

Prepared Under Contract With:

Kerr-McGee Oil & Gas Onshore LP  
1368 South 1200 East  
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.  
P.O. Box 219  
Moab, Utah 84532

MOAC Report No. 09-011b

July 30, 2009

United States Department of Interior (FLPMA)  
Permit No. 09-UT-60122

Ute Tribal Permit No. A09-363

**IPC #09-126**

# **Paleontological Reconnaissance Survey Report**

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**Survey of Kerr McGee's Proposed Multi-Well Pad, Access Road  
& Pipeline for "NBU #921-19F1BS, C4CS, D3AS, &  
D2DS" (Sec. 19, T 9 S, R 21 E)**

Ouray SE  
Topographic Quadrangle  
Uintah County, Utah

August 19, 2009

Prepared by Stephen D. Sandau  
Paleontologist for  
Intermountain Paleo-Consulting  
P. O. Box 1125  
Vernal, Utah 84078



# Grasslands Consulting, Inc.

4800 Happy Canyon Road, Suite 110, Denver, CO 80237

(303) 759-5377 Office (303) 759-5324 Fax

## **SPECIAL STATUS PLANT AND WILDLIFE SPECIES REPORT**

**Operator:** Kerr-McGee Oil & Gas Onshore LP

**Wells:** NBU 921-19D Pad (Bores: NBU 921-19D2DS, NBU 921-19D3AS, NBU 921-19C4CS, NBU 921-19F1BS)

**Pipelines:** Proposed pipeline leading to the NBU 921-19D

**Access Roads:** Proposed Access Road leading to the NBU 921-19D

**Location:** Section 19, Township 9 South, Range 21 East; Uintah County, Utah

**Survey-Species:** Uinta Basin Hookless Cactus (*Sclerocactus wetlandicus*) and nesting raptors

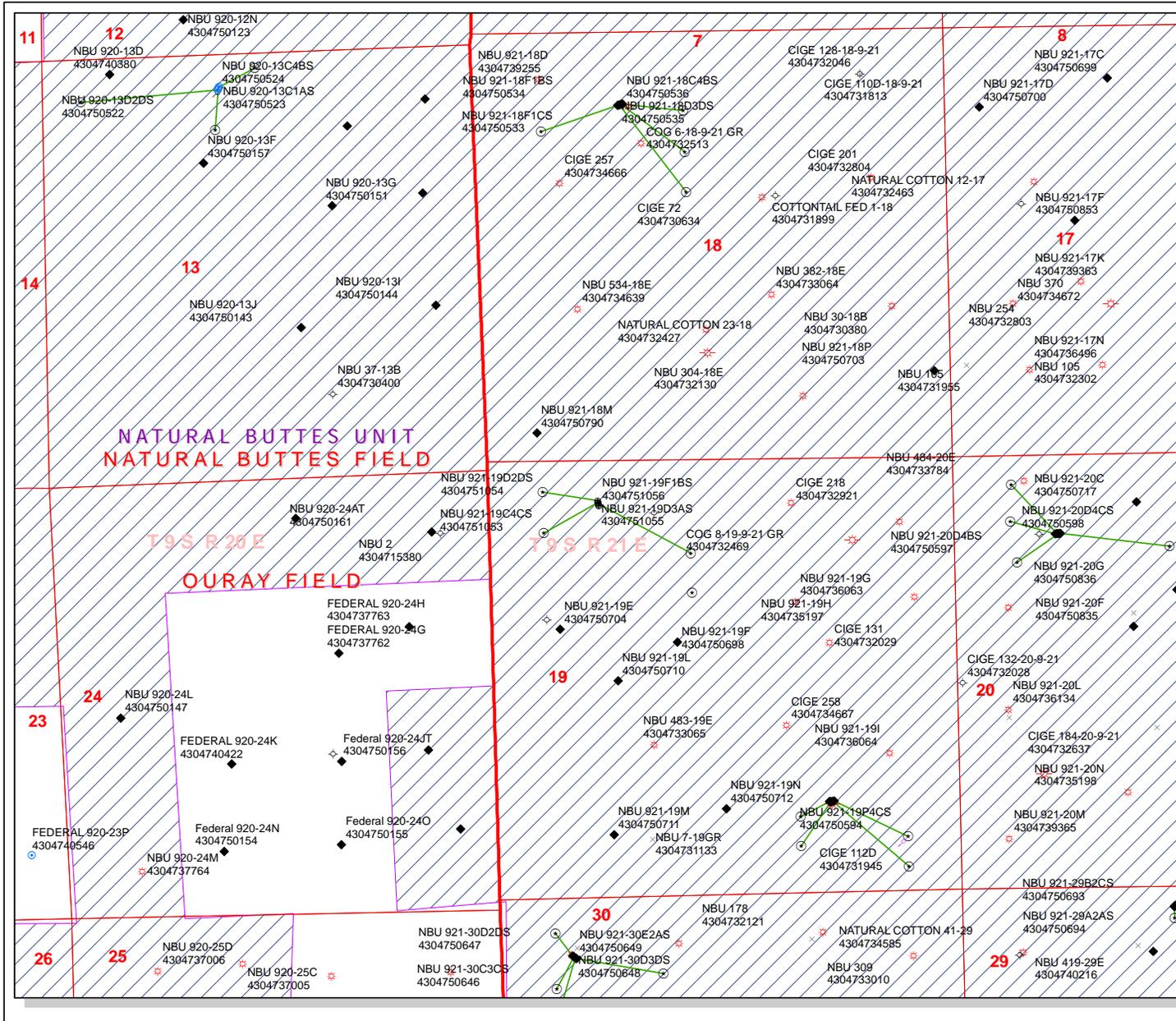
**Date:** 06/16/09

**Observer(s):** Grasslands Consulting, Inc. Biologists: Nick Hall, Chris Gayer, BJ Lukins, Jay Slocum, Dan Hamilton, Matt Kelahan, and Jonathan Sexauer. Technicians: Chad Johnson

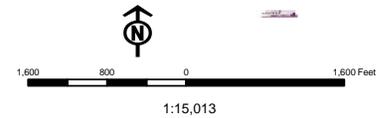
**Weather:** Partly cloudy, 80-85°F, 0-5 mph winds with no precipitation.

**API Number: 4304751056**  
**Well Name: NBU 921-19F1BS**  
**Township 09.0 S Range 21.0 E Section 19**  
**Meridian: SLBM**  
 Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:  
 Map Produced by Diana Mason



- | Units  | Wells Query  |
|--|--|
| <span style="border: 1px solid red; display: inline-block; width: 10px; height: 10px;"></span> ACTIVE          | <span style="color: red;">X</span> -all other values-                  |
| <span style="border: 1px dashed red; display: inline-block; width: 10px; height: 10px;"></span> EXPLORATORY    | <span style="color: blue;">♦</span> APD - Approved Permit              |
| <span style="border: 1px solid blue; display: inline-block; width: 10px; height: 10px;"></span> GAS STORAGE    | <span style="color: blue;">○</span> DRL - Spudded (Drilling Commenced) |
| <span style="border: 1px solid green; display: inline-block; width: 10px; height: 10px;"></span> NF PP OIL     | <span style="color: red;">+</span> GIW - Gas Injection                 |
| <span style="border: 1px solid purple; display: inline-block; width: 10px; height: 10px;"></span> NF SECONDARY | <span style="color: blue;">+</span> GS - Gas Storage                   |
| <span style="border: 1px solid blue; display: inline-block; width: 10px; height: 10px;"></span> PI OIL         | <span style="color: red;">X</span> LA - Location Abandoned             |
| <span style="border: 1px solid purple; display: inline-block; width: 10px; height: 10px;"></span> PP GAS       | <span style="color: blue;">+</span> LOC - New Location                 |
| <span style="border: 1px solid green; display: inline-block; width: 10px; height: 10px;"></span> PP GEOTHERMAL | <span style="color: red;">+</span> OPS - Operation Suspended           |
| <span style="border: 1px solid purple; display: inline-block; width: 10px; height: 10px;"></span> PP OIL       | <span style="color: red;">+</span> PA - Plugged Abandoned              |
| <span style="border: 1px solid red; display: inline-block; width: 10px; height: 10px;"></span> SECONDARY       | <span style="color: green;">+</span> PGW - Producing Gas Well          |
| <span style="border: 1px solid blue; display: inline-block; width: 10px; height: 10px;"></span> TERMINATED     | <span style="color: red;">+</span> POW - Producing Oil Well            |
| <span style="border: 1px solid purple; display: inline-block; width: 10px; height: 10px;"></span> Fields       | <span style="color: blue;">+</span> RET - Returned APD                 |
| <span style="border: 1px solid red; display: inline-block; width: 10px; height: 10px;"></span> Sections        | <span style="color: red;">+</span> SGW - Shut-in Gas Well              |
| <span style="border: 1px solid blue; display: inline-block; width: 10px; height: 10px;"></span> Township       | <span style="color: green;">+</span> SOW - Shut-in Oil Well            |
|  | <span style="color: red;">+</span> TA - Temp. Abandoned                |
|  | <span style="color: blue;">○</span> TW - Test Well                     |
|  | <span style="color: red;">+</span> WDW - Water Disposal                |
|  | <span style="color: blue;">+</span> WW - Water Injection Well          |
|  | <span style="color: purple;">+</span> WSW - Water Supply Well          |



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office

P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160

(UT-922)

April 19, 2010

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2010 Plan of Development Natural Buttes Unit  
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2010 within the Natural Buttes Unit, Uintah County, Utah.

| API # | WELL NAME | LOCATION |
|-------|-----------|----------|
|-------|-----------|----------|

(Proposed PZ WASATCH-MESA VERDE)

|              |             |                                    |
|--------------|-------------|------------------------------------|
| 43-047-51039 | NBU 920-210 | Sec 21 T09S R20E 0054 FSL 1652 FEL |
|--------------|-------------|------------------------------------|

|              |                |                                    |
|--------------|----------------|------------------------------------|
| 43-047-51042 | NBU 920-22M4BS | Sec 22 T09S R20E 1173 FSL 2388 FWL |
|              | BHL            | Sec 22 T09S R20E 0545 FSL 0900 FWL |

|              |                |                                    |
|--------------|----------------|------------------------------------|
| 43-047-51053 | NBU 921-19C4CS | Sec 19 T09S R21E 0521 FNL 1364 FWL |
|              | BHL            | Sec 19 T09S R21E 1137 FNL 2485 FWL |

|              |                |                                    |
|--------------|----------------|------------------------------------|
| 43-047-51054 | NBU 921-19D2DS | Sec 19 T09S R21E 0482 FNL 1356 FWL |
|              | BHL            | Sec 19 T09S R21E 0365 FNL 0680 FWL |

|              |                |                                    |
|--------------|----------------|------------------------------------|
| 43-047-51055 | NBU 921-19D3AS | Sec 19 T09S R21E 0502 FNL 1360 FWL |
|              | BHL            | Sec 19 T09S R21E 0872 FNL 0680 FWL |

|              |                |                                    |
|--------------|----------------|------------------------------------|
| 43-047-51056 | NBU 921-19F1BS | Sec 19 T09S R21E 0541 FNL 1368 FWL |
|              | BHL            | Sec 19 T09S R21E 1623 FNL 2485 FWL |

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

'APIWellNo:43047510560000'

bcc: File - Natural Buttes Unit  
Division of Oil Gas and Mining  
Central Files  
Agr. Sec. Chron  
Fluid Chron

MCoulthard:mc:4-19-10

**WORKSHEET  
APPLICATION FOR PERMIT TO DRILL**

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**APD RECEIVED:** 4/12/2010

**API NO. ASSIGNED:** 43047510560000

**WELL NAME:** NBU 921-19F1BS

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

**PHONE NUMBER:** 720 929-6156

**CONTACT:** Danielle Piernot

**PROPOSED LOCATION:** NWNW 19 090S 210E

**Permit Tech Review:**

**SURFACE:** 0541 FNL 1368 FWL

**Engineering Review:**

**BOTTOM:** 1623 FNL 2485 FWL

**Geology Review:**

**COUNTY:** UINTAH

**LATITUDE:** 40.02730

**LONGITUDE:** -109.59990

**UTM SURF EASTINGS:** 619470.00

**NORTHINGS:** 4431516.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 1 - Federal

**LEASE NUMBER:** UTU 0581

**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**SURFACE OWNER:** 2 - Indian

**COALBED METHANE:** NO

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**RECEIVED AND/OR REVIEWED:**

**LOCATION AND SITING:**

**PLAT**

**R649-2-3.**

**Bond:** FEDERAL - WYB000291

**Unit:** NATURAL BUTTES

**Potash**

**R649-3-2. General**

**Oil Shale 190-5**

**R649-3-3. Exception**

**Oil Shale 190-3**

**Oil Shale 190-13**

**Drilling Unit**

**Water Permit:** Permit #43-8496

**Board Cause No:** Cause 173-14

**RDCC Review:**

**Effective Date:** 12/2/1999

**Fee Surface Agreement**

**Siting:** 460' Fr U Bdry & Uncommitted Tracts

**Intent to Commingle**

**R649-3-11. Directional Drill**

**Commingle Approved**

---

**Comments:** Presite Completed

**Stipulations:** 3 - Commingle - ddoucet  
4 - Federal Approval - dmason  
15 - Directional - dmason  
17 - Oil Shale 190-5(b) - dmason



GARY R. HERBERT  
*Governor*

GREGORY S. BELL  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 921-19F1BS  
**API Well Number:** 43047510560000  
**Lease Number:** UTU 0581  
**Surface Owner:** INDIAN  
**Approval Date:** 5/3/2010

**Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

**Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

**Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

**Commingle:**

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

**General:**

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

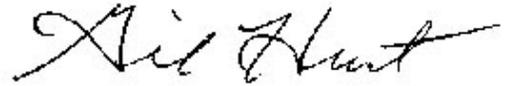
- Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available)
- OR
- submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <https://oilgas.ogm.utah.gov>

**Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

**Approved By:**



Gil Hunt  
Associate Director, Oil & Gas

|  |   |
|--|---|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING  | <b>FORM 9</b><br><br><b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>UTU 0581 |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br><br>Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals. | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b><br>Ute Tr                          |
| <b>1. TYPE OF WELL</b><br>Gas Well   | <b>7. UNIT or CA AGREEMENT NAME:</b><br>NATURAL BUTTES                          |
| <b>2. NAME OF OPERATOR:</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.  | <b>8. WELL NAME and NUMBER:</b><br>NBU 921-19F1BS                               |
| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779  | <b>9. API NUMBER:</b><br>43047510560000   |
| <b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b><br>0541 FNL 1368 FWL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: NWNW Section: 19 Township: 09.0S Range: 21.0E Meridian: S  | <b>9. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES                          |
|  | <b>COUNTY:</b><br>UINTAH  |
|  | <b>STATE:</b><br>UTAH   |

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION   | TYPE OF ACTION   |   |  |
|--|--|---|--|
| <input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b><br>Approximate date work will start:<br>5/3/2011 | <input type="checkbox"/> ACIDIZE                       | <input type="checkbox"/> ALTER CASING                   | <input type="checkbox"/> CASING REPAIR                   |
| <input type="checkbox"/> <b>SUBSEQUENT REPORT</b><br>Date of Work Completion:                                | <input type="checkbox"/> CHANGE TO PREVIOUS PLANS      | <input type="checkbox"/> CHANGE TUBING                  | <input type="checkbox"/> CHANGE WELL NAME                |
| <input type="checkbox"/> <b>SPUD REPORT</b><br>Date of Spud:   | <input type="checkbox"/> CHANGE WELL STATUS            | <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS | <input type="checkbox"/> CONVERT WELL TYPE               |
| <input type="checkbox"/> <b>DRILLING REPORT</b><br>Report Date:  | <input type="checkbox"/> DEEPEN                        | <input type="checkbox"/> FRACTURE TREAT                 | <input type="checkbox"/> NEW CONSTRUCTION                |
|  | <input type="checkbox"/> OPERATOR CHANGE               | <input type="checkbox"/> PLUG AND ABANDON               | <input type="checkbox"/> PLUG BACK                       |
|  | <input type="checkbox"/> PRODUCTION START OR RESUME    | <input type="checkbox"/> RECLAMATION OF WELL SITE       | <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  |
|  | <input type="checkbox"/> REPERFORATE CURRENT FORMATION | <input type="checkbox"/> SIDETRACK TO REPAIR WELL       | <input type="checkbox"/> TEMPORARY ABANDON               |
|  | <input type="checkbox"/> TUBING REPAIR                 | <input type="checkbox"/> VENT OR FLARE                  | <input type="checkbox"/> WATER DISPOSAL                  |
|  | <input type="checkbox"/> WATER SHUTOFF                 | <input type="checkbox"/> SI TA STATUS EXTENSION         | <input checked="" type="checkbox"/> <b>APD EXTENSION</b> |
|  | <input type="checkbox"/> WILDCAT WELL DETERMINATION    | <input type="checkbox"/> OTHER                          | OTHER: <input style="width: 100px;" type="text"/>        |

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.

**Approved by the Utah Division of Oil, Gas and Mining**

**Date:** 04/14/2011

**By:**

|  |                                     |                                    |
|--|-------------------------------------|------------------------------------|
| <b>NAME (PLEASE PRINT)</b><br>Andy Lytle | <b>PHONE NUMBER</b><br>720 929-6100 | <b>TITLE</b><br>Regulatory Analyst |
| <b>SIGNATURE</b><br>N/A                  | <b>DATE</b><br>4/7/2011             |                                    |



**The Utah Division of Oil, Gas, and Mining**

- State of Utah  
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices**

**Request for Permit Extension Validation Well Number 43047510560000**

**API:** 43047510560000

**Well Name:** NBU 921-19F1BS

**Location:** 0541 FNL 1368 FWL QTR NWNW SEC 19 TWP 090S RNG 210E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 5/3/2010

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated?  Yes  No
  
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location?  Yes  No
  
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well?  Yes  No
  
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location?  Yes  No
  
- Has the approved source of water for drilling changed?  Yes  No
  
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation?  Yes  No
  
- Is bonding still in place, which covers this proposed well?  Yes  No

**Signature:** Andy Lytle

**Date:** 4/7/2011

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

RECEIVED

FORM APPROVED  
OMB No. 1004-0136  
Expires July 31, 2010

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APR 09 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER

APD BMT RCVD

|  |   |   |
|--|---|---|
| 1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER   |   | 5. Lease Serial No.<br>UTU0581  |
| 1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone                           |   | 6. If Indian, Allottee or Tribe Name  |
| 2. Name of Operator<br>KERR MCGEE OIL & GAS ONSHORE  |   | 7. If Unit or CA Agreement, Name and No.<br>UTU63047A   |
| 3a. Address<br>1368 SOUTH 1200 EAST<br>VERNAL, UT 84078  |   | 8. Lease Name and Well No.<br>NBU 921-19F1BS  |
| 3b. Phone No. (include area code)<br>Ph: 720-929-6156<br>Fx: 720-929-7156  |   | 9. API Well No.<br>13-047-51056   |
| 4. Location of Well (Report location clearly and in accordance with any State requirements. *)<br>At surface Lot 1 541FNL 1368FWL 40.02731 N Lat, 109.60063 W Lon<br>At proposed prod. zone SENW 1623FNL 2485FWL 40.02436 N Lat, 109.59658 W Lon |   | 10. Field and Pool, or Exploratory<br>NATURAL BUTTES  |
| 14. Distance in miles and direction from nearest town or post office*<br>APPROXIMATELY 11 MILES SOUTHEAST OF OURAY, UTAH   |   | 11. Sec., T., R., M., or Blk. and Survey or Area<br>Sec 19 T9S R21E Mer SLB   |
| 15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)<br>1623 FEET  | 16. No. of Acres in Lease<br>2399.60      | 12. County or Parish<br>UINTAH  |
| 17. Spacing Unit dedicated to this well  | 13. State<br>UT                           | 18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.<br>APPROXIMATELY 490 FEET |
| 19. Proposed Depth<br>10644 MD<br>10357 TVD  | 20. BLM/BIA Bond No. on file<br>WYB000291 | 21. Elevations (Show whether DF, KB, RT, GL, etc.)<br>4789 GL   |
| 22. Approximate date work will start<br>05/25/2010   | 23. Estimated duration<br>60-90 DAYS      |   |

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

|   |   |                     |
|---|---|---------------------|
| 25. Signature<br>(Electronic Submission)                      | Name (Printed/Typed)<br>DANIELLE E PIERNOT Ph: 720-929-6156 | Date<br>04/09/2010  |
| Title<br>REGULATORY ANALYST                                   |   |                     |
| Approved by (Signature)                                       | Name (Printed/Typed)<br>Jerry Kenczka                       | Date<br>MAY 09 2010 |
| Title<br>Assistant Field Manager<br>Lands & Mineral Resources |   |                     |
| Office<br>VERNAL FIELD OFFICE                                 |   |                     |

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #84510 verified by the BLM Well Information System  
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal  
Committed to AFMSS for processing by ROBIN R. HANSEN on 04/09/2010 140RRH0199AE

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AFMSS# 10RRH0199AE

NOTICE OF APPROVAL

UDOGM

\*\* BLM REVISED \*\*

CONDITIONS OF APPROVAL ATTACHED



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

|          |                                 |            |                          |
|----------|---------------------------------|------------|--------------------------|
| Company: | Kerr McGee Oil & Gas Onshore LP | Location:  | Lot 1, Sec. 19, T9S R21E |
| Well No: | NBU 921-19F1BS                  | Lease No:  | UTU-0581                 |
| API No:  | 43-047-51056                    | Agreement: | Natural Buttes           |

**OFFICE NUMBER: (435) 781-4400**

**OFFICE FAX NUMBER: (435) 781-3420**

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

**NOTIFICATION REQUIREMENTS**

- |   |  |
|---|--|
| Construction Activity<br>(Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)   | - The Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist shall be notified at least 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday.                                      |
| Construction Completion<br>(Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist) | - Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. Notify the BLM Environmental Scientist prior to moving on the drilling rig. |
| Spud Notice<br>(Notify BLM Petroleum Engineer)  | - Twenty-Four (24) hours prior to spudding the well.   |
| Casing String & Cementing<br>(Notify BLM Supv. Petroleum Tech.)                                       | - Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:ut_vn_opreport@blm.gov">ut_vn_opreport@blm.gov</a> .   |
| BOP & Related Equipment Tests<br>(Notify BLM Supv. Petroleum Tech.)                                   | - Twenty-Four (24) hours prior to initiating pressure tests.   |
| First Production Notice<br>(Notify BLM Petroleum Engineer)  | - Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.   |

***SURFACE USE PROGRAM  
CONDITIONS OF APPROVAL (COAs)***

**Site-Specific Conditions of Approval:**

- Paint all facilities "Shadow Gray."
- Move the existing pipeline off the damage area of the well pad.
- Monitor construction operations by a permitted archaeologist. Erect a temporary fence around the site boundary to facilitate avoidance.
- Monitor during construction operations by a permitted paleontologist.
- Monitor construction operations by a permitted biologist to ensure avoidance of Uinta Basin hookless cactus.
- In accordance with the guidelines specified in the Utah BLM Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002, a raptor survey should be conducted prior to expansion of the well pad or pipeline upgrade if construction would take place during raptor nesting season (January 1 through September 30). If active raptor nests are identified during a new survey, KMG should conduct its operations according to the seasonal restrictions detailed in the Uinta Basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines. An active great horned owl nest must be offset by a distance of 0.25 mile during the nesting season from February 1 through September 30 (See Appendix D).
- If project construction operations are not initiated before June 16, 2010, KMG should conduct additional biological surveys in accordance with the guidelines specified in the USFWS Rare Plant Conservation Measures for Uinta Basin hookless cactus (See Appendix D) and conduct its operation according to its specifications.

**BIA Standard Conditions of Approval:**

- Soil erosion will be mitigated by reseeded all disturbed areas.
- The gathering pipelines will be constructed to lie on the surface. The surface pipelines will not be bladed or cleared of vegetation. Where pipelines are constructed parallel to roads they may be welded on the road and then lifted from the road onto the right-of-way. Where pipelines do not parallel roads but cross-country between sites, they shall be welded in place at well sites or on access roads and then pulled between stations with a suitable piece of equipment. Traffic will be restricted along these areas so that the pipeline right-of-way will not be used as an access road.
- An open drilling system shall be used, unless otherwise specified in 10.0 Additional Stipulations of this document and in the Application for Permit to Drill. A closed drilling system shall be used in all flood plain areas, and other highly sensitive areas, recommended by the Ute Tribe Technician, BIA, and other agencies involved.
- The reserve pit shall be lined with a synthetic leak proof liner. After the drilling operation is complete, excess fluids shall be removed from the reserve pit and either hauled to an approved

disposal site or shall be used to drill other wells. When the fluids are removed the pit shall be backfilled a minimum of 3.0' below the soil surface elevation.

- A closed production system shall be used. This means all produced water and oil field fluid wastes shall be contained in leak proof tanks. These fluids shall be disposed of in either approved injection wells or disposal pits.
- Major low water crossings will be armored with pit run material to protect them from erosion.
- All personnel should refrain from collecting any paleontological fossils and from disturbing any fossil resources in the area.
- If fossils are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.
- Before the site is abandoned the company will be required to restore the right-of-way to near its original state. The disturbed area will be reseeded with desirable perennial vegetation. If necessary, the Bureau of Indian Affairs or Bureau of Land Management will provide a suitable seed mixture.
- Noxious weeds will be controlled on all surface disturbances within the project area. If noxious weeds spread from the project area onto adjoining land, the company will also be responsible for their control.
- If project construction operations are scheduled to occur after December 31, 2009, KMG should conduct annual raptor surveys in accordance with the guidelines specified in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002. If active raptor nest are indentified during a new survey, KMG should conduct its operations according to the seasonal restrictions detailed in the Uinta basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines (See Appendix D).
- USFWS threatened and endangered plant and animal conservation measures will be followed, as appropriate to the species identified by the biological resource survey (See Appendix D).
- All personnel should refrain from collecting artifacts and from disturbing any significant cultural resources in the area.
- If artifacts or any culturally sensitive materials are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.

**DOWNHOLE PROGRAM  
CONDITIONS OF APPROVAL (COAs)**

**SITE SPECIFIC DOWNHOLE COAs:**

- A copy of Kerr McGee's Standard Operating Practices (SOP version: dated 7/17/08 and approved 7/28/08) shall be on location.

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to.** The following items are emphasized:

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person

making the report (along with a telephone number) should the BLM need to obtain additional information.

- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

## OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at [www.ONRR.gov](http://www.ONRR.gov).
- In accordance with 43 CFR 3162.4-3, this well shall be reported on the "Monthly Report of Operations" (Oil and Gas Operations Report ((OGOR)) starting with the month in which operations commence and continue each month until the well is physically plugged and abandoned. This report shall be filed in duplicate, directly with the Minerals Management Service, P.O. Box 17110, Denver, Colorado 80217-0110, or call 1-800-525-7922 (303) 231-3650 for reporting information.
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.

- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.
- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in

order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

|  |   |
|--|---|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING  | <b>FORM 9</b><br><br><b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>UTU 0581                                     |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br><br>Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals. | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b><br>Ute Tr  |
| <b>1. TYPE OF WELL</b><br>Gas Well   | <b>7. UNIT or CA AGREEMENT NAME:</b><br>NATURAL BUTTES  |
| <b>2. NAME OF OPERATOR:</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.  | <b>8. WELL NAME and NUMBER:</b><br>NBU 921-19F1BS   |
| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779  | <b>9. API NUMBER:</b><br>43047510560000   |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>0541 FNL 1368 FWL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: NWNW Section: 19 Township: 09.0S Range: 21.0E Meridian: S  | <b>9. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES<br><br><b>COUNTY:</b><br>UINTAH<br><br><b>STATE:</b><br>UTAH |
| 11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  |   |

| TYPE OF SUBMISSION   | TYPE OF ACTION   |   |   |
|--|--|---|---|
| <input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b><br>Approximate date work will start:<br>7/8/2011 | <input type="checkbox"/> ACIDIZE                       | <input type="checkbox"/> ALTER CASING                   | <input type="checkbox"/> CASING REPAIR                  |
| <input type="checkbox"/> <b>SUBSEQUENT REPORT</b><br>Date of Work Completion:                                | <input type="checkbox"/> CHANGE TO PREVIOUS PLANS      | <input type="checkbox"/> CHANGE TUBING                  | <input type="checkbox"/> CHANGE WELL NAME               |
| <input type="checkbox"/> <b>SPUD REPORT</b><br>Date of Spud:   | <input type="checkbox"/> CHANGE WELL STATUS            | <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS | <input type="checkbox"/> CONVERT WELL TYPE              |
| <input type="checkbox"/> <b>DRILLING REPORT</b><br>Report Date:  | <input checked="" type="checkbox"/> DEEPEN             | <input type="checkbox"/> FRACTURE TREAT                 | <input type="checkbox"/> NEW CONSTRUCTION               |
|  | <input type="checkbox"/> OPERATOR CHANGE               | <input type="checkbox"/> PLUG AND ABANDON               | <input type="checkbox"/> PLUG BACK                      |
|  | <input type="checkbox"/> PRODUCTION START OR RESUME    | <input type="checkbox"/> RECLAMATION OF WELL SITE       | <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION |
|  | <input type="checkbox"/> REPERFORATE CURRENT FORMATION | <input type="checkbox"/> SIDETRACK TO REPAIR WELL       | <input type="checkbox"/> TEMPORARY ABANDON              |
|  | <input type="checkbox"/> TUBING REPAIR                 | <input type="checkbox"/> VENT OR FLARE                  | <input type="checkbox"/> WATER DISPOSAL                 |
|  | <input type="checkbox"/> WATER SHUTOFF                 | <input type="checkbox"/> SI TA STATUS EXTENSION         | <input type="checkbox"/> APD EXTENSION                  |
|  | <input type="checkbox"/> WILDCAT WELL DETERMINATION    | <input type="checkbox"/> OTHER                          | OTHER: <input style="width: 50px;" type="text"/>        |

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests to change the total depth (TD) to include the Blackhawk formation, which is in the Mesaverde group for this well. In addition, Kerr-McGee respectfully requests approval in the well design, which includes hole and casing size changes. Please see the attached for additional details. Please contact the undersigned if you have any questions and/or comments. Thank you.

**Approved by the  
 Utah Division of  
 Oil, Gas and Mining**

Date: 07/11/2011  
 By: 

|  |                                     |                                       |
|--|-------------------------------------|---------------------------------------|
| <b>NAME (PLEASE PRINT)</b><br>Laura Abrams | <b>PHONE NUMBER</b><br>720 929-6356 | <b>TITLE</b><br>Regulatory Analyst II |
| <b>SIGNATURE</b><br>N/A                    | <b>DATE</b><br>7/7/2011             |                                       |

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 921-19F1BS**

Surface: 541 FNL / 1368 FWL NWNW LOT 1  
 BHL: 1623 FNL / 2485 FWL SENW

Section 19 T9S R21E

Unitah County, Utah  
 Mineral Lease: UTU-0581

**ONSHORE ORDER NO. 1****DRILLING PROGRAM**

1. & 2. **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

| <u>Formation</u> | <u>Depth</u> | <u>Resource</u> |
|------------------|--------------|-----------------|
| Uinta            | 0 - Surface  |                 |
| Green River      | 1660         |                 |
| Birds Nest       | 1923         | Water           |
| Mahogany         | 2305         | Water           |
| Wasatch          | 5043         | Gas             |
| Mesaverde        | 8092         | Gas             |
| MVU2             | 9102         | Gas             |
| MVL1             | 9644         | Gas             |
| Sego             | 10391        | Gas             |
| Castlegate       | 10533        | Gas             |
| MN5              | 10803        | Gas             |
| TVD              | 11403        |                 |
| TD               | 11693        |                 |

3. **Pressure Control Equipment** (Schematic Attached)

*Please refer to the attached Drilling Program*

4. **Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program*

5. **Drilling Fluids Program:**

*Please refer to the attached Drilling Program*

**6. Evaluation Program:**

*Please refer to the attached Drilling Program*

**7. Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 11403' TVD, approximately equals  
7,578 psi (0.66 psi/ft = actual bottomhole gradient)

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Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 5,069 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

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Per Onshore Order No. 2 - Max Anticipated Surf. Press. (MASP) = (Pore Pressure at next csg point -  
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

**8. Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

**9. Variances:**

*Please refer to the attached Drilling Program.  
Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

**Background**

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*

*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.*

*The air rig is then mobilized to drill the surface casing hole by drilling a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

***Variance for BOPE Requirements***

*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

***Variance for Mud Material Requirements***

*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

***Variance for Special Drilling Operation (surface equipment placement) Requirements***

*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and*

*on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

***Conclusion***

*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

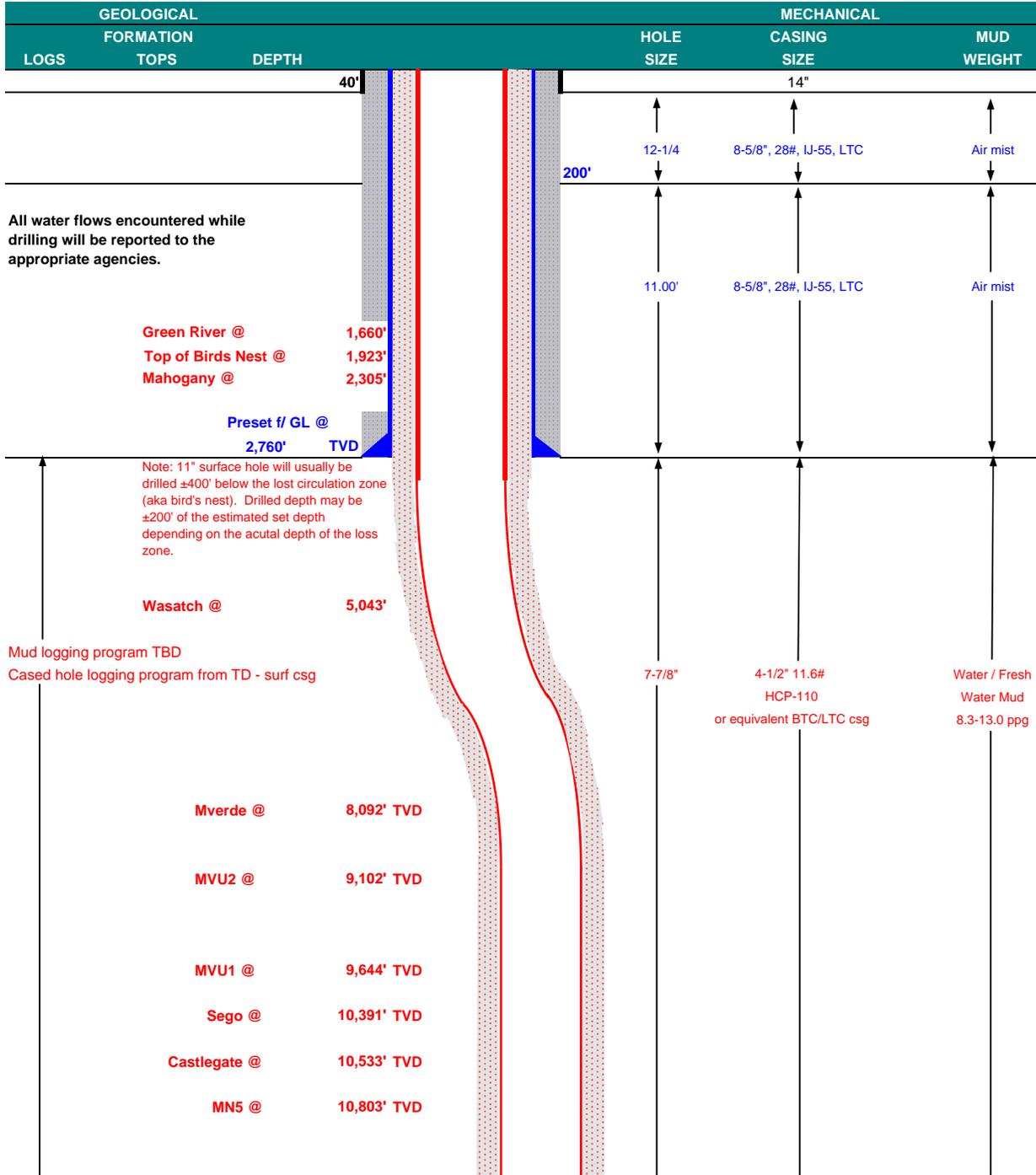
10. **Other Information:**

*Please refer to the attached Drilling Program.*



### KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

|                   |   |          |                        |              |        |                    |        |
|-------------------|---|----------|------------------------|--------------|--------|--------------------|--------|
| COMPANY NAME      | KERR-McGEE OIL & GAS ONSHORE LP   |          | DATE                   | July 6, 2011 |        |                    |        |
| WELL NAME         | <b>NBU 921-19F1BS</b>   |          | TD                     | 11,403'      | TVD    | 11,693' MD         |        |
| FIELD             | Natural Buttes  | COUNTY   | Uintah                 | STATE        | Utah   | FINISHED ELEVATION | 4,789' |
| SURFACE LOCATION  | NWNW  | 541 FNL  | 1368 FWL               | Sec 19       | T 9S   | R 21E              |        |
|                   | Latitude: 40.027312   |          | Longitude: -109.600634 |              | NAD 83 |                    |        |
| BTM HOLE LOCATION | SENW  | 1623 FNL | 2485 FWL               | Sec 19       | T 9S   | R 21E              |        |
|                   | Latitude: 40.024364   |          | Longitude: -109.596578 |              | NAD 83 |                    |        |
| OBJECTIVE ZONE(S) | Wasatch/Mesaverde   |          |                        |              |        |                    |        |
| ADDITIONAL INFO   | Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept. |          |                        |              |        |                    |        |







**KERR-McGEE OIL & GAS ONSHORE LP**  
**DRILLING PROGRAM**

**CASING PROGRAM**

|            | SIZE   | INTERVAL    | WT.   | GR.     | CPLG.      | DESIGN FACTORS |          |         |         |
|------------|--------|-------------|-------|---------|------------|----------------|----------|---------|---------|
|            |        |             |       |         |            | BURST          | COLLAPSE | LTC     | BTC     |
|            |        |             |       |         |            |                |          | TENSION |         |
| CONDUCTOR  | 14"    | 0-40'       |       |         |            |                |          |         |         |
| SURFACE    | 8-5/8" | 0 to 2,760  | 28.00 | IJ-55   | LTC        | 3,390          | 1,880    | 348,000 | N/A     |
| PRODUCTION | 4-1/2" | 0 to 11,693 | 11.60 | HCP-110 | LTC or BTC | 10,690         | 8,650    | 279,000 | 367,000 |
|            |        |             |       |         |            | 1.19           | 1.12     | 2.57    | 3.38    |

**Surface Casing:**

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**CEMENT PROGRAM**

|   |                      | FT. OF FILL | DESCRIPTION                            | SACKS   | EXCESS | WEIGHT | YIELD |
|---|----------------------|-------------|--|---------|--------|--------|-------|
| SURFACE   | LEAD                 | 500'        | Premium cmt + 2% CaCl                  | 180     | 60%    | 15.80  | 1.15  |
| <b>Option 1</b>   |                      |             | + 0.25 pps flocele                     |         |        |        |       |
|   | TOP OUT CMT (6 jobs) | 1,200'      | 20 gals sodium silicate + Premium cmt  | 270     | 0%     | 15.80  | 1.15  |
|   |                      |             | + 2% CaCl + 0.25 pps flocele           |         |        |        |       |
| <b>NOTE: If well will circulate water to surface, option 2 will be utilized</b> |                      |             |  |         |        |        |       |
| SURFACE   | LEAD                 | 2,260'      | 65/35 Poz + 6% Gel + 10 pps gilsonite  | 210     | 35%    | 11.00  | 3.82  |
| <b>Option 2</b>   |                      |             | + 0.25 pps Flocele + 3% salt BWOW      |         |        |        |       |
|   | TAIL                 | 500'        | Premium cmt + 2% CaCl                  | 150     | 35%    | 15.80  | 1.15  |
|   |                      |             | + 0.25 pps flocele                     |         |        |        |       |
|   | TOP OUT CMT          | as required | Premium cmt + 2% CaCl                  | as req. |        | 15.80  | 1.15  |
| PRODUCTION  | LEAD                 | 4,543'      | Premium Lite II +0.25 pps              | 340     | 20%    | 11.00  | 3.38  |
|   |                      |             | celloflake + 5 pps gilsonite + 10% gel |         |        |        |       |
|   |                      |             | + 0.5% extender                        |         |        |        |       |
|   | TAIL                 | 7,150'      | 50/50 Poz/G + 10% salt + 2% gel        | 1,690   | 35%    | 14.30  | 1.31  |
|   |                      |             | + 0.1% R-3                             |         |        |        |       |

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

**FLOAT EQUIPMENT & CENTRALIZERS**

|            |  |
|------------|--|
| SURFACE    | Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe |
| PRODUCTION | Float shoe, 1 jt, float collar. No centralizers will be used.  |

**ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:**

Nick Spence / Danny Showers

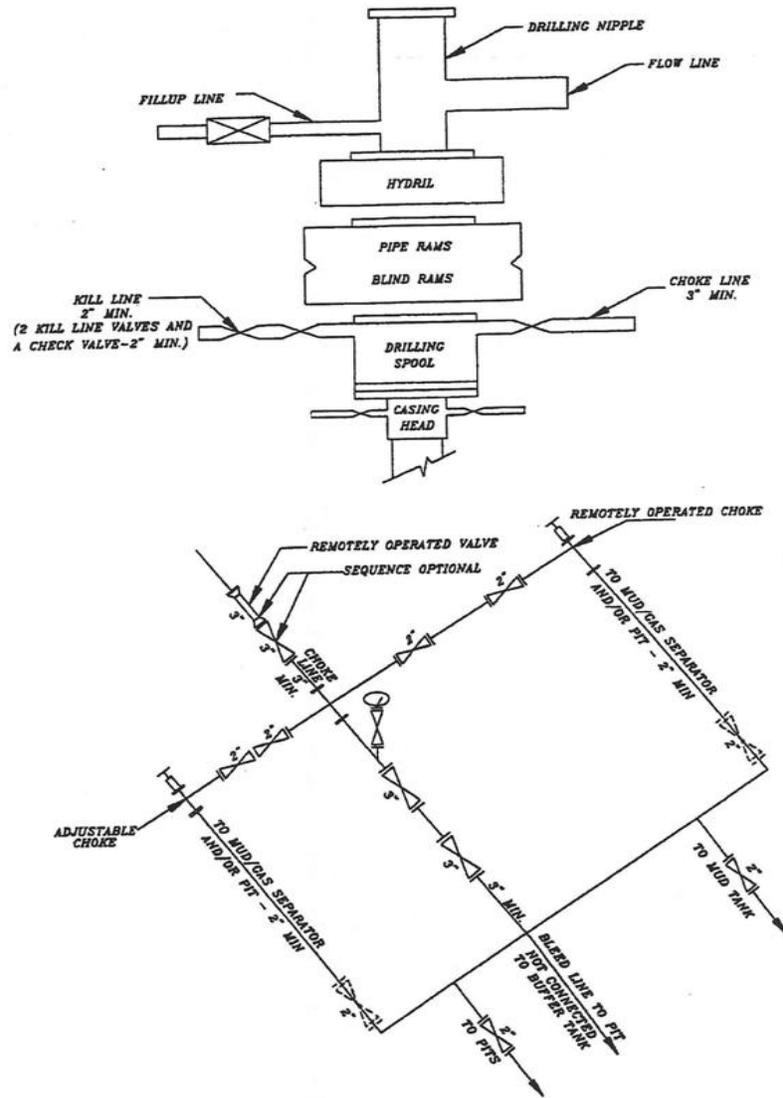
DATE: \_\_\_\_\_

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

DATE: \_\_\_\_\_

**EXHIBIT A**  
**NBU 921-19F1BS**



**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
Submitted By SHEILA WOPSOCK Phone Number 435.781.7024  
Well Name/Number NBU 921-19F1BS  
Qtr/Qtr NW/NW Section 19 Township 9S Range 21E  
Lease Serial Number UTU-0581  
API Number 4304751056

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 07/27/2011 1400 HRS AM  PM

Casing – Please report time casing run starts, not cementing times.

- Surface Casing
- Intermediate Casing
- Production Casing
- Liner
- Other

RECEIVED

JUL 26 2011

DEPT. OF OIL, GAS & MINING

Date/Time 08/09/2011 0800 HRS AM  PM

BOPE

- Initial BOPE test at surface casing point
- BOPE test at intermediate casing point
- 30 day BOPE test
- Other

Date/Time \_\_\_\_\_ AM  PM

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT  
KENNY GATHINGS AT 435.781.7048 FOR MORE

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: KERR MCGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
 Address: 1368 SOUTH 1200 EAST  
 city VERNAL  
 state UT zip 84078 Phone Number: (435) 781-7024

Well 1

| API Number  | Well Name             |                   | QQ        | Sec | Twp | Rng                              | County |
|---|-----------------------|-------------------|-----------|-----|-----|----------------------------------|--------|
| 4304751056  | NBU 921-19F1BS        |                   | NWNW      | 19  | 9S  | 21E                              | UINTAH |
| Action Code   | Current Entity Number | New Entity Number | Spud Date |     |     | Entity Assignment Effective Date |        |
| <i>B</i>  | 99999                 | <i>2900</i>       | 7/29/2011 |     |     | 8/4/11                           |        |
| Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSTMUD</i><br>SPUD WELL ON 07/29/2011 AT 0900 HRS <i>BHL = SENW</i> |                       |                   |           |     |     |                                  |        |

Well 2

| API Number  | Well Name             |                   | QQ        | Sec | Twp | Rng                              | County |
|-------------|-----------------------|-------------------|-----------|-----|-----|----------------------------------|--------|
|             |                       |                   |           |     |     |                                  |        |
| Action Code | Current Entity Number | New Entity Number | Spud Date |     |     | Entity Assignment Effective Date |        |
|             |                       |                   |           |     |     |                                  |        |
| Comments:   |                       |                   |           |     |     |                                  |        |

Well 3

| API Number  | Well Name             |                   | QQ        | Sec | Twp | Rng                              | County |
|-------------|-----------------------|-------------------|-----------|-----|-----|----------------------------------|--------|
|             |                       |                   |           |     |     |                                  |        |
| Action Code | Current Entity Number | New Entity Number | Spud Date |     |     | Entity Assignment Effective Date |        |
|             |                       |                   |           |     |     |                                  |        |
| Comments:   |                       |                   |           |     |     |                                  |        |

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

8/3/2011

Title

Date

RECEIVED

AUG 03 2011

DIV. OF OIL, GAS & MINING

|   |  |  |
|---|--|--|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING   |  | <b>FORM 9</b>  |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  |  | <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>UTU 0581 |
| Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.  |  | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b><br>Ute Tr     |
|   |  | <b>7. UNIT or CA AGREEMENT NAME:</b><br>NATURAL BUTTES     |
| <b>1. TYPE OF WELL</b><br>Gas Well  | <b>8. WELL NAME and NUMBER:</b><br>NBU 921-19F1BS  |  |
| <b>2. NAME OF OPERATOR:</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.   | <b>9. API NUMBER:</b><br>43047510560000  |  |
| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779   | <b>PHONE NUMBER:</b><br>720 929-6515 Ext   | <b>9. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES     |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>0541 FNL 1368 FWL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: NWNW Section: 19 Township: 09.0S Range: 21.0E Meridian: S   | <b>COUNTY:</b><br>UINTAH   |  |
|   |  | <b>STATE:</b><br>UTAH                                      |
| 11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA   |  |  |
| <b>TYPE OF SUBMISSION</b>   | <b>TYPE OF ACTION</b>  |  |
| <input type="checkbox"/> NOTICE OF INTENT<br>Approximate date work will start:<br><br><input type="checkbox"/> SUBSEQUENT REPORT<br>Date of Work Completion:<br><br><input checked="" type="checkbox"/> SPUD REPORT<br>Date of Spud:<br>7/29/2011<br><br><input type="checkbox"/> DRILLING REPORT<br>Report Date:   | <input type="checkbox"/> ACIDIZE<br><input type="checkbox"/> ALTER CASING<br><input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br><input type="checkbox"/> CHANGE TUBING<br><input type="checkbox"/> CHANGE WELL STATUS<br><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br><input type="checkbox"/> DEEPEN<br><input type="checkbox"/> FRACTURE TREAT<br><input type="checkbox"/> OPERATOR CHANGE<br><input type="checkbox"/> PLUG AND ABANDON<br><input type="checkbox"/> PRODUCTION START OR RESUME<br><input type="checkbox"/> RECLAMATION OF WELL SITE<br><input type="checkbox"/> REPERFORATE CURRENT FORMATION<br><input type="checkbox"/> SIDETRACK TO REPAIR WELL<br><input type="checkbox"/> TUBING REPAIR<br><input type="checkbox"/> VENT OR FLARE<br><input type="checkbox"/> WATER SHUTOFF<br><input type="checkbox"/> SI TA STATUS EXTENSION<br><input type="checkbox"/> WILDCAT WELL DETERMINATION<br><input type="checkbox"/> OTHER |  |
| <input type="checkbox"/> CASING REPAIR<br><input type="checkbox"/> CHANGE WELL NAME<br><input type="checkbox"/> CONVERT WELL TYPE<br><input type="checkbox"/> NEW CONSTRUCTION<br><input type="checkbox"/> PLUG BACK<br><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br><input type="checkbox"/> TEMPORARY ABANDON<br><input type="checkbox"/> WATER DISPOSAL<br><input type="checkbox"/> APD EXTENSION<br>OTHER: <input type="text"/> |  |  |
| 12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  |  |  |
| MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'.<br>RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON<br>07/29/2011 AT 0900 HRS.   |  |  |
| <b>Accepted by the<br/>Utah Division of<br/>Oil, Gas and Mining<br/>FOR RECORD ONLY</b>   |  |  |
| <b>NAME (PLEASE PRINT)</b><br>Sheila Wopsock  | <b>PHONE NUMBER</b><br>435 781-7024  | <b>TITLE</b><br>Regulatory Analyst                         |
| <b>SIGNATURE</b><br>N/A   | <b>DATE</b><br>8/3/2011  |  |

|   |  |  |
|---|--|--|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING   |  | <b>FORM 9</b>  |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  |  | <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>UTU 0581 |
| Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.  |  | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b><br>Ute Tr     |
|   |  | <b>7. UNIT or CA AGREEMENT NAME:</b><br>NATURAL BUTTES     |
| <b>1. TYPE OF WELL</b><br>Gas Well  | <b>8. WELL NAME and NUMBER:</b><br>NBU 921-19F1BS  |  |
| <b>2. NAME OF OPERATOR:</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.   | <b>9. API NUMBER:</b><br>43047510560000  |  |
| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779   | <b>PHONE NUMBER:</b><br>720 929-6515 Ext   | <b>9. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES     |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>0541 FNL 1368 FWL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: NWNW Section: 19 Township: 09.0S Range: 21.0E Meridian: S   | <b>COUNTY:</b><br>UINTAH   |  |
|   |  | <b>STATE:</b><br>UTAH                                      |
| 11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA   |  |  |
| <b>TYPE OF SUBMISSION</b>   | <b>TYPE OF ACTION</b>  |  |
| <input type="checkbox"/> NOTICE OF INTENT<br>Approximate date work will start:<br><br><input type="checkbox"/> SUBSEQUENT REPORT<br>Date of Work Completion:<br><br><input type="checkbox"/> SPUD REPORT<br>Date of Spud:<br><br><input checked="" type="checkbox"/> DRILLING REPORT<br>Report Date:<br>8/10/2011   | <input type="checkbox"/> ACIDIZE<br><input type="checkbox"/> ALTER CASING<br><input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br><input type="checkbox"/> CHANGE TUBING<br><input type="checkbox"/> CHANGE WELL STATUS<br><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br><input type="checkbox"/> DEEPEN<br><input type="checkbox"/> FRACTURE TREAT<br><input type="checkbox"/> OPERATOR CHANGE<br><input type="checkbox"/> PLUG AND ABANDON<br><input type="checkbox"/> PRODUCTION START OR RESUME<br><input type="checkbox"/> RECLAMATION OF WELL SITE<br><input type="checkbox"/> REPERFORATE CURRENT FORMATION<br><input type="checkbox"/> SIDETRACK TO REPAIR WELL<br><input type="checkbox"/> TUBING REPAIR<br><input type="checkbox"/> VENT OR FLARE<br><input type="checkbox"/> WATER SHUTOFF<br><input type="checkbox"/> SI TA STATUS EXTENSION<br><input type="checkbox"/> WILDCAT WELL DETERMINATION<br><input type="checkbox"/> OTHER |  |
| <input type="checkbox"/> CASING REPAIR<br><input type="checkbox"/> CHANGE WELL NAME<br><input type="checkbox"/> CONVERT WELL TYPE<br><input type="checkbox"/> NEW CONSTRUCTION<br><input type="checkbox"/> PLUG BACK<br><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br><input type="checkbox"/> TEMPORARY ABANDON<br><input type="checkbox"/> WATER DISPOSAL<br><input type="checkbox"/> APD EXTENSION<br>OTHER: <input style="width: 100px;" type="text"/> |  |  |
| 12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.<br>MIRU AIR RIG ON AUGUST 7, 2011. DRILLED SURFACE HOLE TO 2910'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.  |  |  |
| <b>Accepted by the<br/>Utah Division of<br/>Oil, Gas and Mining<br/>FOR RECORD ONLY</b>   |  |  |
| <b>NAME (PLEASE PRINT)</b><br>Andy Lytle  | <b>PHONE NUMBER</b><br>720 929-6100  | <b>TITLE</b><br>Regulatory Analyst                         |
| <b>SIGNATURE</b><br>N/A   | <b>DATE</b><br>8/10/2011   |  |

|  |   |
|--|---|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING  | <b>FORM 9</b><br><br><b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>UTU 0581                                     |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br><br>Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals. | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b><br>Ute Tr  |
| <b>1. TYPE OF WELL</b><br>Gas Well   | <b>7. UNIT or CA AGREEMENT NAME:</b><br>NATURAL BUTTES  |
| <b>2. NAME OF OPERATOR:</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.  | <b>8. WELL NAME and NUMBER:</b><br>NBU 921-19F1BS   |
| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779  | <b>9. API NUMBER:</b><br>43047510560000   |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>0541 FNL 1368 FWL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: NWNW Section: 19 Township: 09.0S Range: 21.0E Meridian: S  | <b>9. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES<br><br><b>COUNTY:</b><br>UINTAH<br><br><b>STATE:</b><br>UTAH |
| 11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  |   |

| TYPE OF SUBMISSION  | TYPE OF ACTION   |   |   |
|---|--|---|---|
| <input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b><br>Approximate date work will start:<br>8/30/2011 | <input type="checkbox"/> ACIDIZE                             | <input type="checkbox"/> ALTER CASING                   | <input type="checkbox"/> CASING REPAIR                  |
| <input type="checkbox"/> <b>SUBSEQUENT REPORT</b><br>Date of Work Completion:                                 | <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS | <input type="checkbox"/> CHANGE TUBING                  | <input type="checkbox"/> CHANGE WELL NAME               |
| <input type="checkbox"/> <b>SPUD REPORT</b><br>Date of Spud:  | <input type="checkbox"/> CHANGE WELL STATUS                  | <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS | <input type="checkbox"/> CONVERT WELL TYPE              |
| <input type="checkbox"/> <b>DRILLING REPORT</b><br>Report Date:   | <input type="checkbox"/> DEEPEN                              | <input type="checkbox"/> FRACTURE TREAT                 | <input type="checkbox"/> NEW CONSTRUCTION               |
|   | <input type="checkbox"/> OPERATOR CHANGE                     | <input type="checkbox"/> PLUG AND ABANDON               | <input type="checkbox"/> PLUG BACK                      |
|   | <input type="checkbox"/> PRODUCTION START OR RESUME          | <input type="checkbox"/> RECLAMATION OF WELL SITE       | <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION |
|   | <input type="checkbox"/> REPERFORATE CURRENT FORMATION       | <input type="checkbox"/> SIDETRACK TO REPAIR WELL       | <input type="checkbox"/> TEMPORARY ABANDON              |
|   | <input type="checkbox"/> TUBING REPAIR                       | <input type="checkbox"/> VENT OR FLARE                  | <input type="checkbox"/> WATER DISPOSAL                 |
|   | <input type="checkbox"/> WATER SHUTOFF                       | <input type="checkbox"/> SI TA STATUS EXTENSION         | <input type="checkbox"/> APD EXTENSION                  |
|   | <input type="checkbox"/> WILDCAT WELL DETERMINATION          | <input type="checkbox"/> OTHER                          | OTHER: <input style="width: 50px;" type="text"/>        |

**12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS.** Clearly show all pertinent details including dates, depths, volumes, etc.

This sundry is being submitted on behalf of the Natural Buttes Unit. Kerr-McGee Oil and Gas, LP requests authorization to drill the above captioned well with a closed-loop system. Please see the attached Exhibit A. Thank you.

**Accepted by the  
Utah Division of  
Oil, Gas and Mining**

Date: 09/14/2011  
 By: *Derek Quist*

|  |                                     |                                       |
|--|-------------------------------------|---------------------------------------|
| <b>NAME (PLEASE PRINT)</b><br>Laura Abrams | <b>PHONE NUMBER</b><br>720 929-6356 | <b>TITLE</b><br>Regulatory Analyst II |
| <b>SIGNATURE</b><br>N/A                    | <b>DATE</b><br>8/30/2011            |                                       |

Exhibit A

Kerr-McGee Oil and Gas Onshore, LP respectfully requests authorization to drill the above captioned well utilizing a closed-loop mud system.

The drilling pit was constructed per the requirements of the Application for Permit to Drill; therefore the liner will be temporarily removed from the pit, the pit will be partially backfilled, and liner will be re-set. All other aspects of the pit shall remain the same.

Equipment for the closed-loop system will be as follows:

- 2 HS-3400 Centrifuge
- 1 Conical Clarifying Tank
- 1 Polymer/Flocculation Unit
- 1 Catch Tank for Solids
- 1 4x3 Centrifugal Pump

Storage Tank Roll (6 frac tanks - 4 water, 2 mud):

- 1 4x3 Centrifugal Pump
- 1 Manifold
- 8 3-inch hose/20 foot section x qty 8 (estimate)
- 8 4-inch hose/20 foot section x qty 8 (estimate)

A 250 KW Generator (est. 20 gal/hr fuel rate) and a Power Distribution Panel will be utilized if deemed necessary.

Please be advised that verbal authorization for the proposed closed-loop system was give by Engineer Robin Hansen to Julie Jacobson on Monday, August 29, 2011 at 12:00 pm.

**Carol Daniels - NOTIFICATION PROD CASING,NBU 921-19F1BS**

**From:** "Anadarko - H&P 298" <hp298@gesmail.net>  
**To:** <caroldaniels@utah.gov>  
**Date:** 10/31/2011 6:14 AM  
**Subject:** NOTIFICATION PROD CASING,NBU 921-19F1BS

*T09S R21ES 219  
43-047-51056*

ON NBU 921-19F1BS WE WILL BE RUNNING 41/2,P-110,11.6# LT&C & DQX 11.6# CASING TO 11,645 FT,ON H&P 298 ON 11/02/2011 @ 2-4 AM

THANKS, JIM

**RECEIVED**

**NOV 01 2011**

**DIV. OF OIL, GAS & MINING**

|  |   |
|--|---|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING  | <b>FORM 9</b><br><br><b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>UTU 0581                                     |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b><br><br>Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals. | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b><br>UTE<br><br><b>7. UNIT or CA AGREEMENT NAME:</b><br>NATURAL BUTTES   |
| <b>1. TYPE OF WELL</b><br>Gas Well   | <b>8. WELL NAME and NUMBER:</b><br>NBU 921-19F1BS   |
| <b>2. NAME OF OPERATOR:</b><br>KERR-MCGEE OIL & GAS ONSHORE, L.P.  | <b>9. API NUMBER:</b><br>43047510560000   |
| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779  | <b>PHONE NUMBER:</b><br>720 929-6515 Ext  |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>0541 FNL 1368 FWL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: NWNW Section: 19 Township: 09.0S Range: 21.0E Meridian: S  | <b>9. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES<br><br><b>COUNTY:</b><br>UINTAH<br><br><b>STATE:</b><br>UTAH |

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION   | TYPE OF ACTION   |  |  |
|--|--|--|--|
| <input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b><br>Approximate date work will start:<br>10/20/2011<br><br><input type="checkbox"/> <b>SUBSEQUENT REPORT</b><br>Date of Work Completion:<br><br><input type="checkbox"/> <b>SPUD REPORT</b><br>Date of Spud:<br><br><input type="checkbox"/> <b>DRILLING REPORT</b><br>Report Date: | <input type="checkbox"/> ACIDIZE<br><input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS<br><input type="checkbox"/> CHANGE WELL STATUS<br><input type="checkbox"/> DEEPEN<br><input type="checkbox"/> OPERATOR CHANGE<br><input type="checkbox"/> PRODUCTION START OR RESUME<br><input type="checkbox"/> REPERFORATE CURRENT FORMATION<br><input type="checkbox"/> TUBING REPAIR<br><input type="checkbox"/> WATER SHUTOFF<br><input type="checkbox"/> WILDCAT WELL DETERMINATION | <input type="checkbox"/> ALTER CASING<br><input type="checkbox"/> CHANGE TUBING<br><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br><input type="checkbox"/> FRACTURE TREAT<br><input type="checkbox"/> PLUG AND ABANDON<br><input type="checkbox"/> RECLAMATION OF WELL SITE<br><input type="checkbox"/> SIDETRACK TO REPAIR WELL<br><input type="checkbox"/> VENT OR FLARE<br><input type="checkbox"/> SI TA STATUS EXTENSION<br><input checked="" type="checkbox"/> OTHER | <input type="checkbox"/> CASING REPAIR<br><input type="checkbox"/> CHANGE WELL NAME<br><input type="checkbox"/> CONVERT WELL TYPE<br><input type="checkbox"/> NEW CONSTRUCTION<br><input type="checkbox"/> PLUG BACK<br><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br><input type="checkbox"/> TEMPORARY ABANDON<br><input type="checkbox"/> WATER DISPOSAL<br><input type="checkbox"/> APD EXTENSION<br>OTHER: <input style="width: 50px;" type="text"/> |

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The Operator requests approval for changes in the drilling plan. Specifically, the Operator requests approval for a FIT wavier and a production casing change. The production casing change includes a switch from 4-1/2 inch I-80 11.6 LB BTC/LTC casing to 4-1/2 inch I-80 11.6 LB Ultra DQX/LTC casing. All other aspects of the previously approved drilling plan will not change. These proposals do not deviate from previously submitted and approved plans. Please see attachment. Thank you.

**Accepted by the Utah Division of Oil, Gas and Mining**

Date: 11/10/2011

By: *Derek Quist*

|   |                                     |                                    |
|---|-------------------------------------|------------------------------------|
| <b>NAME (PLEASE PRINT)</b><br>Jaime Scharnowske | <b>PHONE NUMBER</b><br>720 929-6304 | <b>TITLE</b><br>Regulatory Analyst |
| <b>SIGNATURE</b><br>N/A                         | <b>DATE</b><br>10/20/2011           |                                    |

**Variance for FIT Requirements**

Kerr-McGee requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

|  |   |  |
|--|---|--|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING  |   | <b>FORM 9</b>  |
| <b>SUNDRY NOTICES AND REPORTS ON WELLS</b>   |   | <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>UTU 0581 |
| Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.   |   | <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b><br>UTE        |
|  |   | <b>7. UNIT or CA AGREEMENT NAME:</b><br>NATURAL BUTTES     |
| <b>1. TYPE OF WELL</b><br>Gas Well   | <b>8. WELL NAME and NUMBER:</b><br>NBU 921-19F1BS   |  |
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| <b>3. ADDRESS OF OPERATOR:</b><br>P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779  | <b>PHONE NUMBER:</b><br>720 929-6515 Ext  | <b>9. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES     |
| <b>4. LOCATION OF WELL</b><br><b>FOOTAGES AT SURFACE:</b><br>0541 FNL 1368 FWL<br><b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b><br>Qtr/Qtr: NWNW Section: 19 Township: 09.0S Range: 21.0E Meridian: S  | <b>COUNTY:</b><br>UINTAH  |  |
|  |   | <b>STATE:</b><br>UTAH                                      |
| 11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  |   |  |
| <b>TYPE OF SUBMISSION</b>  | <b>TYPE OF ACTION</b>   |  |
| <input type="checkbox"/> NOTICE OF INTENT<br>Approximate date work will start:<br><br><input checked="" type="checkbox"/> SUBSEQUENT REPORT<br>Date of Work Completion:<br>11/3/2011<br><br><input type="checkbox"/> SPUD REPORT<br>Date of Spud:<br><br><input type="checkbox"/> DRILLING REPORT<br>Report Date:  | <input type="checkbox"/> ACIDIZE<br><input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br><input type="checkbox"/> CHANGE WELL STATUS<br><input type="checkbox"/> DEEPEN<br><input type="checkbox"/> OPERATOR CHANGE<br><input type="checkbox"/> PRODUCTION START OR RESUME<br><input type="checkbox"/> REPERFORATE CURRENT FORMATION<br><input type="checkbox"/> TUBING REPAIR<br><input type="checkbox"/> WATER SHUTOFF<br><input type="checkbox"/> WILDCAT WELL DETERMINATION<br><input type="checkbox"/> ALTER CASING<br><input type="checkbox"/> CHANGE TUBING<br><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br><input type="checkbox"/> FRACTURE TREAT<br><input type="checkbox"/> PLUG AND ABANDON<br><input type="checkbox"/> RECLAMATION OF WELL SITE<br><input type="checkbox"/> SIDETRACK TO REPAIR WELL<br><input type="checkbox"/> VENT OR FLARE<br><input type="checkbox"/> SI TA STATUS EXTENSION<br><input checked="" type="checkbox"/> OTHER |  |
|  | <input type="checkbox"/> CASING REPAIR<br><input type="checkbox"/> CHANGE WELL NAME<br><input type="checkbox"/> CONVERT WELL TYPE<br><input type="checkbox"/> NEW CONSTRUCTION<br><input type="checkbox"/> PLUG BACK<br><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br><input type="checkbox"/> TEMPORARY ABANDON<br><input type="checkbox"/> WATER DISPOSAL<br><input type="checkbox"/> APD EXTENSION<br>OTHER: <span style="border: 1px solid black; padding: 2px;">RIG REL. - ACTS PIT</span>  |  |
| 12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.<br>MIRU ROTARY RIG. FINISHED DRILLING FROM 2910' TO 11,645' ON OCT. 31, 2011. RAN 4-1/2" 11.6# P-110 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED H&P RIG 298 ON NOV. 3, 2011 @ 00:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES. THE PIT ON THIS LOCATION WILL BE REFURBISHED AND UTILIZED AS PART OF THE ACTS SYSTEM. |   |  |
| <b>NAME (PLEASE PRINT)</b><br>Jaime Scharnowske  | <b>PHONE NUMBER</b><br>720 929-6304   | <b>TITLE</b><br>Regulatory Analyst                         |
| <b>SIGNATURE</b><br>N/A  | <b>DATE</b><br>11/7/2011  |  |

|  |   |
|--|---|
| <b>STATE OF UTAH</b><br>DEPARTMENT OF NATURAL RESOURCES<br>DIVISION OF OIL, GAS, AND MINING  | <b>FORM 9</b><br><br><b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b><br>UTU 0581                                     |
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Date: 11/10/2011

By: *Derek Quist*

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| <b>PHONE NUMBER:</b><br>720 929-6515 Ext  |  | <b>9. FIELD and POOL or WILDCAT:</b><br>NATURAL BUTTES     |
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| <b>TYPE OF SUBMISSION</b>   | <b>TYPE OF ACTION</b>  |  |
| <input type="checkbox"/> NOTICE OF INTENT<br>Approximate date work will start:  | <input type="checkbox"/> ACIDIZE<br><input type="checkbox"/> CHANGE TO PREVIOUS PLANS<br><input type="checkbox"/> CHANGE WELL STATUS<br><input type="checkbox"/> DEEPEN<br><input type="checkbox"/> OPERATOR CHANGE<br><input type="checkbox"/> PRODUCTION START OR RESUME<br><input type="checkbox"/> REPERFORATE CURRENT FORMATION<br><input type="checkbox"/> TUBING REPAIR<br><input type="checkbox"/> WATER SHUTOFF<br><input type="checkbox"/> WILDCAT WELL DETERMINATION        |  |
| <input checked="" type="checkbox"/> SUBSEQUENT REPORT<br>Date of Work Completion:<br>11/3/2011  | <input type="checkbox"/> ALTER CASING<br><input type="checkbox"/> CHANGE TUBING<br><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS<br><input type="checkbox"/> FRACTURE TREAT<br><input type="checkbox"/> PLUG AND ABANDON<br><input type="checkbox"/> RECLAMATION OF WELL SITE<br><input type="checkbox"/> SIDETRACK TO REPAIR WELL<br><input type="checkbox"/> VENT OR FLARE<br><input type="checkbox"/> SI TA STATUS EXTENSION<br><input checked="" type="checkbox"/> OTHER |  |
| <input type="checkbox"/> SPUD REPORT<br>Date of Spud:   | <input type="checkbox"/> CASING REPAIR<br><input type="checkbox"/> CHANGE WELL NAME<br><input type="checkbox"/> CONVERT WELL TYPE<br><input type="checkbox"/> NEW CONSTRUCTION<br><input type="checkbox"/> PLUG BACK<br><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION<br><input type="checkbox"/> TEMPORARY ABANDON<br><input type="checkbox"/> WATER DISPOSAL<br><input type="checkbox"/> APD EXTENSION   |  |
| <input type="checkbox"/> DRILLING REPORT<br>Report Date:  | OTHER: <span style="border: 1px solid black; padding: 2px;">RIG REL. - ACTS PIT</span>   |  |
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| <b>Accepted by the<br/>         Utah Division of<br/>         Oil, Gas and Mining</b><br><b>FOR RECORD ONLY</b>   |  |  |
| <b>NAME (PLEASE PRINT)</b><br>Jaime Scharnowske   | <b>PHONE NUMBER</b><br>720 929-6304  | <b>TITLE</b><br>Regularatory Analyst                       |
| <b>SIGNATURE</b><br>N/A   | <b>DATE</b><br>11/7/2011   |  |

|  |  |  |
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|  |  | <b>STATE:</b><br>UTAH                                      |
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| <b>TYPE OF SUBMISSION</b>  | <b>TYPE OF ACTION</b>  |  |
| <input type="checkbox"/> NOTICE OF INTENT<br>Approximate date work will start:   | <input type="checkbox"/> ACIDIZE                               | <input type="checkbox"/> ALTER CASING                      |
| <input type="checkbox"/> SUBSEQUENT REPORT<br>Date of Work Completion:   | <input type="checkbox"/> CHANGE TO PREVIOUS PLANS              | <input type="checkbox"/> CHANGE TUBING                     |
| <input type="checkbox"/> SPUD REPORT<br>Date of Spud:  | <input type="checkbox"/> CHANGE WELL STATUS                    | <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS    |
| <input checked="" type="checkbox"/> DRILLING REPORT<br>Report Date:<br>12/13/2011  | <input type="checkbox"/> DEEPEN                                | <input type="checkbox"/> FRACTURE TREAT                    |
|  | <input type="checkbox"/> OPERATOR CHANGE                       | <input type="checkbox"/> PLUG AND ABANDON                  |
|  | <input checked="" type="checkbox"/> PRODUCTION START OR RESUME | <input type="checkbox"/> RECLAMATION OF WELL SITE          |
|  | <input type="checkbox"/> REPERFORATE CURRENT FORMATION         | <input type="checkbox"/> SIDETRACK TO REPAIR WELL          |
|  | <input type="checkbox"/> TUBING REPAIR                         | <input type="checkbox"/> VENT OR FLARE                     |
|  | <input type="checkbox"/> WATER SHUTOFF                         | <input type="checkbox"/> SI TA STATUS EXTENSION            |
|  | <input type="checkbox"/> WILDCAT WELL DETERMINATION            | <input type="checkbox"/> OTHER: <input type="text"/>       |
|  |  | <input type="checkbox"/> CASING REPAIR                     |
|  |  | <input type="checkbox"/> CHANGE WELL NAME                  |
|  |  | <input type="checkbox"/> CONVERT WELL TYPE                 |
|  |  | <input type="checkbox"/> NEW CONSTRUCTION                  |
|  |  | <input type="checkbox"/> PLUG BACK                         |
|  |  | <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION    |
|  |  | <input type="checkbox"/> TEMPORARY ABANDON                 |
|  |  | <input type="checkbox"/> WATER DISPOSAL                    |
|  |  | <input type="checkbox"/> APD EXTENSION                     |
| 12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.<br>THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 12/13/2011 AT 1800 HRS. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT. |  |  |
| <b>Accepted by the<br/>Utah Division of<br/>Oil, Gas and Mining<br/>FOR RECORD ONLY</b>  |  |  |
| <b>NAME (PLEASE PRINT)</b><br>Sheila Wopsock   | <b>PHONE NUMBER</b><br>435 781-7024                            | <b>TITLE</b><br>Regulatory Analyst                         |
| <b>SIGNATURE</b><br>N/A  | <b>DATE</b><br>12/15/2011                                      |  |

RECEIVED

FEB 01 2012

Form 3160-4 (August 2007)

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT DIV. OF OIL, GAS & MINING

FORM APPROVED OMB No. 1004-0137 Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No. UTU0581

1a. Type of Well [ ] Oil Well [x] Gas Well [ ] Dry [ ] Other
b. Type of Completion [x] New Well [ ] Work Over [ ] Deepen [ ] Plug Back [ ] Diff. Resvr. Other

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No. UTU63047A

2. Name of Operator KERR MCGEE OIL & GAS ONSHORE, Contact: JAIME L. SCHARNOWSKE Mail: JAIME.SCHARNOWSKE@ANADARKO.COM

8. Lease Name and Well No. NBU 921-19F1BS

3. Address PO BOX 173779 DENVER, CO 80217

3a. Phone No. (include area code) Ph: 720-929-6304

9. API Well No. 43-047-51056

4. Location of Well (Report location clearly and in accordance with Federal requirements)\*
At surface NWNW 541FNL 1368FWL
At top prod interval reported below SENW 1606FNL 2505FWL
At total depth SENW 1694FNL 2529FWL

10. Field and Pool, or Exploratory NATURAL BUTTES

11. Sec., T., R., M., or Block and Survey or Area Sec 19 T9S R21E Mer SLB

12. County or Parish UINTAH 13. State UT

14. Date Spudded 07/29/2011

15. Date T.D. Reached 10/31/2011

16. Date Completed [ ] D & A [x] Ready to Prod. 12/13/2011

17. Elevations (DF, KB, RT, GL)\* 4789 GL

18. Total Depth: MD 11645 TVD 11393

19. Plug Back T.D.: MD 11588 TVD 11336

20. Depth Bridge Plug Set: MD TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each) BHV-SD/DSN/ACTR-CBL/GR/COLLARS

22. Was well cored? [x] No [ ] Yes (Submit analysis) Was DST run? [x] No [ ] Yes (Submit analysis) Directional Survey? [ ] No [x] Yes (Submit analysis)

23. Casing and Liner Record (Report all strings set in well)

Table with columns: Hole Size, Size/Grade, Wt. (#/ft.), Top (MD), Bottom (MD), Stage Cementer Depth, No. of Sk. & Type of Cement, Slurry Vol. (BBL), Cement Top\*, Amount Pulled

24. Tubing Record

Table with columns: Size, Depth Set (MD), Packer Depth (MD)

25. Producing Intervals

26. Perforation Record

Table with columns: Formation, Top, Bottom, Perforated Interval, Size, No. Holes, Perf. Status

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Table with columns: Depth Interval, Amount and Type of Material

28. Production - Interval A

Table with columns: Date First Produced, Test Date, Hours Tested, Test Production, Oil BBL, Gas MCF, Water BBL, Oil Gravity Corr. API, Gas Gravity, Production Method

28a. Production - Interval B

Table with columns: Date First Produced, Test Date, Hours Tested, Test Production, Oil BBL, Gas MCF, Water BBL, Oil Gravity Corr. API, Gas Gravity, Production Method

(See Instructions and spaces for additional data on reverse side) ELECTRONIC SUBMISSION #129169 VERIFIED BY THE BLM WELL INFORMATION SYSTEM \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

28b. Production - Interval C

|                     |                            |              |                      |         |         |           |                          |             |                   |
|---------------------|----------------------------|--------------|----------------------|---------|---------|-----------|--------------------------|-------------|-------------------|
| Date First Produced | Test Date                  | Hours Tested | Test Production<br>→ | Oil BBL | Gas MCF | Water BBL | Oil Gravity<br>Corr. API | Gas Gravity | Production Method |
| Choke Size          | Tbg. Press.<br>Flwg.<br>SI | Csg. Press.  | 24 Hr. Rate<br>→     | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio            | Well Status |                   |

28c. Production - Interval D

|                     |                            |              |                      |         |         |           |                          |             |                   |
|---------------------|----------------------------|--------------|----------------------|---------|---------|-----------|--------------------------|-------------|-------------------|
| Date First Produced | Test Date                  | Hours Tested | Test Production<br>→ | Oil BBL | Gas MCF | Water BBL | Oil Gravity<br>Corr. API | Gas Gravity | Production Method |
| Choke Size          | Tbg. Press.<br>Flwg.<br>SI | Csg. Press.  | 24 Hr. Rate<br>→     | Oil BBL | Gas MCF | Water BBL | Gas:Oil Ratio            | Well Status |                   |

29. Disposition of Gas (Sold, used for fuel, vented, etc.)  
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

| Formation | Top | Bottom | Descriptions, Contents, etc. | Name   | Top                                  |
|-----------|-----|--------|------------------------------|--|--------------------------------------|
|           |     |        |                              |  | Meas. Depth                          |
|           |     |        |                              | GREEN RIVER<br>BIRD'S NEST<br>MAHOGANY<br>WASATCH<br>MESAVERDE | 1696<br>1961<br>2516<br>5284<br>8395 |

32. Additional remarks (include plugging procedure):

The first 210' of the surface hole was drilled with a 12 ?? bit. The remainder of surface hole was drilled with an 11? bit. Attached is the chronological well history, perforation report & final survey. DQX csg was run from 26' to 4,799'. LTC csg was run from 4799' to 11,632'.

33. Circle enclosed attachments:

- |   |                    |               |                       |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.)     | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis   | 7 Other:      |                       |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

**Electronic Submission #129169 Verified by the BLM Well Information System.  
For KERR MCGEE OIL & GAS ONSHORE,L, sent to the Vernal**

Name (please print) JAIME L. SCHARNOWSKE Title REGULATORY ANALYST

Signature \_\_\_\_\_ (Electronic Submission) Date 01/25/2012

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***

**US ROCKIES REGION  
Operation Summary Report**

|  |  |                           |   |                     |  |
|--|--|---------------------------|---|---------------------|--|
| Well: NBU 921-19F1BS GREEN                             |  | Spud Conductor: 7/28/2011 |   | Spud Date: 8/7/2011 |  |
| Project: UTAH-UINTAH                                   |  |                           | Site: NBU 921-19D PAD                                 |                     | Rig Name No: PROPETRO 11/11, H&P 298/298 |
| Event: DRILLING  |  |                           | Start Date: 7/10/2011                                 |                     | End Date: 11/2/2011                      |
| Active Datum: RKB @4,815.00usft (above Mean Sea Level) |  |                           | UWI: NW/NW/0/9/S/21/E/19/0/0/26/PM/N/541/W/0/1368/0/0 |                     |  |

| Date          | Time Start-End | Duration (hr) | Phase  | Code | Sub Code | P/U | MD From (usft)  | Operation   |
|---------------|----------------|---------------|--------|------|----------|-----|---|---|
| 8/7/2011      | 10:30 - 12:00  | 1.50          | MIRU   | 01   | C        | P   |   | INSTALL BLOOIE LINE, MOVE RIG IN OFF THE NBU 921-19C4CS   |
|               | 12:00 - 15:30  | 3.50          | MIRU   | 01   | B        | P   |   | SET CATWALK AND PIPE RACKS. RIG UP AND PRIME PIT PUMP AND MUD PUMP  |
|               | 15:30 - 16:00  | 0.50          | DRLSUR | 06   | A        | P   |   | P/U 1.83 DEG BENT HOUSING HUNTING MTR SN 8051 . 7/8 LOBE .17 RPM. M/U 12 1/4" QD507 SN 7027119 7TH RUN, VW 7-18'S. INSTALL RUBBER   |
|               | 16:00 - 17:30  | 1.50          | DRLSUR | 02   | B        | P   |   | SPUD SURFACE 08/07/2011 @ 16:00 HRS. DRILL 12 1/4" SURFACE HOLE F/40'-210' (170' @ 113'/HR) PSI ON/ OFF 750/500, UP/ DOWN/ ROT 27/22/25. 532 GPM, 45 RPM ON TOP DRIVE, 15-18K WOB                       |
|               | 17:30 - 18:00  | 0.50          | DRLSUR | 06   | A        | P   |   | TOH,L/D 12 1/4" BIT   |
|               | 18:00 - 19:30  | 1.50          | ALL    | 08   | B        | Z   |   | REPLACE KELLY HOSE  |
|               | 19:30 - 20:30  | 1.00          | ALL    | 06   | A        | P   |   | M/U 11" BIT,P/U DIR. TOOLS & SCRIBE, TIH TO 210'  |
|               | 20:30 - 0:00   | 3.50          | ALL    | 02   | D        | P   |   | DRILL/ SLIDE 11" SURFACE HOLE F/ 210'-500' (290' @ 83'/HR) PSI ON/ OFF 1200/900, UP/ DOWN/ ROT 45/40/40. 136 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE, CIRCULATING RESERVE PIT                     |
| 8/8/2011      | 0:00 - 5:30    | 5.50          | DRLSUR | 02   | D        | P   |   | DRILL/ SLIDE 11" SURFACE HOLE F/ 500'-1200' (700' @ 127'/HR) PSI ON/ OFF 1300/1100, UP/ DOWN/ ROT 50/45/52. 136 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE, CIRCULATING RESERVE PIT                  |
|               | 5:30 - 16:00   | 10.50         | DRLSUR | 02   | D        | P   |   | DRILL/ SLIDE 11" SURFACE HOLE F/1200'-2240' (1040' @ 99'/HR) PSI ON/ OFF 1780/1560, UP/ DOWN/ ROT 81/55/66. 136 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE, CIRCULATING RESERVE PIT                  |
|               | 16:00 - 0:00   | 8.00          | DRLSUR | 02   | D        | P   |   | DRILL/ SLIDE 11" SURFACE HOLE F/2240'-2840' (600' @ 75'/HR) PSI ON/ OFF 1800/1670, UP/ DOWN/ ROT 90/60/70. 136 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE, CIRCULATING RESERVE PIT                   |
| 8/9/2011      | 0:00 - 2:00    | 2.00          | DRLSUR | 02   | D        | P   |   | DRILL/ SLIDE 11" SURFACE HOLE F/2840'-2910' (70' @ 35'/HR) PSI ON/ OFF 1800/1670, UP/ DOWN/ ROT 90/60/70. 136 SPM, 532 GPM, 18-20K WOB, 45 RPM ON TOP DRIVE, CIRCULATING RESERVE PIT(TD 11" SURF. HOLE) |
|               | 2:00 - 4:00    | 2.00          | DRLSUR | 05   | C        | P   |   | CIRC & COND HOLE F/LAY DOWN & 8 5/8" 28# SURF. CSG RUN  |
|               | 4:00 - 5:30    | 1.50          | DRLSUR | 06   | D        | P   |   | LAY DOWN DRILL STRING   |
|               | 5:30 - 12:30   | 7.00          | ALL    | 08   | B        | Z   |   | BLEW MAIN AIR LINE ON RIG COMPRESOR TO INTEG TANK,REPAIR LINE,WAIT ON TEG OIL F/TOWN,REFILL RESIVOIR  |
|               | 12:30 - 16:30  | 4.00          | DRLSUR | 06   | D        | P   |   | CONT. T/LAY DOWN DRILL STRING,BHA & DIR TOOLS   |
| 16:30 - 18:00 | 1.50           | CSG           | 12     | A    | P        |     | MOVE CATWALK AND PIPE RACKS,MOVE CSG OVER TO WORK AREA,R/U T/RUN 8 5/8" 28# SURF. CSG |   |

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-19F1BS GREEN      Spud Conductor: 7/28/2011      Spud Date: 8/7/2011  
 Project: UTAH-UINTAH      Site: NBU 921-19D PAD      Rig Name No: PROPETRO 11/11, H&P 298/298  
 Event: DRILLING      Start Date: 7/10/2011      End Date: 11/2/2011  
 Active Datum: RKB @4,815.00usft (above Mean Sea Level)      UWI: NW/NW/0/9/S/21/E/19/0/0/26/PM/N/541/W/0/1368/0/0

| Date       | Time Start-End | Duration (hr) | Phase  | Code | Sub Code | P/U | MD From (usft) | Operation   |
|------------|----------------|---------------|--------|------|----------|-----|----------------|---|
| 8/10/2011  | 18:00 - 21:00  | 3.00          | ALL    | 08   | B        | Z   |                | BLEW MAIN HYDRAULIC HOSE F/HYDRAULIC PUMP, WAIT ON NEW HOSE F/YARD, REPLACE HYDRAULIC HOSE  |
|            | 21:00 - 0:00   | 3.00          | CSG    | 12   | C        | P   |                | HOLD SAFETY MEETING, START T/RUN 8 5/8" 28# LT&C CSG, SHOE @ 2031' @ 00:00  |
|            | 0:00 - 1:00    | 1.00          | CSG    | 12   | C        | P   |                | CONT. T/RUN FLOAT SHOE, SHOE JNT, BAFFLE & 64 JNTS 8 5/8" 28# LT&C CSG W/THE SHOE SET @2878' & THE BAFFLE @2832   |
|            | 1:00 - 1:30    | 0.50          | CSG    | 12   | A        | P   |                | RUN 200' 1" PIPE DOWN ANNULUS, MOVE RIG OFF, INSTALL CEMENT HEAD, R/U PRO PETRO CEMENTERS   |
|            | 1:30 - 3:00    | 1.50          | CSG    | 12   | E        | P   |                | HOLD SAFETY MEETING. TEST LINES TO 2000 PSI. PUMP 120 BBLs OF 8.4# H2O AHEAD, FULL RETURNS PUMP 20 BBLs OF 8.4# GEL WATER AHEAD. PUMP 230 SX (156 BBLs) 11# 3.82 YIELD LEAD CEMENT, PUMP 200 SX (41 BBLs) OF 15.8# 1.15 YIELD TAIL (2% CALC, 1/4# /SK OF FLOCELE), DROP PLUG ON FLY AND DISPLACE W/177 BBLs OF 8.4# H2O. LIFT PRESSURE WAS 650 PSI, BUMP PLUG AND HOLD 1150 PSI FOR 5 MIN. FLOAT HELD, FULL RETURNS THRU OUT JOB, 46 BBLs LEAD CEMENT TO SURF, CEMENT FELL BACK |
|            | 3:00 - 3:30    | 0.50          | CSG    | 12   | F        | P   |                | TOP OUT THRU 1" PIPE W/150 SKS 15.8 PPG, CLASS "G" CEMENT W/4% CACL2 & 1/4# /SK FLOCELE, CEMENT TO SURF, CEMENT FELL BACK   |
|            | 3:30 - 4:30    | 1.00          | CSG    | 13   | A        | P   |                | WAIT ON CEMENT  |
| 10/22/2011 | 4:30 - 5:00    | 0.50          | CSG    | 12   | F        | P   |                | TOP OUT W/100 SKS 15.8 PPG, CLASS "G" CEMENT W/4% CACL2 & 1/4# /SK FLOCELE, CEMENT TO SURF, STAYED @ SURF. (RELEASE RIG @ 05:00 08/10/2011)   |
|            | 9:00 - 19:30   | 10.50         | DRLPRO | 01   | C        | P   |                | MIRU TROUBLE GETTING WELL CENTERED, COMPANY MAN VERIFIED WELL CENTERED  |
| 10/23/2011 | 19:30 - 20:30  | 1.00          | DRLPRO | 01   | B        | P   |                | CHANGE CSG BAILS TO DRILLING BAILS  |
|            | 20:30 - 0:00   | 3.50          | DRLPRO | 08   | A        | P   |                | CHANGE IBOP, SAVER SUB, GRABBER DIES  |
|            | 0:00 - 4:30    | 4.50          | DRLPRO | 01   | B        | P   |                | RIG MAINTENANCE CHANGE TOP DRIVE IBOP, SAVER SUB, 4" PACKING ON 4" VALVE ON STAND PIPE  |
|            | 4:30 - 9:30    | 5.00          | DRLPRO | 15   | A        | P   |                | JSA WA-I TESTING CSG TEST CSG, BOPE AND STRATA SURFACE EQUIPMENT PRESSURE TEST PIPE RAMS, BLIND RAMS, IBOP, FLOOR VALVE, KILL LINES & KILL LINE VALVES, BOP WING VALVES, HCR VALVE + CHOKE LINE, INNER AND OUTER CHOKE VALVES & MANIFOLD TO 250 PSI LOW @ 5 MINUTES + 5000 PSI HIGH @ 10 MINUTES / TEST ANNULAR TO 250 PSI LOW @ 5 MINUTES + 2500 PSI HIGH @ 10 MINUTES / TEST SUPER CHOKE + SURFACE CASING TO 1500 PSI @ 30 MINUTES  |
|            | 9:30 - 10:00   | 0.50          | DRLPRO | 07   |          | P   |                | LUBRICATE RIG   |
|            | 10:00 - 10:30  | 0.50          | DRLPRO | 01   | B        | P   |                | INTALL WEAR BUSHING   |
|            | 10:30 - 11:30  | 1.00          | DRLPRO | 01   | B        | P   |                | PRE SPUD INSPECTION   |
| 10/23/2011 | 11:30 - 12:30  | 1.00          | DRLPRO | 06   | A        | P   |                | PICK UP BHA & SCRIBE AND SURFACE TEST DIRECTIONAL TOOLS   |
|            | 12:30 - 14:00  | 1.50          | DRLPRO | 06   | A        | P   |                | TIH TO 2700"  |

**US ROCKIES REGION  
Operation Summary Report**

|  |  |                           |   |                     |  |
|--|--|---------------------------|---|---------------------|--|
| Well: NBU 921-19F1BS GREEN                             |  | Spud Conductor: 7/28/2011 |   | Spud Date: 8/7/2011 |  |
| Project: UTAH-UINTAH                                   |  |                           | Site: NBU 921-19D PAD                                 |                     | Rig Name No: PROPETRO 11/11, H&P 298/298 |
| Event: DRILLING  |  |                           | Start Date: 7/10/2011                                 |                     | End Date: 11/2/2011                      |
| Active Datum: RKB @4,815.00usft (above Mean Sea Level) |  |                           | UWI: NW/NW/0/9/S/21/E/19/0/0/26/PM/N/541/W/0/1368/0/0 |                     |  |

| Date       | Time Start-End | Duration (hr) | Phase  | Code | Sub Code | P/U | MD From (usft) | Operation  |
|------------|----------------|---------------|--------|------|----------|-----|----------------|--|
|            | 14:00 - 15:00  | 1.00          | DRLPRO | 06   | A        | P   |                | LEVEL DERRICK AND INSTALL STRATA ROT RUBBER  |
|            | 15:00 - 15:30  | 0.50          | DRLPRO | 06   | A        | P   |                | FILL PIPE AND TIH TAG CEMENT @ 2800  |
|            | 15:30 - 17:00  | 1.50          | DRLPRO | 02   | F        |     |                | DRILL CMT AND FLOAT EQUIPMENT BAFFLE2/ 2843/SHOE   |
|            | 17:00 - 0:00   | 7.00          | DRLPRO | 02   | C        | P   |                | DRILL: ROTATE/ SURVEY F/2910' T/3473'= 537 '@77 FPH WITH CONNECTIONS/ MIN/MAX IROP / 108'/333'/WOB 21-23. / TOP DRIVE RPM 46/ PUMP 110SPM = 495 GPM / PUMP PRESSURE ON/OFF 1345/1170 PSI / MUD MOTOR RPM 79/ PU/SO/ROT WT 116/95/100/ TORQUE ON/OFF 8/4/ DRILLING WATER  |
| 10/24/2011 | 0:00 - 16:30   | 16.50         | DRLPRO | 02   | C        | P   |                | DRILL: ROTATE/ SURVEY F/3473' T/4980'= 1507 '@91.3 FPH WITH CONNECTIONS/ MAX IROP /412'/WOB 22. / TOP DRIVE RPM 46/ PUMP 110SPM = 495 GPM / PUMP PRESSURE ON/OFF 1500/1200 PSI / MUD MOTOR RPM 79/ PU/SO/ROT WT 148/104/125/ TORQUE ON/OFF 10/7/ DRILLING W/ 8.6 PPG WATER   |
|            | 16:30 - 17:00  | 0.50          | DRLPRO | 02   | C        | P   |                | LUB RIH  |
|            | 17:00 - 0:00   | 7.00          | DRLPRO | 02   | C        | P   |                | DRILL: ROTATE/ SURVEY F/4980' T/5546'=566 '@81 FPH WITH CONNECTIONS/ MAX IROP /245'/WOB 22. / TOP DRIVE RPM 55/ PUMP 110SPM = 495 GPM / PUMP PRESSURE ON/OFF 1625/1395 PSI / MUD MOTOR RPM 79/ PU/SO/ROT WT 154/136/125/ TORQUE ON/OFF 10/8/ DRILLING W/ 8.6 PPG WATER / GAS/ SHOWS/2/ BG435-895/CON GAS 995-1500/ FLARE 1-5'/ SLIDE 510 FT/ ROT 2073/ 25% ,75%                    |
| 10/25/2011 | 0:00 - 10:00   | 10.00         | DRLPRO | 02   | C        | P   |                | DRILL: ROTATE/ SURVEY F/5546' T/6610'=1046 '@81 FPH WITH CONNECTIONS/ MAX IROP /274'/WOB 23. / TOP DRIVE RPM 56/ PUMP 110SPM = 495 GPM / PUMP PRESSURE ON/OFF 1675/1460 PSI / MUD MOTOR RPM 79/ PU/SO/ROT WT 174/122/151/ TORQUE ON/OFF 11/10/ DRILLING W/ 8.6 PPG WATER   |
|            | 10:00 - 10:30  | 0.50          | DRLPRO | 07   | A        | P   |                | LUB RIG  |
|            | 10:30 - 0:00   | 13.50         | DRLPRO | 02   | C        | P   |                | DRILL: ROTATE/ SURVEY F/6610' T/7434=566 '@61 FPH WITH CONNECTIONS/ MAX IROP /245'/WOB 23. / TOP DRIVE RPM 55/ PUMP 110SPM = 495 GPM / PUMP PRESSURE ON/OFF 1620/1540 PSI / MUD MOTOR RPM 79/ PU/SO/ROT WT 208/137/165/ TORQUE ON/OFF 10/8/ DRILLING W/ 9.0 PPG MUD / GAS/ SHOWS/8/ BG 295-1150/CON GAS 1115-2560/ TOTAL SLIDE 667 FT/ ROT 3145'/ 18% / 82 % / TIME 10 HRS/ 44 HRS |
| 10/26/2011 | 0:00 - 6:00    | 6.00          | DRLPRO | 02   | D        | P   |                | DRILL/ SURVEY F/7,434' TO 7,745' = 311 '@ 51.8 FPH // WOB 16K-23K / TOP DRIVE RPM 40-60 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 1915/1810 PSI / MUD MOTOR RPM 79 / PU/SO/ROT WT 212/134/166 TORQUE ON/OFF BOTTOM 14K/15 K MW 9.3 VIS 35 / NO FLARE  |

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-19F1BS GREEN      Spud Conductor: 7/28/2011      Spud Date: 8/7/2011  
 Project: UTAH-UINTAH      Site: NBU 921-19D PAD      Rig Name No: PROPETRO 11/11, H&P 298/298  
 Event: DRILLING      Start Date: 7/10/2011      End Date: 11/2/2011  
 Active Datum: RKB @4,815.00usft (above Mean Sea Level)      UWI: NW/NW/0/9/S/21/E/19/0/0/26/PM/N/541/W/0/1368/0/0

| Date       | Time Start-End | Duration (hr) | Phase  | Code | Sub Code | P/U | MD From (usft) | Operation   |
|------------|----------------|---------------|--------|------|----------|-----|----------------|---|
|            | 6:00 - 15:30   | 9.50          | DRLPRO | 02   | D        | P   |                | DRILL/ SURVEY F/7,745' TO 8,190' =445' @ 46.8 FPH // WOB 16K-23K / TOP DRIVE RPM 40-60 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2040/1860 PSI / MUD MOTOR RPM 79 / PU/SO/ROT WT 221/143/176 TORQUE ON/OFF BOTTOM 15K/16 K MW 9.2+ VIS 35 / NO FLARE RIG SERVICE   |
|            | 15:30 - 16:00  | 0.50          | DRLPRO | 07   | A        | P   |                |   |
|            | 16:00 - 0:00   | 8.00          | DRLPRO | 02   | D        | P   |                | DRILL/SLIDE / SURVEY F/8,190' TO 8,580' =390' @ 46.8 FPH // WOB 16K-23K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2260/12080 PSI / MUD MOTOR RPM 88 / PU/SO/ROT WT 221/143/176 TORQUE ON/OFF BOTTOM 15K/16 K / SLIDE 40' IN 75 MIN 10% OF FOOTAGE DRILLED 15% OF HRS DRILLED MW 9.2 VIS 36 / 5 FLARE   |
| 10/27/2011 | 0:00 - 6:00    | 6.00          | DRLPRO | 02   | D        | P   |                | DRILL/SLIDE / SURVEY F/8,580' TO 8,870' =290' @ 48.3 FPH // WOB 16K-23K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2330/2175 PSI / MUD MOTOR RPM 88 / PU/SO/ROT WT 233/159/184 TORQUE ON/OFF BOTTOM 17K/16 K / SLIDE 20' IN 40 MIN 13% OF FOOTAGE DRILLED 11% OF HRS DRILLED MW 9.1 VIS 36 / 5 FLARE /  |
|            | 6:00 - 15:00   | 9.00          | DRLPRO | 02   | D        | P   |                | DRILL/SLIDE / SURVEY F/8,870' TO 9,229' =359' @ 39.8 FPH // WOB 16K-23K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2330/2185 PSI / MUD MOTOR RPM 88 / PU/SO/ROT WT 235/156/193 TORQUE ON/OFF BOTTOM 17K/17 K / SLIDE 95' IN 200 MIN 26% OF FOOTAGE DRILLED 37% OF HRS DRILLED RIG SERVICE   |
|            | 15:00 - 15:30  | 0.50          | DRLPRO | 02   | D        | P   |                |   |
|            | 15:30 - 0:00   | 8.50          | DRLPRO | 02   | D        | P   |                | DRILL / SURVEY F/ 9,229' TO 9,594' =365' @ 42.9 FPH // WOB 20K-24K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2230/2085 PSI / MUD MOTOR RPM 88 / PU/SO/ROT WT 248/164/200 TORQUE ON/OFF BOTTOM 18K/17 K / MW 9.1 VIS 35 / 10-20' FLARE  |
| 10/28/2011 | 0:00 - 6:00    | 6.00          | DRLPRO | 02   | D        | P   |                | DRILL / SURVEY F/ 9,594' TO 9,965' =271' @ 45.1 FPH // WOB 20K-24K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2230/2085 PSI / MUD MOTOR RPM 88 / PU/SO/ROT WT 251/165/203 TORQUE ON/OFF BOTTOM 21K/19 K / MW 9.1 VIS 35 / 10-20' FLARE / UNABLE TO GET SURVEY @ 9842' BAD SIGNAL/ PROJECTED OUT @ .13 BUILD RATE GOOD TO 3.75 DEG @ TD 11,650' / SEEING EXCESSIVE DOWN HOLE TORQUE 21 K/ STALLING MTR |
|            | 6:00 - 13:30   | 7.50          | DRLPRO | 02   | D        | P   |                | DRILL / F/ 9,965' TO 10,269' =304' @ 40.5 FPH // WOB 20K-24K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2500/2305 PSI / MUD MOTOR RPM 88 / PU/SO/ROT WT 261/170/210 TORQUE ON/OFF BOTTOM 19K/19 K / MW 9.3 VIS 35 / 5-15' FLARE RIG SERVICE / BOP DRILL   |
|            | 13:30 - 14:00  | 0.50          | DRLPRO | 07   | A        | P   |                |   |

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19F1BS GREEN      Spud Conductor: 7/28/2011      Spud Date: 8/7/2011  
 Project: UTAH-UJINTAH      Site: NBU 921-19D PAD      Rig Name No: PROPETRO 11/11, H&P 298/298  
 Event: DRILLING      Start Date: 7/10/2011      End Date: 11/2/2011  
 Active Datum: RKB @4,815.00usft (above Mean Sea Level)      UWI: NWNW/0/9/S/21/E/19/0/0/26/PM/N/541/W/0/1368/0/0

| Date       | Time Start-End | Duration (hr) | Phase  | Code | Sub Code | P/U | MD From (usft) | Operation   |
|------------|----------------|---------------|--------|------|----------|-----|----------------|---|
|            | 14:00 - 0:00   | 10.00         | DRLPRO | 02   | D        | P   |                | DRILL / F/10,269' TO 10,665' =396' @ 39.6 FPH // WOB 20K-24K / TOP DRIVE RPM 40-60 / PUMP 122 SPM = 550 GPM / PUMP PRESSURE ON/OFF BOTTOM 2500/2305 PSI / MUD MOTOR RPM 88 / PU/SO/ROT WT 261/170/210 TORQUE ON/OFF BOTTOM 19K/19 K / MW 10.8 VIS 38/ NO MUD LOSS/ UNABLE TO RECIEVE SURVEY DATA / NO SIGNAL  |
| 10/29/2011 | 0:00 - 9:00    | 9.00          | DRLPRO | 02   | D        | P   |                | DRILL F/10,665' TO 10,905' =165' @ 27.5 FPH // WOB 20K-24K / TOP DRIVE RPM 40-60 / PUMP 118 SPM = 530 GPM / PUMP PRESSURE ON/OFF BOTTOM 2650/2525 PSI / MUD MOTOR RPM 85 / PU/SO/ROT WT 274/172/213 TORQUE ON/OFF BOTTOM 20K/19 K / MW 11.0 VIS 40/ UNABLE TO RECIEVE SURVEY DATA / NO SIGNAL / NO MUD LOSS / LOW ROP   |
|            | 9:00 - 11:00   | 2.00          | DRLPRO | 05   | C        | P   |                | CCH / PUMP SWEEP / WORK PIPE / PREP FOR BIT TRIP  |
|            | 11:00 - 18:00  | 7.00          | DRLPRO | 06   | A        | P   |                | TOH /BACK REAM OUT 15 STDS /SPOT 50 BBL 12,5# PILL /TOH /NO PROBLEMS / FLOW CHECK @ SHOE, TOH   |
|            | 18:00 - 21:00  | 3.00          | DRLPRO | 06   | A        | P   |                | PULL MWD TOOL, L/D DIRECTIONAL TOOLS, FUNCT TEST BLIND & PIPE RAMS ,BREAK BIT, L/D M MTR, PU/ NMDC &, UBHO SUB, INSTALL MWD, .16 M MTR & BIT ,SCRIBE MTR, SURFACE TEST TOOLS  |
|            | 21:00 - 0:00   | 3.00          | DRLPRO | 06   | A        | P   |                | TIH, W/ HWDP, CHECK DERRICK FOR LEVEL INSTALL STRATA ROT HEAD, TEST MWD TOOL AGAIN , CIH, FILL PIPE @ SHOE, CIH   |
| 10/30/2011 | 0:00 - 4:30    | 4.50          | DRLPRO | 06   | A        | P   |                | TIH BREAK CIRC @ 6500', 9000', CIH TO 10,775.' / NO PROBLEMS HOLE GOOD  |
|            | 4:30 - 5:30    | 1.00          | DRLPRO | 03   | D        | P   |                | W&R 130' TO BTM 4' FILL/BTMS UP GAS 4045 UNITS 20- 30' FLARE  |
|            | 5:30 - 15:00   | 9.50          | DRLPRO | 02   | D        | P   |                | DRILL F/10,905' TO 11,230' =325' @ 36.1 FPH // WOB 20K-23K / TOP DRIVE RPM 40-60 / PUMP 105 SPM = 472 GPM / PUMP PRESSURE ON/OFF BOTTOM 2910/2735 PSI / MUD MOTOR RPM 75 / PU/SO/ROT WT 250/179/212 TORQUE ON/OFF BOTTOM 21K/19 K / MW 11.9 VIS 44 / HIGH TORQUE STALLING OUT DRILL STRING / BYPASS SHAKERS LCM CONTENT TO 3% TO HELP REDUCE DOWN HOLE TORQUE |
|            | 15:00 - 15:30  | 0.50          | DRLPRO | 07   | A        | P   |                | RIG SERVICE   |
|            | 15:30 - 0:00   | 8.50          | DRLPRO | 02   | D        | P   |                | DRILL F/11,230' TO 11,625' =395' @ 46.4 FPH / WOB 20K-23K / TOP DRIVE RPM 40-60 / PUMP 103 SPM = 465 GPM / PUMP PRESSURE ON/OFF BOTTOM 3205/3060 PSI / MUD MOTOR RPM 75 / PU/SO/ROT WT 265/187/214 TORQUE ON/OFF BOTTOM 18K/17 K / MW 12.5 VIS 44 LCM 3% / NO MUD LOSS  |

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-19F1BS GREEN      Spud Conductor: 7/28/2011      Spud Date: 8/7/2011  
 Project: UTAH-UINTAH      Site: NBU 921-19D PAD      Rig Name No: PROPETRO 11/11, H&P 298/298  
 Event: DRILLING      Start Date: 7/10/2011      End Date: 11/2/2011  
 Active Datum: RKB @4,815.00usft (above Mean Sea Level)      UWI: NW/NW/0/9/S/21/E/19/0/0/26/PM/N/541/M/0/1368/0/0

| Date       | Time Start-End | Duration (hr) | Phase  | Code | Sub Code | P/U | MD From (usft) | Operation   |
|------------|----------------|---------------|--------|------|----------|-----|----------------|---|
| 10/31/2011 | 0:00 - 0:30    | 0.50          | DRLPRO | 02   | D        | P   |                | DRILL F/11,625' TO 11,645'TD =20' @ 40 FPH / WOB 20K-23K / TOP DRIVE RPM 40-60 / PUMP 103 SPM = 465 GPM / PUMP PRESSURE ON/OFF BOTTOM 3205/3060 PSI / MUD MOTOR RPM 75 / PU/SO/ROT WT 265/187/214 TORQUE ON/OFF BOTTOM 18K/17 K / MW 12.5 VIS 44 LCM 3% / NO MUD LOSS |
|            | 0:30 - 2:00    | 1.50          | DRLPRO | 05   | C        | P   |                | CCH , PUMP SWEEP /PREP FOR WIPER TRIP   |
|            | 2:00 - 8:30    | 6.50          | DRLPRO | 06   | E        | P   |                | WIPER TRIP , BACK REAM OUT 10 STDS ,STRAIGHT PULL 5 STDS,PUMP SLUG, TOH TO CSG SHOE,2898,HOLE GOOD,FILL PIPE  |
|            | 8:30 - 13:00   | 4.50          | DRLPRO | 06   | E        | P   |                | TIH BREAK CIRC @ 5600,8600, WIPE OUT TIGHT SPOTS @ 5100,5730,CIH, TO 11,525 WASH 120' TO BTM NO FILL  |
|            | 13:00 - 15:00  | 2.00          | DRLPRO | 05   | C        | P   |                | CCH,F/ LOGS, BTMS UP GAS 5146 UNITS 5' FLARE  |
|            | 15:00 - 23:30  | 8.50          | EVALPR | 06   | B        | P   |                | TOH F/ LOGS / BACK REAM OUT 10 STDS ,STRAIGHT PULL 5 STDS,PUMP SLUG, TOH FLOW CHECK @ SHOE, HOLE GOOD /TOH PULL ROT RUBBER, TOHW BHA L/D DIR TOOLS,BREAK BIT L/D M MTR,FUNCT TEST PIPE & BLIND RAMS HSM W/ HALCO & RIG CREW,RU LOGGING EQUIP                          |
|            | 23:30 - 0:00   | 0.50          | EVALPR | 11   | E        | P   |                | R/U HALLIBURTON RUN TRIPLE COMBO LOGGER   |
| 11/1/2011  | 0:00 - 6:00    | 6.00          | EVALPR | 11   | E        | P   |                | TD 11,658 DRILLER TD 11,645 LOG OUT TO SURFACE R/D SAME   |
|            | 6:00 - 13:00   | 7.00          | EVALPR | 06   | D        | P   |                | MU BIT SUB & TRICONE BIT RIH TO CSG SHOE,INSTALL ROTA RUBBER,BREAK CIRC,CIH BREAK CIRC @ 5,500,8,500,WASH 120' TO BTM CCH F/ CASING .BTMS UP GAS 2992 U ,5' FLARE   |
|            | 13:00 - 15:00  | 2.00          | EVALPR | 05   | C        | P   |                | BACK REAM 10 STDS,PULL 5 STDS ,PUMP SLUG , LDSS   |
|            | 15:00 - 0:00   | 9.00          | EVALPR | 06   | D        | P   |                | LDDP & BHA  |
| 11/2/2011  | 0:00 - 3:30    | 3.50          | EVALPR | 06   | D        | P   |                | PULL WEAR BUSHING / X/O BAILS   |
|            | 3:30 - 4:30    | 1.00          | EVALPR | 14   | B        | P   |                | REVIEW CTJSA , RIG UP FRANKS EQUIP,TO TORQUE TURN CASING,M/U FE   |
|            | 4:30 - 6:00    | 1.50          | CSG    | 12   | A        | P   |                | RUN 163 JTS P-110 11.6# LT&C(6606') & 119 JTS OF DQX P-110 (5026')4.5 CASING + RELATED TOOLS / BREAKING CIRCULATION @ SELECTED INTERVALS / HOLDING CSG @ 11,632 FOR CIRC & CEMENTING / ALL JTS TORQUE TURNED &TORQUED AS PER TSI PERSONNAL.                           |
|            | 6:00 - 18:30   | 12.50         | CSG    | 12   | C        | P   |                | CIRC CASING / RIG DOWN FRANKS   |
|            | 18:30 - 20:30  | 2.00          | CSG    | 05   | D        | P   |                |   |

**US ROCKIES REGION**  
**Operation Summary Report**

|  |  |   |  |
|--|--|---|--|
| Well: NBU 921-19F1BS GREEN                             |  | Spud Conductor: 7/28/2011                             | Spud Date: 8/7/2011                      |
| Project: UTAH-UINTAH                                   |  | Site: NBU 921-19D PAD                                 | Rig Name No: PROPETRO 11/11, H&P 298/298 |
| Event: DRILLING  |  | Start Date: 7/10/2011                                 | End Date: 11/2/2011                      |
| Active Datum: RKB @4,815.00usft (above Mean Sea Level) |  | UWI: NW/NW/0/9/S/21/E/19/0/0/26/PM/N/541/W/0/1368/0/0 |  |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation  |
|------|----------------|---------------|-------|------|----------|-----|----------------|--|
|      | 20:30 - 23:00  | 2.50          | CSG   | 12   | E        | P   |                | TEST PUMPS & LINES TO 4,700 PSI DROP BOTTOM PLUG /PUMP 28 BBLs WEIGHTED SPACER @ 12.6 ppg 6600# BAR+11GAL FLO-GUARD + 634 SX LEAD CEMENT @ 13.1 ppg (PREM LITE II + .25 pps CELLO FLAKE + 5 pps KOL SEAL + .05 lb/sx STATIC FREE + 10% bwoc BENTONITE + .2% bwoc SODIUM META SILICATE + .4 % R-3 + 129.5 BBLs FRESH WATER / (8.58 gal/sx, 1.73 yield) + 1523 SX TAIL @ 14.3 ppg (CLS G 50/50 POZ + 10% SALT + .05lbs/sx STATIC FREE + .2% R3 + .002 GPS FP-6L + 2% BENTONITE + 213.9 BBLs H2O / (5.90 gal/sx, 1.31 yield) / DROP TOP PLUG & DISPLACE W/ 180 BBLs H2O + ADDITIVES / PLUG DOWN @ 22:58 HOURS / FLOATS HELD W/ 2.5 BBLs H2O RETURNED TO INVENTORY/ GOOD CIRC THROUGHOUT W/ 25 BBLs SPACER TO PIT / LIFT PRESSURE @3,750 PSI / BUMP PRESSURE TO 4,400 PSI / TOP OF TAIL CEMENT CALCULATED @ 4350 / RIG DOWN CMT EQUIP/ CSG SHOE 11,634,FC @ 11,592/ TOP OF MKR JT BH 11,043 ,MKR JT MV 8,385,MKR JT WAS 5026' / RD CEMENTERS FLUSH OUT & PICK UP BOP STACK,SET C-22 CSG SLIPS W/ 110K,RELEASE RIG @ 12 MIDNIGHT 2/2/2011 |
|      | 23:00 - 0:00   | 1.00          | CSG   | 14   | A        | P   |                |  |

1 General

1.1 Customer Information

|                |                   |
|----------------|-------------------|
| Company        | US ROCKIES REGION |
| Representative |                   |
| Address        |                   |

1.2 Well/Wellbore Information

|              |  |               |  |
|--------------|--|---------------|--|
| Well         | NBU 921-19F1BS GREEN                             | Wellbore No.  | OH                                       |
| Well Name    | NBU 921-19F1BS                                   | Wellbore Name | NBU 921-19F1BS                           |
| Report No.   | 1  | Report Date   | 12/2/2011                                |
| Project      | UTAH-UINTAH                                      | Site          | NBU 921-19D PAD                          |
| Rig Name/No. | MILES 2/2  | Event         | COMPLETION                               |
| Start Date   | 12/2/2011  | End Date      | 12/13/2011                               |
| Spud Date    | 8/7/2011   | Active Datum  | RKB @4,815.00usft (above Mean Sea Level) |
| UWI          | NW/NW/0/9/S/21/E/19/0/0/26/PM/N/541/W/0/1368/0/0 |               |  |

1.3 General

|                     |                      |                 |           |            |              |
|---------------------|----------------------|-----------------|-----------|------------|--------------|
| Contractor          | CASED HOLE SOLUTIONS | Job Method      | PERFORATE | Supervisor | DAVE DANIELS |
| Perforated Assembly | PRODUCTION CASING    | Conveyed Method | WIRELINE  |            |              |

1.4 Initial Conditions

|                   |         |                    |  |
|-------------------|---------|--------------------|--|
| Fluid Type        |         | Fluid Density      |  |
| Surface Press     |         | Estimate Res Press |  |
| TVD Fluid Top     |         | Fluid Head         |  |
| Hydrostatic Press |         | Press Difference   |  |
| Balance Cond      | NEUTRAL |                    |  |

1.5 Summary

|                  |                                |                          |              |
|------------------|--------------------------------|--------------------------|--------------|
| Gross Interval   | 8,420.0 (usft)-11,504.0 (usft) | Start Date/Time          |              |
| No. of Intervals | 47                             | End Date/Time            |              |
| Total Shots      | 219                            | Net Perforation Interval | 67.00 (usft) |
| Avg Shot Density | 3.27 (shot/ft)                 | Final Surface Pressure   |              |
|                  |                                | Final Press Date         |              |

2 Intervals

2.1 Perforated Interval

| Date | Formation/Reservoir | CCL@ (usft) | CCL-T S (usft) | MD Top (usft) | MD Base (usft) | Shot Density (shot/ft) | Misfires/Add. Shot | Diameter (in) | Carr Type /Carr Manuf | Carr Size (in) | Phasing (°) | Charge Desc /Charge Manufacturer | Charge Weight (gram) | Reason    | Misrun |
|------|---------------------|-------------|----------------|---------------|----------------|------------------------|--------------------|---------------|-----------------------|----------------|-------------|----------------------------------|----------------------|-----------|--------|
|      | MESAVERDE/          |             |                | 8,420.0       | 8,422.0        | 4.00                   |                    | 0.360         | EXP/                  | 3.375          | 90.00       |                                  | 23.00                | PRODUCTIO | N      |

2.1 Perforated Interval (Continued)

| Date | Formation/<br>Reservoir | CCL@<br>(usft) | CCL-T<br>S<br>(usft) | MD Top<br>(usft) | MD Base<br>(usft) | Shot<br>Density<br>(shot/ft) | Misfires/<br>Add. Shot | Diamete<br>r<br>(in) | Carr Type /Carr Manuf | Carr<br>Size<br>(in) | Phasing<br>(°) | Charge Desc /Charge<br>Manufacturer | Charge<br>Weight<br>(gram) | Reason         | Misrun |
|------|-------------------------|----------------|----------------------|------------------|-------------------|------------------------------|------------------------|----------------------|-----------------------|----------------------|----------------|-------------------------------------|----------------------------|----------------|--------|
|      | MESAVERDE/              |                |                      | 8,434.0          | 8,436.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,474.0          | 8,476.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,557.0          | 8,558.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,584.0          | 8,585.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,619.0          | 8,620.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,669.0          | 8,670.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,720.0          | 8,721.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,739.0          | 8,740.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,868.0          | 8,870.0           | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,898.0          | 8,899.0           | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 8,919.0          | 8,920.0           | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 9,096.0          | 9,098.0           | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 9,128.0          | 9,130.0           | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 9,212.0          | 9,214.0           | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 9,390.0          | 9,392.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 9,472.0          | 9,474.0           | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 9,484.0          | 9,485.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 9,709.0          | 9,710.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 9,745.0          | 9,746.0           | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 9,769.0          | 9,770.0           | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 9,810.0          | 9,811.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |

2.1 Perforated Interval (Continued)

| Date | Formation/<br>Reservoir | CCL@<br>(usft) | CCL-T<br>S<br>(usft) | MD Top<br>(usft) | MD Base<br>(usft) | Shot<br>Density<br>(shot/ft) | Misfires/<br>Add. Shot | Diamete<br>r<br>(in) | Carr Type /Carr Manuf | Carr<br>Size<br>(in) | Phasing<br>(°) | Charge Desc /Charge<br>Manufacturer | Charge<br>Weight<br>(gram) | Reason         | Misrun |
|------|-------------------------|----------------|----------------------|------------------|-------------------|------------------------------|------------------------|----------------------|-----------------------|----------------------|----------------|-------------------------------------|----------------------------|----------------|--------|
|      | MESAVERDE/              |                |                      | 9,840.0          | 9,841.0           | 4.00                         |                        | 0.360                | EXP/                  | 3.375                | 90.00          |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 9,864.0          | 9,866.0           | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 9,930.0          | 9,931.0           | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 9,963.0          | 9,964.0           | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 10,019.0         | 10,020.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 10,139.0         | 10,140.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 10,193.0         | 10,194.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 10,207.0         | 10,208.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 10,233.0         | 10,234.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,114.0         | 11,115.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,136.0         | 11,138.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,163.0         | 11,164.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,192.0         | 11,194.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,215.0         | 11,216.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,224.0         | 11,226.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,282.0         | 11,284.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,292.0         | 11,294.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,304.0         | 11,306.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,312.0         | 11,314.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,390.0         | 11,392.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,403.0         | 11,404.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |

2.1 Perforated Interval (Continued)

| Date | Formation/<br>Reservoir | CCL@<br>(usft) | CCL-T<br>S<br>(usft) | MD Top<br>(usft) | MD Base<br>(usft) | Shot<br>Density<br>(shot/ft) | Misfires/<br>Add. Shot | Diamete<br>r<br>(in) | Carr Type /Carr Manuf | Carr<br>Size<br>(in) | Phasing<br>(°) | Charge Desc /Charge<br>Manufacturer | Charge<br>Weight<br>(gram) | Reason         | Misrun |
|------|-------------------------|----------------|----------------------|------------------|-------------------|------------------------------|------------------------|----------------------|-----------------------|----------------------|----------------|-------------------------------------|----------------------------|----------------|--------|
|      | MESAVERDE/              |                |                      | 11,414.0         | 11,415.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,424.0         | 11,426.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,447.0         | 11,448.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |
|      | MESAVERDE/              |                |                      | 11,502.0         | 11,504.0          | 3.00                         |                        | 0.360                | EXP/                  | 3.375                | 120.00         |                                     | 23.00                      | PRODUCTIO<br>N |        |

3 Plots

3.1 Wellbore Schematic



**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19F1BS GREEN      Spud Conductor: 7/28/2011      Spud Date: 8/7/2011  
 Project: UTAH-UINTAH      Site: NBU 921-19D PAD      Rig Name No: MILES 2/2  
 Event: COMPLETION      Start Date: 12/2/2011      End Date: 12/13/2011  
 Active Datum: RKB @4,815.00usft (above Mean Sea Level)      UWI: NWNW0/9/S/21/E/19/0/0/26/PM/N/541/W/0/1368/0/0

| Date      | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation  |
|-----------|----------------|---------------|-------|------|----------|-----|----------------|--|
| 12/1/2011 | 12:00 - 14:30  | 2.50          | COMP  | 33   |          | P   |                | FILL SURFACE CSG. MIRU B&C QUICK TEST.<br>PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 22 PSI.<br>PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 45 PSI.<br>1ST PSI TEST T/ 9000 PSI. HELD FOR 30 MIN LOST 170 PSI.<br>2ND PSI TEST T/ 9000 PSI. HELD FOR 30 MIN. LOST 110 PSI.<br>NO COMMUNICATION WITH SURFACE CSG<br>BLEED OFF PSI. MOVE T/ NEXT WELL.<br>SWFW  |
| 12/5/2011 | 7:00 - 18:00   | 11.00         | COMP  | 36   | B        | P   |                | PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW<br><br>FRAC STG 1)WHP 2060 PSI, BRK 4235 PSI @ 4.7 BPM. ISIP 3553 PSI, FG .75<br>CALC HOLES OPEN @ 50.0 BPM @ 6485 PSI = 100% HOLES OPEN.<br>ISIP 3873 PSI, FG .78, NPI 320 PSI.<br>MP 8068 PSI, MR 50.3 BPM, AP 6325 PSI, AR 49.2 BPM<br>PUMPED 30/50 TLC SAND IN THIS STAGE. SWFN |
| 12/6/2011 | 7:00 - 18:00   | 11.00         | COMP  | 36   | B        | P   |                | PERF STG 2)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 11,344' P/U PERF AS PER PERF DESIGN. POOH. SWFN  |

**US ROCKIES REGION**  
**Operation Summary Report**

|  |  |   |                        |
|--|--|---|------------------------|
| Well: NBU 921-19F1BS GREEN                             |  | Spud Conductor: 7/28/2011                             | Spud Date: 8/7/2011    |
| Project: UTAH-UINTAH                                   |  | Site: NBU 921-19D PAD                                 | Rig Name No: MILES 2/2 |
| Event: COMPLETION                                      |  | Start Date: 12/2/2011                                 | End Date: 12/13/2011   |
| Active Datum: RKB @4,815.00usft (above Mean Sea Level) |  | UWI: NW/NW/0/9/S/21/E/19/0/0/26/PM/N/541/W/0/1368/0/0 |                        |

| Date      | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation   |
|-----------|----------------|---------------|-------|------|----------|-----|----------------|---|
| 12/7/2011 | 7:00 - 18:00   | 11.00         | COMP  | 36   | B        | P   |                | <p>FRAC STG 2)WHP 1292 PSI, BRK 5932 PSI @ 4.5 BPM. ISIP 4052 PSI, FG .80.<br/> CALC HOLES OPEN @ 49.6 BPM @ 6731 PSI = 100% HOLES OPEN.<br/> ISIP 3788 PSI, FG .77 NPI -264 PSI.<br/> MP 8497 PSI, MR 49.8 BPM, AP 6555 PSI, AR 44.2 BPM<br/> PUMPED 30/50 TLC SAND IN THIS STAGE<br/> X-OVER FOR WL</p> <p>PERF STG 3)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 11,256' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW</p> <p>FRAC STG 3)WHP 3260 PSI, BRK 5382 PSI @ 6.4 BPM. ISIP 3824 PSI, FG .78<br/> CALC HOLES OPEN @ 49.9 BPM @ 6567 PSI = 100% HOLES OPEN.<br/> ISIP 3737 PSI, FG .77, NPI -87 PSI.<br/> MP 8047 PSI, MR 51.8 BPM, AP 6258 PSI, AR 49.7 BPM<br/> PUMPED 30/50 TLC IN THIS STAGE<br/> X-OVER FOR WL<br/> NOTE: CUT SAND SHORT 10,528 # FROM DESIGN</p> <p>PERF STG 4)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 10,254' P/U PERF AS PER PERF DESIGN. POOH. SWIFN</p> |
| 12/8/2011 | 6:45 - 7:00    | 0.25          | COMP  | 48   |          | P   |                | <p>SAFETY MEETING: HYDR FRAC VALVE OPERATIONS</p>   |

**US ROCKIES REGION**  
**Operation Summary Report**

|  |  |   |                        |
|--|--|---|------------------------|
| Well: NBU 921-19F1BS GREEN                             |  | Spud Conductor: 7/28/2011                             | Spud Date: 8/7/2011    |
| Project: UTAH-UINTAH                                   |  | Site: NBU 921-19D PAD                                 | Rig Name No: MILES 2/2 |
| Event: COMPLETION                                      |  | Start Date: 12/2/2011                                 | End Date: 12/13/2011   |
| Active Datum: RKB @4,815.00usft (above Mean Sea Level) |  | UWI: NW/NW/0/9/S/21/E/19/0/0/26/PM/N/541/W/0/1368/0/0 |                        |

| Date | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation   |
|------|----------------|---------------|-------|------|----------|-----|----------------|---|
|      | 7:00 - 18:00   | 11.00         | COMP  | 36   | B        | P   |                | <p>FRAC STG 4)WHP 2080 PSI, BRK 3419 PSI @ 4.3 BPM. ISIP 2569 PSI, FG .61<br/> CALC HOLES OPEN @ 50.0 BPM @ 5957 PSI = 100% HOLES OPEN.<br/> ISIP 3301 PSI, FG .77, NPI 740 PSI.<br/> MP 6255 PSI, MR 51.7 BPM, AP 5595 PSI, AR 49.2 BPM<br/> PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 5)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 9896' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW</p> <p>FRAC STG 5)WHP 1430 PSI, BRK 3129 PSI @ 4.4 BPM. ISIP 1901 PSI, FG .63<br/> CALC HOLES OPEN @ 49.5 BPM @ 5298 PSI = 85% HOLES OPEN.<br/> ISIP 2842 PSI, FG .73, NPI 941 PSI.<br/> MP 6011 PSI, MR 50.6 BPM, AP 5036 PSI, AR 49.3 BPM<br/> PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 6)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 9515' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW</p> <p>FRAC STG 6)WHP 1157 PSI, BRK 3551 PSI @ 4.6 BPM. ISIP 2828 PSI, FG .74.<br/> CALC HOLES OPEN @ 49.8 BPM @ 5268 PSI = 100% HOLES OPEN.<br/> ISIP 3128 PSI, FG .77, NPI 300 PSI.<br/> MP 6047 PSI, MR 51.4 BPM, AP 5259 PSI, AR 49.9 BPM<br/> PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 7)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 9160' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW</p> <p>FRAC STG 7)WHP 1469 PSI, BRK 3173 PSI @ 4.4 BPM. ISIP 2173 PSI, FG .68<br/> CALC HOLES OPEN @ 48.8 BPM @ 5873 PSI = 75% HOLES OPEN.<br/> ISIP 2920 PSI, FG .76, NPI 747 PSI.<br/> MP 6048 PSI, MR 51.4 BPM, AP 5167 PSI, AR 50.0 BPM<br/> PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> |

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 921-19F1BS GREEN      Spud Conductor: 7/28/2011      Spud Date: 8/7/2011  
 Project: UTAH-UINTAH      Site: NBU 921-19D PAD      Rig Name No: MILES 2/2  
 Event: COMPLETION      Start Date: 12/2/2011      End Date: 12/13/2011  
 Active Datum: RKB @4,815.00usft (above Mean Sea Level)      UWI: NW/NW/0/9/S/21/E/19/0/0/26/PM/N/541/NW/0/1368/0/0

| Date       | Time Start-End | Duration (hr) | Phase | Code | Sub Code | P/U | MD From (usft) | Operation   |
|------------|----------------|---------------|-------|------|----------|-----|----------------|---|
| 12/9/2011  | 7:00 - 17:00   | 10.00         | COMP  | 36   | B        | P   |                | PERF STG 8)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 8720' P/U PERF AS PER PERF DESIGN. POOH. SWIFN<br>FRAC STG 8)WHP 1700 PSI, BRK 3200 PSI @ 4.3 BPM. ISIP 2072 PSI, FG .68<br>CALC HOLES OPEN @ 51.4 BPM @ 4861 PSI = 100% HOLES OPEN.<br>ISIP 2698 PSI, FG .75, NPI 626 PSI.<br>MP 5708 PSI, MR 51.9 BPM, AP 4653 PSI, AR 50.6 BPM<br>PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL |
| 12/10/2011 | 7:00 - 15:00   | 8.00          | COMP  | 36   | B        | P   |                | PERF STG 9)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 8506' P/U PERF AS PER PERF DESIGN. POOH. SWIFN<br>WORKED ON NEW BLENDER COULDN'T GET IT TO WORK, NO PUMPING TODAY   |
| 12/11/2011 | 7:00 - 15:00   | 8.00          | COMP  | 36   | B        | P   |                | FRAC STG 9)WHP 1670 PSI, BRK 3128 PSI @ 4.1 BPM. ISIP 2352 PSI, FG .72<br>CALC HOLES OPEN @ 50.2 BPM @ 5529 PSI = 87% HOLES OPEN.<br>ISIP 2733 PSI, FG .76, NPI 382 PSI.<br>MP 6100 PSI, MR 50.8 BPM, AP 5266 PSI, AR 49.9 BPM<br>PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL  |
|            |                |               |       |      |          |     |                | RU 4 1/2" CBP RIH SET KILL PLUG @ 8370 POOH SWI RD FRAC & WL CREWS  |
| 12/12/2011 | -              |               | COMP  | 48   |          | P   |                | TOTAL SAND= 440,874 #<br>TOTAL CLFL= 20,211 BBLS<br>MIRU  |
|            |                |               | COMP  | 44   |          | P   |                | MIRU, NU 10K BOP'S, TEST BOP'S, TIH TBG. 81 JTS, 2540' EOT, SWIFN   |
| 12/13/2011 | 7:00 - 7:30    | 0.50          | COMP  | 48   |          | P   |                | MILLING PLUGS   |

**US ROCKIES REGION  
Operation Summary Report**

|  |  |   |                        |
|--|--|---|------------------------|
| Well: NBU 921-19F1BS GREEN                             |  | Spud Conductor: 7/28/2011                             | Spud Date: 8/7/2011    |
| Project: UTAH-UJINTAH                                  |  | Site: NBU 921-19D PAD                                 | Rig Name No: MILES 2/2 |
| Event: COMPLETION                                      |  | Start Date: 12/2/2011                                 | End Date: 12/13/2011   |
| Active Datum: RKB @4,815.00usft (above Mean Sea Level) |  | UWI: NW/NW/0/9/S/21/E/19/0/0/26/PM/N/541/W/0/1368/0/0 |                        |

| Date | Time<br>Start-End | Duration<br>(hr) | Phase | Code | Sub<br>Code | P/U | MD From<br>(usft) | Operation  |
|------|-------------------|------------------|-------|------|-------------|-----|-------------------|--|
|      | 7:30 - 17:30      | 10.00            | COMP  | 44   |             | P   |                   | TIH TBG TO 8354', TAG CBP, MILL 9 PLUGS,<br>PLUG# 1 8354' 20' SAND 8 MIN 300# KICK<br>PLUG# 2 8506' 50' SAND 8 MIN 500# KICK<br>PLUG# 3 8768' 30' SAND 5 MIN 200# KICK<br>PLUG# 4 9158' 30' SAND 5 MIN 400# KICK<br>PLUG# 5 9514' 14' SAND 5 MIN 300# KICK<br>PLUG# 6 9896' 30' SAND 5 MIN 500# KICK<br>PLUG# 7 10264' 30' SAND 5 MIN 400# KICK<br>PLUG# 8 11256' 30' SAND 5 MIN 200# KICK<br>PLUG# 9 11344' 30' SAND 5 MIN 600# KICK<br>CLEANED 90' TO PBTD 11,587', POOH TO 11250.30'<br>LAND TBG, POBS 3200#,<br><br>TBG 354 JTS L-80<br>11221.27'<br>KB<br>26.00'<br>S/N 1.875"<br>2.20'<br>HANGER<br>.83'<br>EOT<br>11250.30'<br><br>FRAC WTR<br>20,211 BBLS<br>RCVD<br>3,500 BBLS<br>LTR<br>16,711 BBLS<br><br>NOTIFIED CDC 4:00 PM BRIGHAM, TURNED TO FBC<br>5:00PM |

1 General

1.1 Customer Information

|                |                   |
|----------------|-------------------|
| Company        | US ROCKIES REGION |
| Representative |                   |
| Address        |                   |

1.2 Well Information

|                          |  |                 |  |
|--------------------------|--|-----------------|--|
| Well                     | NBU 921-19F1BS GREEN                     | Wellbore No.    | OH   |
| Well Name                | NBU 921-19F1BS                           | Common Name     | NBU 921-19F1BS                                       |
| Project                  | UTAH-UINTAH                              | Site            | NBU 921-19D PAD                                      |
| Vertical Section Azimuth | 134.81 (°)                               | North Reference | True   |
| Origin N/S               | 0.0 (usft)                               | Origin E/W      | 0.0 (usft)   |
| Spud Date                | 8/7/2011                                 | UWI             | NW/NW/0/9/S/21/E/19/0/0/26/PM/N/541/W/0/136<br>8/0/0 |
| Active Datum             | RKB @4,815.00usft (above Mean Sea Level) |                 |  |

2 Survey Name

2.1 Survey Name: SURF. DEVIATION

|             |                 |          |             |
|-------------|-----------------|----------|-------------|
| Survey Name | SURF. DEVIATION | Company  | WEATHERFORD |
| Started     | 8/7/2011        | Ended    |             |
| Tool Name   | MWD             | Engineer | Anadarko    |

2.1.1 Tie On Point

| MD (usft) | Inc (°) | Azi (°) | TVD (usft) | N/S (usft) | E/W (usft) |
|-----------|---------|---------|------------|------------|------------|
| 22.00     | 0.00    | 0.00    | 22.00      | 0.00       | 0.00       |

2.1.2 Survey Stations

| Date     | Type   | MD (usft) | Inc (°) | Azi (°) | TVD (usft) | N/S (usft) | E/W (usft) | V. Sec (usft) | DLeg (°/100usft ) | Build (°/100usft ) | Turn (°/100usft ) | TFace (°) |
|----------|--------|-----------|---------|---------|------------|------------|------------|---------------|-------------------|--------------------|-------------------|-----------|
| 8/7/2011 | Tie On | 22.00     | 0.00    | 0.00    | 22.00      | 0.00       | 0.00       | 0.00          | 0.00              | 0.00               | 0.00              | 0.00      |
| 8/7/2011 | NORMAL | 198.00    | 0.45    | 91.73   | 198.00     | -0.02      | 0.69       | 0.50          | 0.26              | 0.26               | 0.00              | 91.73     |
|          | NORMAL | 285.00    | 1.23    | 137.22  | 284.99     | -0.72      | 1.67       | 1.69          | 1.11              | 0.90               | 52.29             | 64.82     |
|          | NORMAL | 372.00    | 2.44    | 133.39  | 371.94     | -2.67      | 3.65       | 4.47          | 1.40              | 1.39               | -4.40             | -7.70     |
|          | NORMAL | 462.00    | 3.50    | 140.14  | 461.82     | -6.10      | 6.80       | 9.12          | 1.24              | 1.18               | 7.50              | 21.65     |
| 8/8/2011 | NORMAL | 552.00    | 5.00    | 140.39  | 551.57     | -11.23     | 11.06      | 15.76         | 1.67              | 1.67               | 0.28              | 0.83      |
|          | NORMAL | 642.00    | 6.63    | 138.27  | 641.10     | -18.13     | 17.02      | 24.85         | 1.83              | 1.81               | -2.36             | -8.56     |
|          | NORMAL | 732.00    | 8.88    | 137.02  | 730.28     | -27.09     | 25.22      | 36.98         | 2.51              | 2.50               | -1.39             | -4.91     |
|          | NORMAL | 822.00    | 10.63   | 135.14  | 818.97     | -38.06     | 35.81      | 52.22         | 1.98              | 1.94               | -2.09             | -11.24    |
|          | NORMAL | 912.00    | 12.50   | 134.89  | 907.14     | -50.82     | 48.56      | 70.27         | 2.08              | 2.08               | -0.28             | -1.66     |
|          | NORMAL | 1,002.00  | 14.44   | 134.89  | 994.66     | -65.61     | 63.42      | 91.23         | 2.16              | 2.16               | 0.00              | 0.00      |
|          | NORMAL | 1,092.00  | 16.13   | 135.14  | 1,081.47   | -82.39     | 80.19      | 114.95        | 1.88              | 1.88               | 0.28              | 2.35      |
|          | NORMAL | 1,182.00  | 18.19   | 134.14  | 1,167.46   | -101.04    | 99.09      | 141.51        | 2.31              | 2.29               | -1.11             | -8.63     |
|          | NORMAL | 1,272.00  | 19.44   | 134.02  | 1,252.65   | -121.23    | 119.94     | 170.53        | 1.39              | 1.39               | -0.13             | -1.83     |
|          | NORMAL | 1,362.00  | 19.81   | 133.01  | 1,337.42   | -142.04    | 141.86     | 200.75        | 0.56              | 0.41               | -1.12             | -42.99    |
|          | NORMAL | 1,452.00  | 19.81   | 131.52  | 1,422.10   | -162.55    | 164.43     | 231.22        | 0.56              | 0.00               | -1.66             | -90.70    |
|          | NORMAL | 1,542.00  | 18.63   | 132.14  | 1,507.08   | -182.31    | 186.51     | 260.80        | 1.33              | -1.31              | 0.69              | 170.48    |
|          | NORMAL | 1,632.00  | 18.69   | 132.39  | 1,592.35   | -201.68    | 207.82     | 289.57        | 0.11              | 0.07               | 0.28              | 53.24     |

2.1.2 Survey Stations (Continued)

| Date       | Type   | MD (usft) | Inc (°) | Azi (°) | TVD (usft) | N/S (usft) | E/W (usft) | V. Sec (usft) | DLog (°/100usft) | Build (°/100usft) | Turn (°/100usft) | TFace (°) |
|------------|--------|-----------|---------|---------|------------|------------|------------|---------------|------------------|-------------------|------------------|-----------|
| 8/8/2011   | NORMAL | 1,812.00  | 20.13   | 132.26  | 1,762.11   | -241.95    | 252.05     | 349.33        | 0.80             | 0.80              | -0.07            | -1.78     |
|            | NORMAL | 1,992.00  | 21.31   | 131.89  | 1,930.47   | -284.62    | 299.32     | 412.94        | 0.66             | 0.66              | -0.21            | -6.50     |
|            | NORMAL | 2,082.00  | 21.31   | 132.26  | 2,014.32   | -306.54    | 323.60     | 445.61        | 0.15             | 0.00              | 0.41             | 90.17     |
|            | NORMAL | 2,172.00  | 21.63   | 132.51  | 2,098.07   | -328.74    | 347.93     | 478.52        | 0.37             | 0.36              | 0.28             | 16.07     |
|            | NORMAL | 2,262.00  | 21.44   | 133.39  | 2,181.79   | -351.25    | 372.11     | 511.54        | 0.42             | -0.21             | 0.98             | 120.87    |
|            | NORMAL | 2,352.00  | 19.88   | 134.76  | 2,266.00   | -373.33    | 394.93     | 543.29        | 1.81             | -1.73             | 1.52             | 163.42    |
|            | NORMAL | 2,442.00  | 19.13   | 133.89  | 2,350.83   | -394.33    | 416.42     | 573.34        | 0.89             | -0.83             | -0.97            | -159.24   |
|            | NORMAL | 2,532.00  | 18.38   | 132.89  | 2,436.05   | -414.21    | 437.45     | 602.26        | 0.91             | -0.83             | -1.11            | -157.27   |
|            | NORMAL | 2,622.00  | 17.81   | 134.26  | 2,521.60   | -433.47    | 457.70     | 630.21        | 0.79             | -0.63             | 1.52             | 143.91    |
|            | NORMAL | 2,712.00  | 18.31   | 134.39  | 2,607.17   | -452.97    | 477.66     | 658.11        | 0.56             | 0.56              | 0.14             | 4.67      |
|            | NORMAL | 2,802.00  | 17.50   | 132.89  | 2,692.81   | -472.07    | 497.68     | 685.77        | 1.04             | -0.90             | -1.67            | -151.06   |
|            | NORMAL | 2,872.00  | 17.38   | 132.95  | 2,759.59   | -486.35    | 513.04     | 706.74        | 0.17             | -0.17             | 0.09             | 171.51    |
| 10/23/2011 | NORMAL | 2,942.00  |         |         | 2,828.52   | -493.53    | 520.75     | 717.27        | 24.83            | -24.83            | 0.00             | -180.00   |

2.2 Survey Name: PRODUCTION

|             |            |          |               |
|-------------|------------|----------|---------------|
| Survey Name | PRODUCTION | Company  | WEATHERFORD   |
| Started     | 10/23/2011 | Ended    |               |
| Tool Name   | EM         | Engineer | JOSH JOHNSTON |

2.2.1 Tie On Point

| MD (usft) | Inc (°) | Azi (°) | TVD (usft) | N/S (usft) | E/W (usft) |
|-----------|---------|---------|------------|------------|------------|
| 2,872.00  | 17.38   | 132.95  | 2,759.22   | -486.93    | 513.83     |

2.2.2 Survey Stations

| Date       | Type   | MD (usft) | Inc (°) | Azi (°) | TVD (usft) | N/S (usft) | E/W (usft) | V. Sec (usft) | DLog (°/100usft) | Build (°/100usft) | Turn (°/100usft) | TFace (°) |
|------------|--------|-----------|---------|---------|------------|------------|------------|---------------|------------------|-------------------|------------------|-----------|
| 10/23/2011 | Tie On | 2,872.00  | 17.38   | 132.95  | 2,759.22   | -486.93    | 513.83     | 707.70        | 0.00             | 0.00              | 0.00             | 0.00      |
| 10/23/2011 | NORMAL | 2,938.00  | 16.75   | 131.51  | 2,822.31   | -499.95    | 528.17     | 727.05        | 1.15             | -0.95             | -2.18            | -146.83   |
|            | NORMAL | 3,032.00  | 18.81   | 132.63  | 2,911.82   | -519.19    | 549.46     | 755.72        | 2.22             | 2.19              | 1.19             | 9.96      |
|            | NORMAL | 3,127.00  | 20.25   | 133.01  | 3,001.35   | -540.78    | 572.75     | 787.46        | 1.52             | 1.52              | 0.40             | 5.22      |
|            | NORMAL | 3,221.00  | 21.56   | 132.63  | 3,089.16   | -563.58    | 597.36     | 820.98        | 1.40             | 1.39              | -0.40            | -6.09     |
|            | NORMAL | 3,316.00  | 21.56   | 132.38  | 3,177.52   | -587.16    | 623.09     | 855.86        | 0.10             | 0.00              | -0.26            | -90.12    |
| 10/24/2011 | NORMAL | 3,410.00  | 22.63   | 132.01  | 3,264.61   | -610.91    | 649.29     | 891.18        | 1.15             | 1.14              | -0.39            | -7.58     |
|            | NORMAL | 3,505.00  | 23.88   | 131.26  | 3,351.89   | -635.82    | 677.33     | 928.63        | 1.35             | 1.32              | -0.79            | -13.67    |
|            | NORMAL | 3,599.00  | 23.31   | 131.88  | 3,438.03   | -660.79    | 705.48     | 966.19        | 0.66             | -0.61             | 0.66             | 156.76    |
|            | NORMAL | 3,694.00  | 22.69   | 132.01  | 3,525.48   | -685.60    | 733.09     | 1,003.27      | 0.65             | -0.65             | 0.14             | 175.38    |
|            | NORMAL | 3,788.00  | 21.44   | 133.88  | 3,612.59   | -709.64    | 758.94     | 1,038.56      | 1.53             | -1.33             | 1.99             | 151.53    |
|            | NORMAL | 3,883.00  | 20.81   | 133.51  | 3,701.21   | -733.29    | 783.70     | 1,072.79      | 0.68             | -0.66             | -0.39            | -168.22   |
|            | NORMAL | 3,977.00  | 21.94   | 134.63  | 3,788.74   | -757.13    | 808.30     | 1,107.04      | 1.28             | 1.20              | 1.19             | 20.38     |
|            | NORMAL | 4,072.00  | 21.31   | 134.38  | 3,877.06   | -781.67    | 833.27     | 1,142.05      | 0.67             | -0.66             | -0.26            | -171.80   |
|            | NORMAL | 4,166.00  | 20.38   | 132.38  | 3,964.90   | -804.65    | 857.57     | 1,175.49      | 1.25             | -0.99             | -2.13            | -143.51   |
|            | NORMAL | 4,260.00  | 19.81   | 132.38  | 4,053.18   | -826.42    | 881.43     | 1,207.75      | 0.61             | -0.61             | 0.00             | 180.00    |
|            | NORMAL | 4,355.00  | 18.38   | 133.51  | 4,142.95   | -847.58    | 904.18     | 1,238.81      | 1.55             | -1.51             | 1.19             | 166.04    |
|            | NORMAL | 4,449.00  | 17.81   | 134.38  | 4,232.30   | -867.84    | 925.21     | 1,268.00      | 0.67             | -0.61             | 0.93             | 155.05    |
|            | NORMAL | 4,544.00  | 17.44   | 131.88  | 4,322.84   | -887.50    | 946.19     | 1,296.75      | 0.89             | -0.39             | -2.63            | -117.24   |
|            | NORMAL | 4,638.00  | 16.81   | 132.63  | 4,412.68   | -906.11    | 966.68     | 1,324.40      | 0.71             | -0.67             | 0.80             | 161.04    |
|            | NORMAL | 4,732.00  | 15.50   | 132.63  | 4,502.96   | -923.83    | 985.92     | 1,350.54      | 1.39             | -1.39             | 0.00             | 180.00    |
|            | NORMAL | 4,827.00  | 14.19   | 132.76  | 4,594.79   | -940.33    | 1,003.81   | 1,374.86      | 1.38             | -1.38             | 0.14             | 178.61    |
|            | NORMAL | 4,922.00  | 14.19   | 133.38  | 4,686.89   | -956.23    | 1,020.82   | 1,398.13      | 0.16             | 0.00              | 0.65             | 90.30     |
|            | NORMAL | 5,016.00  | 13.69   | 134.63  | 4,778.12   | -971.96    | 1,037.11   | 1,420.78      | 0.62             | -0.53             | 1.33             | 149.55    |

## 2.2.2 Survey Stations (Continued)

| Date       | Type   | MD<br>(usft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(usft) | N/S<br>(usft) | EW<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft<br>) | Build<br>(°/100usft<br>) | Turn<br>(°/100usft<br>) | TFace<br>(°) |
|------------|--------|--------------|------------|------------|---------------|---------------|--------------|------------------|-------------------------|--------------------------|-------------------------|--------------|
| 10/24/2011 | NORMAL | 5,111.00     | 13.56      | 134.63     | 4,870.45      | -987.68       | 1,053.04     | 1,443.15         | 0.14                    | -0.14                    | 0.00                    | 180.00       |
|            | NORMAL | 5,205.00     | 12.75      | 134.26     | 4,961.98      | -1,002.66     | 1,068.31     | 1,464.55         | 0.87                    | -0.86                    | -0.39                   | -174.24      |
|            | NORMAL | 5,300.00     | 11.38      | 134.51     | 5,054.88      | -1,016.55     | 1,082.50     | 1,484.40         | 1.44                    | -1.44                    | 0.26                    | 177.94       |
|            | NORMAL | 5,394.00     | 10.81      | 135.63     | 5,147.12      | -1,029.35     | 1,095.28     | 1,502.49         | 0.65                    | -0.61                    | 1.19                    | 159.84       |
| 10/25/2011 | NORMAL | 5,489.00     | 9.50       | 133.88     | 5,240.63      | -1,041.16     | 1,107.16     | 1,519.24         | 1.42                    | -1.38                    | -1.84                   | -167.61      |
|            | NORMAL | 5,584.00     | 7.44       | 133.01     | 5,334.59      | -1,050.79     | 1,117.31     | 1,533.23         | 2.17                    | -2.17                    | -0.92                   | -176.87      |
|            | NORMAL | 5,678.00     | 5.63       | 133.13     | 5,427.98      | -1,058.09     | 1,125.13     | 1,543.92         | 1.93                    | -1.93                    | 0.13                    | 179.63       |
|            | NORMAL | 5,772.00     | 3.19       | 130.51     | 5,521.69      | -1,062.94     | 1,130.48     | 1,551.14         | 2.60                    | -2.60                    | -2.79                   | -176.59      |
|            | NORMAL | 5,867.00     | 2.38       | 129.26     | 5,616.58      | -1,065.91     | 1,134.02     | 1,555.74         | 0.85                    | -0.85                    | -1.32                   | -176.34      |
|            | NORMAL | 5,962.00     | 1.00       | 122.51     | 5,711.54      | -1,067.60     | 1,136.24     | 1,558.51         | 1.47                    | -1.45                    | -7.11                   | -175.16      |
|            | NORMAL | 6,056.00     | 0.38       | 273.01     | 5,805.53      | -1,068.03     | 1,136.62     | 1,559.08         | 1.43                    | -0.66                    | 160.11                  | 172.00       |
|            | NORMAL | 6,151.00     | 1.69       | 320.26     | 5,900.52      | -1,068.93     | 1,135.41     | 1,557.45         | 1.54                    | 1.38                     | 49.74                   | 58.27        |
|            | NORMAL | 6,245.00     | 1.56       | 328.13     | 5,994.48      | -1,064.78     | 1,133.85     | 1,554.82         | 0.27                    | -0.14                    | 8.37                    | 124.12       |
|            | NORMAL | 6,340.00     | 1.50       | 338.01     | 6,089.44      | -1,062.53     | 1,132.70     | 1,552.42         | 0.28                    | -0.06                    | 10.40                   | 107.72       |
|            | NORMAL | 6,435.00     | 1.31       | 352.01     | 6,184.42      | -1,060.30     | 1,132.09     | 1,550.42         | 0.41                    | -0.20                    | 14.74                   | 125.84       |
|            | NORMAL | 6,529.00     | 1.19       | 350.13     | 6,278.39      | -1,058.28     | 1,131.77     | 1,548.76         | 0.13                    | -0.13                    | -2.00                   | -162.07      |
|            | NORMAL | 6,624.00     | 1.31       | 356.88     | 6,373.37      | -1,056.22     | 1,131.54     | 1,547.15         | 0.20                    | 0.13                     | 7.11                    | 54.23        |
|            | NORMAL | 6,718.00     | 0.38       | 351.26     | 6,467.36      | -1,054.84     | 1,131.44     | 1,546.10         | 0.99                    | -0.99                    | -5.98                   | -177.71      |
|            | NORMAL | 6,812.00     | 0.19       | 303.13     | 6,561.36      | -1,054.45     | 1,131.26     | 1,545.70         | 0.31                    | -0.20                    | -51.20                  | -150.80      |
|            | NORMAL | 6,907.00     | 0.00       | 252.26     | 6,656.36      | -1,054.36     | 1,131.13     | 1,545.55         | 0.20                    | -0.20                    | 0.00                    | -180.00      |
|            | NORMAL | 7,001.00     | 0.13       | 261.88     | 6,750.36      | -1,054.37     | 1,131.02     | 1,545.48         | 0.14                    | 0.14                     | 0.00                    | 261.88       |
|            | NORMAL | 7,096.00     | 0.19       | 184.38     | 6,845.36      | -1,054.55     | 1,130.90     | 1,545.52         | 0.22                    | 0.06                     | -81.58                  | -115.60      |
|            | NORMAL | 7,190.00     | 0.13       | 156.76     | 6,939.36      | -1,054.80     | 1,130.93     | 1,545.72         | 0.10                    | -0.06                    | -29.38                  | -141.15      |
|            | NORMAL | 7,285.00     | 0.25       | 163.13     | 7,034.36      | -1,055.10     | 1,131.04     | 1,546.00         | 0.13                    | 0.13                     | 6.71                    | 13.18        |
| 10/26/2011 | NORMAL | 7,379.00     | 0.25       | 122.88     | 7,128.36      | -1,055.41     | 1,131.27     | 1,546.38         | 0.18                    | 0.00                     | -42.82                  | -110.12      |
|            | NORMAL | 7,474.00     | 0.19       | 136.88     | 7,223.36      | -1,055.63     | 1,131.55     | 1,546.74         | 0.08                    | -0.06                    | 14.74                   | 145.00       |
|            | NORMAL | 7,568.00     | 0.31       | 110.88     | 7,317.36      | -1,055.84     | 1,131.89     | 1,547.13         | 0.17                    | 0.13                     | -27.66                  | -56.89       |
|            | NORMAL | 7,663.00     | 0.44       | 134.76     | 7,412.35      | -1,056.19     | 1,132.39     | 1,547.73         | 0.21                    | 0.14                     | 25.14                   | 62.60        |
|            | NORMAL | 7,757.00     | 0.44       | 127.26     | 7,506.35      | -1,056.66     | 1,132.94     | 1,548.45         | 0.06                    | 0.00                     | -7.98                   | -93.75       |
|            | NORMAL | 7,852.00     | 0.44       | 143.76     | 7,601.35      | -1,057.17     | 1,133.44     | 1,549.17         | 0.13                    | 0.00                     | 17.37                   | 98.25        |
|            | NORMAL | 7,946.00     | 0.63       | 138.13     | 7,695.34      | -1,057.85     | 1,134.00     | 1,550.04         | 0.21                    | 0.20                     | -5.99                   | -18.29       |
|            | NORMAL | 8,041.00     | 0.75       | 151.63     | 7,790.34      | -1,058.79     | 1,134.64     | 1,551.16         | 0.21                    | 0.13                     | 14.21                   | 60.44        |
|            | NORMAL | 8,135.00     | 0.88       | 150.51     | 7,884.33      | -1,059.95     | 1,135.29     | 1,552.44         | 0.14                    | 0.14                     | -1.19                   | -7.55        |
|            | NORMAL | 8,285.00     | 1.19       | 156.88     | 8,034.30      | -1,062.39     | 1,136.47     | 1,555.00         | 0.22                    | 0.21                     | 4.25                    | 23.57        |
|            | NORMAL | 8,324.00     | 0.94       | 181.13     | 8,073.30      | -1,063.08     | 1,136.62     | 1,555.59         | 1.31                    | -0.64                    | 62.18                   | 130.77       |
|            | NORMAL | 8,419.00     | 1.31       | 182.38     | 8,168.28      | -1,064.95     | 1,136.56     | 1,556.86         | 0.39                    | 0.39                     | 1.32                    | 4.42         |
|            | NORMAL | 8,513.00     | 1.38       | 186.13     | 8,262.25      | -1,067.15     | 1,136.40     | 1,558.30         | 0.12                    | 0.07                     | 3.99                    | 53.39        |
| 10/27/2011 | NORMAL | 8,608.00     | 1.31       | 174.38     | 8,357.23      | -1,069.36     | 1,136.38     | 1,559.85         | 0.30                    | -0.07                    | -12.37                  | -110.07      |
|            | NORMAL | 8,797.00     | 1.44       | 154.76     | 8,546.17      | -1,073.66     | 1,137.61     | 1,563.75         | 0.26                    | 0.07                     | -10.38                  | -84.52       |
|            | NORMAL | 8,891.00     | 1.38       | 154.38     | 8,640.14      | -1,075.75     | 1,138.60     | 1,565.92         | 0.06                    | -0.06                    | -0.40                   | -171.33      |
|            | NORMAL | 8,986.00     | 0.94       | 129.26     | 8,735.12      | -1,077.28     | 1,139.70     | 1,567.78         | 0.70                    | -0.46                    | -26.44                  | -142.97      |
|            | NORMAL | 9,080.00     | 0.44       | 95.26      | 8,829.12      | -1,077.80     | 1,140.65     | 1,568.82         | 0.67                    | -0.53                    | -36.17                  | -156.84      |
|            | NORMAL | 9,175.00     | 0.56       | 102.88     | 8,924.11      | -1,077.93     | 1,141.47     | 1,569.50         | 0.14                    | 0.13                     | 8.02                    | 32.84        |
|            | NORMAL | 9,269.00     | 0.75       | 124.88     | 9,018.11      | -1,078.39     | 1,142.42     | 1,570.49         | 0.33                    | 0.20                     | 23.40                   | 64.27        |
|            | NORMAL | 9,364.00     | 0.94       | 130.28     | 9,113.10      | -1,079.25     | 1,143.53     | 1,571.88         | 0.22                    | 0.20                     | 5.66                    | 25.37        |
|            | NORMAL | 9,458.00     | 1.19       | 132.63     | 9,207.08      | -1,080.41     | 1,144.83     | 1,573.63         | 0.27                    | 0.27                     | 2.52                    | 11.18        |
|            | NORMAL | 9,552.00     | 1.13       | 135.51     | 9,301.06      | -1,081.73     | 1,146.20     | 1,575.53         | 0.09                    | -0.06                    | 3.06                    | 137.26       |
|            | NORMAL | 9,647.00     | 1.38       | 148.88     | 9,396.04      | -1,083.38     | 1,147.45     | 1,577.57         | 0.40                    | 0.26                     | 14.07                   | 56.32        |
| 10/28/2011 | NORMAL | 9,741.00     | 1.25       | 152.63     | 9,490.01      | -1,085.26     | 1,148.50     | 1,579.65         | 0.17                    | -0.14                    | 3.99                    | 148.36       |
|            | NORMAL | 9,931.00     | 1.81       | 154.26     | 9,679.95      | -1,089.80     | 1,150.76     | 1,584.45         | 0.30                    | 0.29                     | 0.86                    | 5.26         |
|            | NORMAL | 10,025.00    | 1.88       | 168.13     | 9,773.90      | -1,092.64     | 1,151.72     | 1,587.14         | 0.48                    | 0.07                     | 14.76                   | 88.07        |
| 10/29/2011 | NORMAL | 10,511.00    | 2.48       | 171.23     | 10,259.54     | -1,110.84     | 1,154.97     | 1,602.26         | 0.13                    | 0.12                     | 0.64                    | 12.67        |
|            | NORMAL | 10,795.00    | 1.84       | 194.62     | 10,543.35     | -1,121.32     | 1,154.75     | 1,609.50         | 0.38                    | -0.23                    | 8.24                    | 137.28       |
| 10/30/2011 | NORMAL | 10,889.00    | 1.97       | 183.38     | 10,637.29     | -1,124.40     | 1,154.27     | 1,611.33         | 0.42                    | 0.14                     | -11.96                  | -76.49       |
|            | NORMAL | 10,984.00    | 1.65       | 184.96     | 10,732.25     | -1,127.39     | 1,154.06     | 1,613.28         | 0.34                    | -0.34                    | 1.66                    | 171.93       |

2.2.2 Survey Stations (Continued)

| Date       | Type   | MD<br>(usft) | Inc<br>(°) | Azi<br>(°) | TVD<br>(usft) | N/S<br>(usft) | EW<br>(usft) | V. Sec<br>(usft) | DLeg<br>(°/100usft) | Build<br>(°/100usft) | Turn<br>(°/100usft) | TFace<br>(°) |
|------------|--------|--------------|------------|------------|---------------|---------------|--------------|------------------|---------------------|----------------------|---------------------|--------------|
| 10/30/2011 | NORMAL | 11,078.00    | 1.98       | 172.01     | 10,826.20     | -1,130.34     | 1,154.17     | 1,615.44         | 0.56                | 0.35                 | -13.78              | -57.77       |
|            | NORMAL | 11,173.00    | 1.85       | 164.62     | 10,921.15     | -1,133.45     | 1,154.80     | 1,618.08         | 0.29                | -0.14                | -7.78               | -121.42      |
|            | NORMAL | 11,267.00    | 2.20       | 170.34     | 11,015.09     | -1,136.69     | 1,155.51     | 1,620.87         | 0.43                | 0.37                 | 6.09                | 32.88        |
|            | NORMAL | 11,362.00    | 2.42       | 161.10     | 11,110.01     | -1,140.39     | 1,156.46     | 1,624.15         | 0.45                | 0.23                 | -9.73               | -64.10       |
|            | NORMAL | 11,456.00    | 2.43       | 164.15     | 11,203.93     | -1,144.18     | 1,157.65     | 1,627.66         | 0.14                | 0.01                 | 3.24                | 87.09        |
|            | NORMAL | 11,551.00    | 2.79       | 158.50     | 11,298.83     | -1,148.27     | 1,159.05     | 1,631.54         | 0.47                | 0.38                 | -5.95               | -38.40       |
|            | NORMAL | 11,590.00    | 2.96       | 159.21     | 11,337.78     | -1,150.09     | 1,159.75     | 1,633.32         | 0.45                | 0.44                 | 1.82                | 12.19        |
| 10/31/2011 | NORMAL | 11,645.00    | 2.96       | 159.21     | 11,392.71     | -1,152.75     | 1,160.76     | 1,635.91         | 0.00                | 0.00                 | 0.00                | 0.00         |