API Well Number: 43047520860000

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

FORM 3

AMENDED REPORT ☐

## APPLICATION FOR PERMIT TO DRILL

**1. WELL NAME and NUMBER**
BONANZA 1023-5B1CS

**2. TYPE OF WORK**
DRILL NEW WELL ■ REENTER P&A WELL ○ DEEPEN WELL ○

**3. FIELD OR WILDCAT**
NATURAL BUTTES

**4. TYPE OF WELL**
Gas Well Coalbed Methane Well: NO

**5. UNIT or COMMUNITIZATION AGREEMENT NAME**

**6. NAME OF OPERATOR**
KERR-MCGEE OIL & GAS ONSHORE, L.P.

**7. OPERATOR PHONE**
720 929-6515

**8. ADDRESS OF OPERATOR**
P.O. Box 173779, Denver, CO, 80217

**9. OPERATOR E-MAIL**
julie.jacobson@anadarko.com

**10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)**
UTU33433

**11. MINERAL OWNERSHIP**
FEDERAL ■ INDIAN ○ STATE ○ FEE ○

**12. SURFACE OWNERSHIP**
FEDERAL ■ INDIAN ○ STATE ○ FEE ○

**13. NAME OF SURFACE OWNER (if box 12 = 'fee')**

**14. SURFACE OWNER PHONE (if box 12 = 'fee')**

**15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')**

**16. SURFACE OWNER E-MAIL (if box 12 = 'fee')**

**17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')**

**18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS**
YES ■ (Submit Commingling Application) NO ○

**19. SLANT**
VERTICAL ○ DIRECTIONAL ■ HORIZONTAL ○

| 20. LOCATION OF WELL | FOOTAGES | QTR-QTR | SECTION | TOWNSHIP | RANGE | MERIDIAN |
|---|---|---|---|---|---|---|
| LOCATION AT SURFACE | 1058 FNL 1948 FEL | NWNE | 5 | 10.0 S | 23.0 E | S |
| Top of Uppermost Producing Zone | 523 FNL 1914 FEL | NWNE | 5 | 10.0 S | 23.0 E | S |
| At Total Depth | 523 FNL 1914 FEL | NWNE | 5 | 10.0 S | 23.0 E | S |

**21. COUNTY**
UINTAH

**22. DISTANCE TO NEAREST LEASE LINE (Feet)**
523

**23. NUMBER OF ACRES IN DRILLING UNIT**
1923

**25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)**
527

**26. PROPOSED DEPTH**
MD: 8528 TVD: 8464

**27. ELEVATION - GROUND LEVEL**
5225

**28. BOND NUMBER**
WYB000291

**29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE**
43-8496

### Hole, Casing, and Cement Information

| String | Hole Size | Casing Size | Length | Weight | Grade & Thread | Max Mud Wt. | Cement | Sacks | Yield | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| Surf | 11 | 8.625 | 0 - 2300 | 28.0 | J-55 LT&C | 0.2 | Type V | 180 | 1.15 | 15.8 |
| | | | | | | | Class G | 270 | 1.15 | 15.8 |
| Prod | 7.875 | 4.5 | 0 - 8528 | 11.6 | I-80 LT&C | 12.5 | Premium Lite High Strength | 280 | 3.38 | 11.0 |
| | | | | | | | 50/50 Poz | 1140 | 1.31 | 14.3 |

### ATTACHMENTS

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

- ✔ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
- ✔ COMPLETE DRILLING PLAN
- ☐ AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)
- ☐ FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
- ✔ DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)
- ✔ TOPOGRAPHICAL MAP

**NAME** Gina Becker | **TITLE** Regulatory Analyst II | **PHONE** 720 929-6086

**SIGNATURE** | **DATE** 10/14/2011 | **EMAIL** gina.becker@anadarko.com

**API NUMBER ASSIGNED**
43047520860000

**APPROVAL**
Permit Manager

**RECEIVED: October 26, 2011**

# Kerr-McGee Oil & Gas Onshore. L.P.

**BONANZA 1023-5B1CS**

Surface: 1058 FNL / 1948 FEL NWNE
BHL: 523 FNL / 1914 FEL NWNE

Section 5 T10S R23E

Uintah County, Utah
Mineral Lease: UTU-33433

**ONSHORE ORDER NO. 1**

**DRILLING PROGRAM**

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

| Formation | Depth | Resource |
|---|---|---|
| Uinta | 0 - Surface | |
| Green River | 1,238' | |
| Birds Nest | 1,513' | Water |
| Mahogany | 1,848' | Water |
| Wasatch | 4,230' | Gas |
| Mesaverde | 6,282' | Gas |
| MVU2 | 7,295' | Gas |
| MVL1 | 7,825' | Gas |
| TVD | 8,464' | |
| TD | 8,528' | |

**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



RECEIVED: October 14, 2011

**7. Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 8464' TVD, approximately equals 5,417 psi (0.64 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 3,543 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

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.



RECEIVED: October 14, 2011

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 for the first 200 feet, then will drill a 11inch 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



RECEIVED: October 14, 2011

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**
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)). 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.



RECEIVED: October 14, 2011

# KERR-McGEE OIL & GAS ONSHORE LP

## DRILLING PROGRAM

| | | | |
|---|---|---|---|
| COMPANY NAME | KERR-McGEE OIL & GAS ONSHORE LP | DATE | October 13, 2011 |
| WELL NAME | **BONANZA 1023-5B1CS** | TD | 8,464' TVD 8,528' MD |
| FIELD | Natural Buttes | COUNTY Uintah | STATE Utah |
| FINISHED ELEVATION | 5,224' | | |
| SURFACE LOCATION | NWNE 1058 FNL 1948 FEL Sec 5 T 10S R 23E | | |
| | Latitude: 39.982340 Longitude: -109.348261 NAD 83 | | |
| BTM HOLE LOCATION | NWNE 523 FNL 1914 FEL Sec 5 T 10S R 23E | | |
| | Latitude: 39.983809 Longitude: -109.348136 NAD 83 | | |
| OBJECTIVE ZONE(S) | Wasatch/Mesaverde | | |
| ADDITIONAL INFO | Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept. | | |

| GEOLOGICAL | | | MECHANICAL | | |
|---|---|---|---|---|---|
| LOGS | FORMATION TOPS | DEPTH | HOLE SIZE | CASING SIZE | MUD WEIGHT |
| | | 40' | 14" | | |
| | | 200' | 12-1/4 | 8-5/8", 28#, IJ-55, LTC | Air mist |
| | | | 11' | 8-5/8", 28#, IJ-55, LTC | Air mist |
| | | | 7-7/8" | 4-1/2" 11.6# I-80 Ultra DQX/LTC csg | Water / Fresh Water Mud 8.3-12.5 ppg |

**All water flows encountered while drilling will be reported to the appropriate agencies.**

**Green River @ 1,238'**
**Top of Birds Nest @ 1,513'**
**Mahogany @ 1,848'**

**Preset f/ GL @ 2,300' TVD**

Note: 11" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the acutal depth of the loss zone.

**Wasatch @ 4,230'**

Mud logging program TBD
Cased hole logging program from TD - surf csg

**Mverde @ 6,282' TVD**

**MVU2 @ 7,295' TVD**

**MVU1 @ 7,825' TVD**

Max anticipated Mud required 12.5 ppg

**TD @ 8,464' TVD**
**8,528' MD**



RECEIVED: October 14, 2011

API Well Number: 43047520860000

# KERR-McGEE OIL & GAS ONSHORE LP

## DRILLING PROGRAM

### CASING PROGRAM

| | SIZE | INTERVAL | | | WT. | GR. | CPLG. | DESIGN FACTORS BURST | COLLAPSE | COLLAPSE LTC | TENSION DQX |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CONDUCTOR | 14" | 0-40' | | | | | | | | | |
| | | | | | | | | 3,390 | 1,880 | 348,000 | N/A |
| SURFACE | 8-5/8" | 0 | to | 2,300 | 28.00 | IJ-55 | LTC | 2.35 | 1.75 | 6.17 | N/A |
| | | | | | | | | 7,780 | 6,350 | 223,000 | 267,000 |
| PRODUCTION | 4-1/2" | 0 | to | 5,000 | 11.60 | I-80 | DQX | 1.11 | 1.15 | | 3.34 |
| | 4-1/2" | 5,000 | to | 8,528' | 11.60 | I-80 | LTC | 1.11 | 1.15 | 6.74 | |

**Surface Casing:**

(Burst Assumptions: TD = 12.5 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 @ 7000 psi) 0.64 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 |
| **Option 1** | | | + 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 | | | | | |
| SURFACE | | **NOTE: If well will circulate water to surface, option 2 will be utilized** | | | | | | |
| **Option 2** | LEAD | 1,800' | 65/35 Poz + 6% Gel + 10 pps gilsonite | 170 | 35% | 11.00 | | 3.82 |
| | | | + 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 | 3,728' | Premium Lite II +0.25 pps | 280 | 20% | 11.00 | | 3.38 |
| | | | celloflake + 5 pps gilsonite + 10% gel | | | | | |
| | | | + 0.5% extender | | | | | |
| | TAIL | 4,800' | 50/50 Poz/G + 10% salt + 2% gel | 1,140 | 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:** _____ **DATE:** _____

Nick Spence / Danny Showers / Chad Loesel

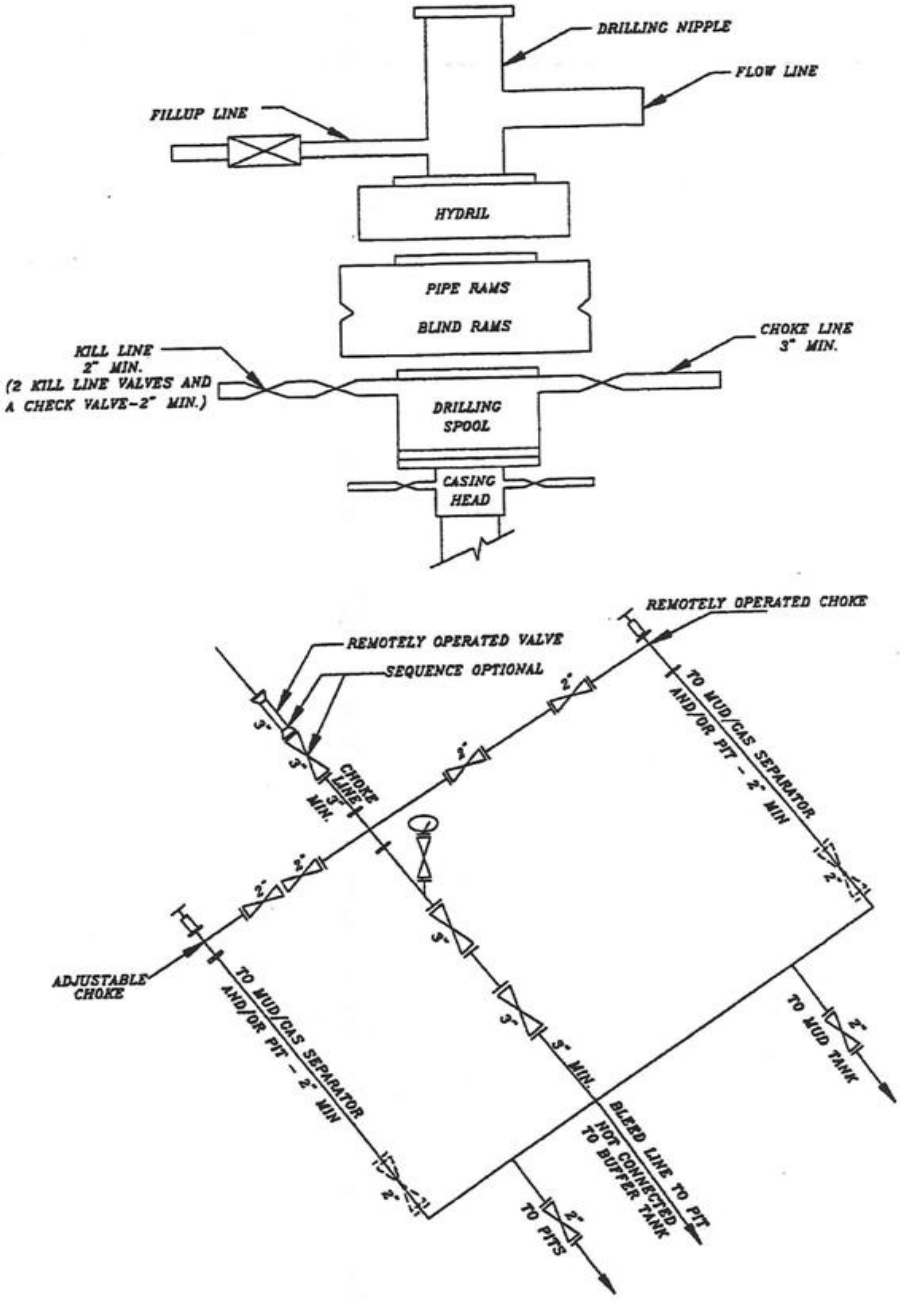
**DRILLING SUPERINTENDENT:** _____ **DATE:** _____

Kenny Gathings / Lovel Young



RECEIVED: October 14, 2011

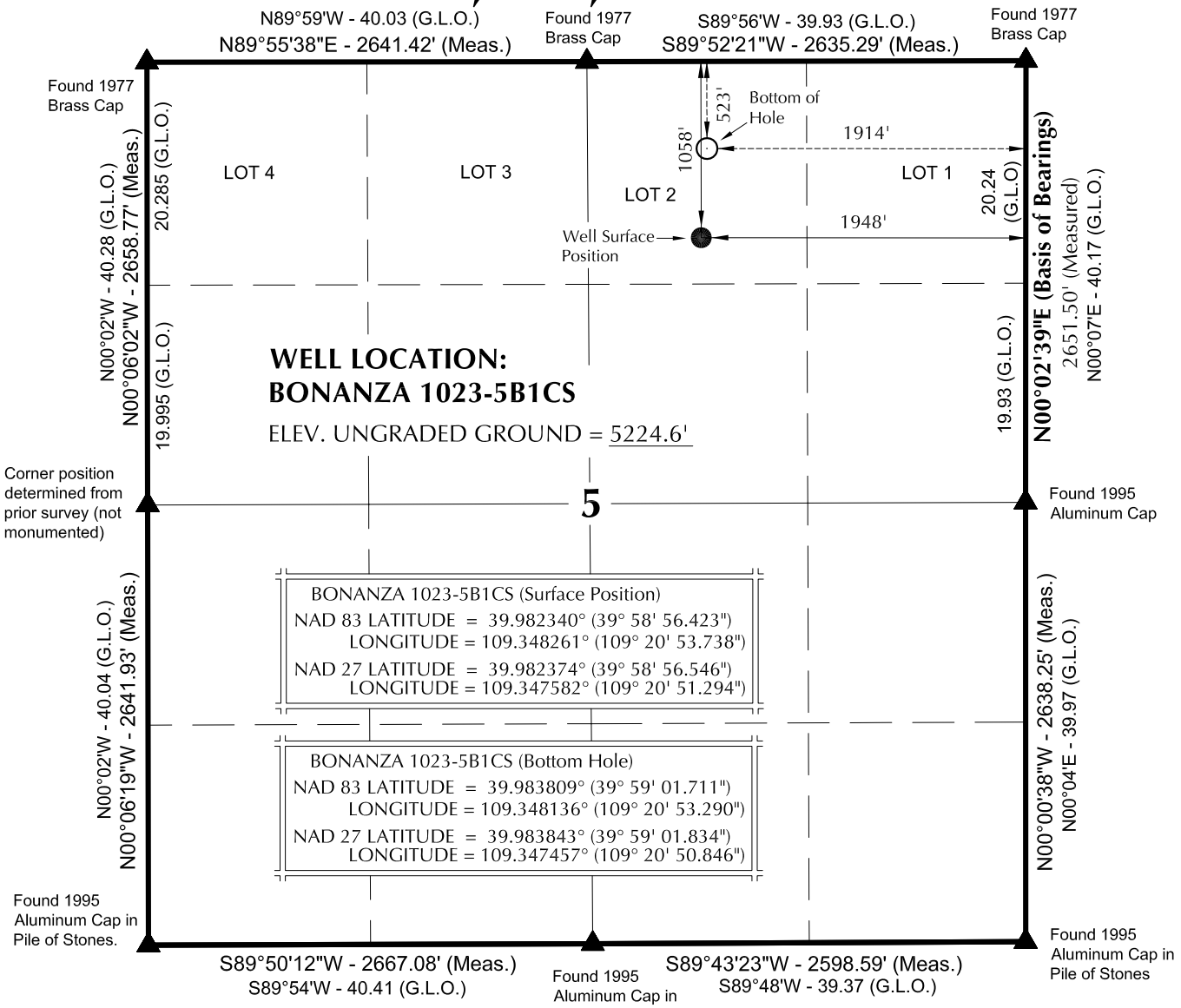
**EXHIBIT A**
**BONANZA 1023-5B1CS**




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

RECEIVED: October 14, 2011

# T10S, R23E, 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 N03°39'10"E 536.35' 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 $\frac{1}{4}$ 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'.

N

1000' 500' 0' 1000'

SCALE

SURVEYOR'S CERTIFICATE

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

PROFESSIONAL LAND SURVEYOR No.6028691 JOHN R SLAUGH STATE OF UTAH

PROFESSIONAL LAND SURVEYOR
REGISTRATION No. 6028691
STATE OF UTAH

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

**WELL PAD - BONANZA 1023-5B**

**BONANZA 1023-5B1CS**
**WELL PLAT**
**523' FNL, 1914' FEL (Bottom Hole)**
**LOT 2 OF SECTION 5, T10S, R23E,**
**S.L.B.&M., UINTAH COUNTY, UTAH.**

609 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: 03-03-10 | SURVEYED BY: M.S.B. | SHEET NO: 3 |
| DATE DRAWN: 03-04-10 | DRAWN BY: E.M.S. | 3 OF 17 |
| SCALE: 1" = 1000' | Date Last Revised: 06-02-10 E.M.S. | |

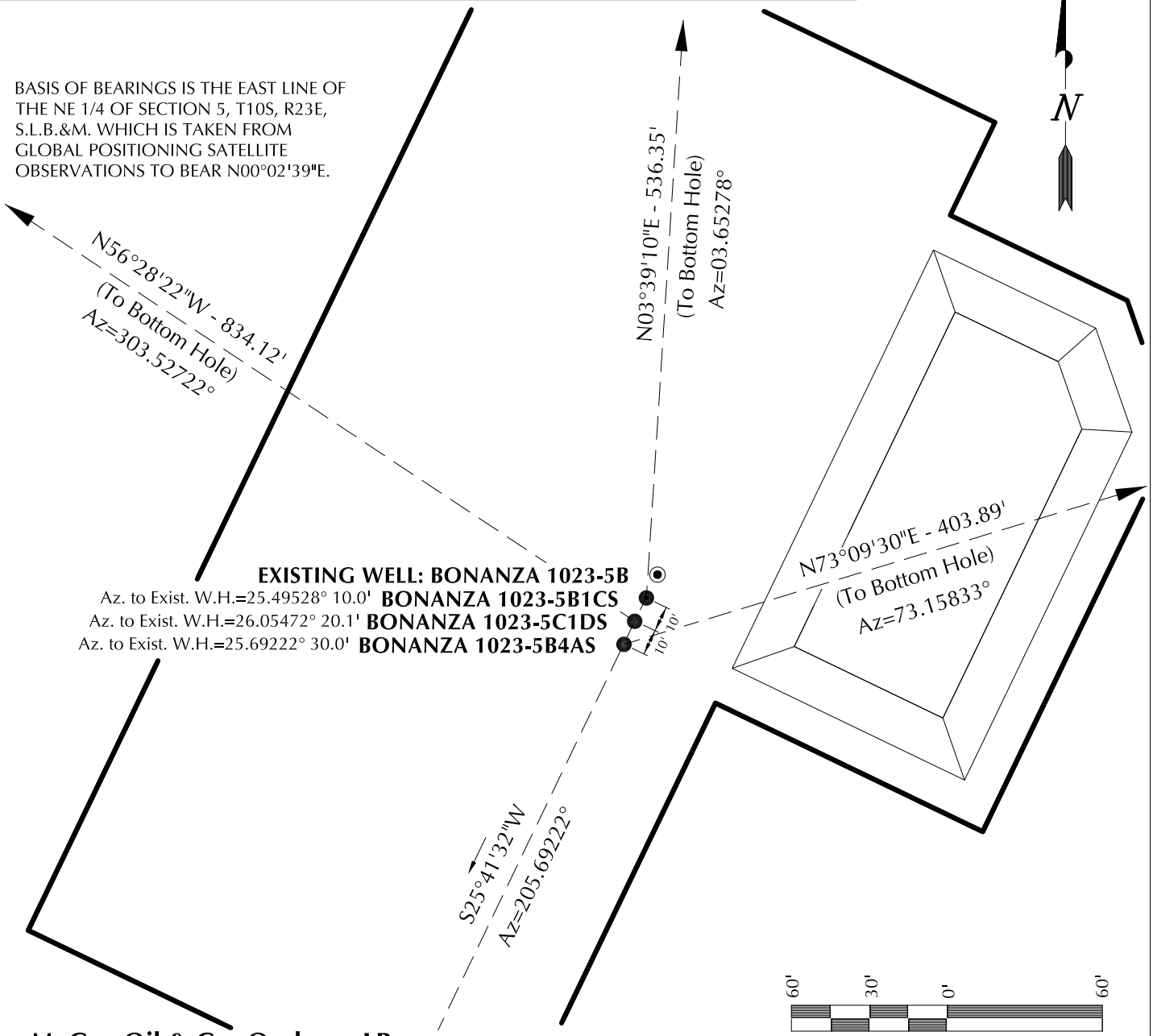
RECEIVED: October 14, 2011

API Well Number: 43047520860000

| WELL NAME | SURFACE POSITION | | | | | BOTTOM HOLE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | NAD83 | | NAD27 | | | NAD83 | | NAD27 | | |
| | LATITUDE | LONGITUDE | LATITUDE | LONGITUDE | FOOTAGES | LATITUDE | LONGITUDE | LATITUDE | LONGITUDE | FOOTAGES |
| **BONANZA 1023-5B4AS** | 39°58'56.245" 39.982290° | 109°20'53.850" 109.348292° | 39°58'56.368" 39.982325° | 109°20'51.406" 109.347613° | 1076' FNL 1957' FEL | 39°58'57.396" 39.982610° | 109°20'48.883" 109.346912° | 39°58'57.519" 39.982644° | 109°20'46.440" 109.346233° | 960' FNL 1570' FEL |
| **BONANZA 1023-5C1DS** | 39°58'56.333" 39.982315° | 109°20'53.797" 109.348277° | 39°58'56.456" 39.982349° | 109°20'51.353" 109.347598° | 1067' FNL 1952' FEL | 39°59'00.894" 39.983582° | 109°21'02.719" 109.350755° | 39°59'01.017" 39.983616° | 109°21'00.275" 109.350076° | 605' FNL 2627' FWL |
| **BONANZA 1023-5B1CS** | 39°58'56.423" 39.982340° | 109°20'53.738" 109.348261° | 39°58'56.546" 39.982374° | 109°20'51.294" 109.347582° | 1058' FNL 1948' FEL | 39°59'01.711" 39.983809° | 109°20'53.290" 109.348136° | 39°59'01.834" 39.983843° | 109°20'50.846" 109.347457° | 523' FNL 1914' FEL |
| **BONANZA 1023-5B** | 39°58'56.512" 39.982364° | 109°20'53.683" 109.348245° | 39°58'56.635" 39.982399° | 109°20'51.239" 109.347566° | 1049' FNL 1944' FEL | | | | | |

**RELATIVE COORDINATES** - From Surface Position to Bottom Hole

| WELL NAME | NORTH | EAST | WELL NAME | NORTH | EAST | WELL NAME | NORTH | EAST |
|---|---|---|---|---|---|---|---|---|
| **BONANZA 1023-5B4AS** | 117.0' | 386.6' | **BONANZA 1023-5C1DS** | 460.7' | -695.3' | **BONANZA 1023-5B1CS** | 535.3' | 34.2' |




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

## WELL PAD - BONANZA 1023-5B

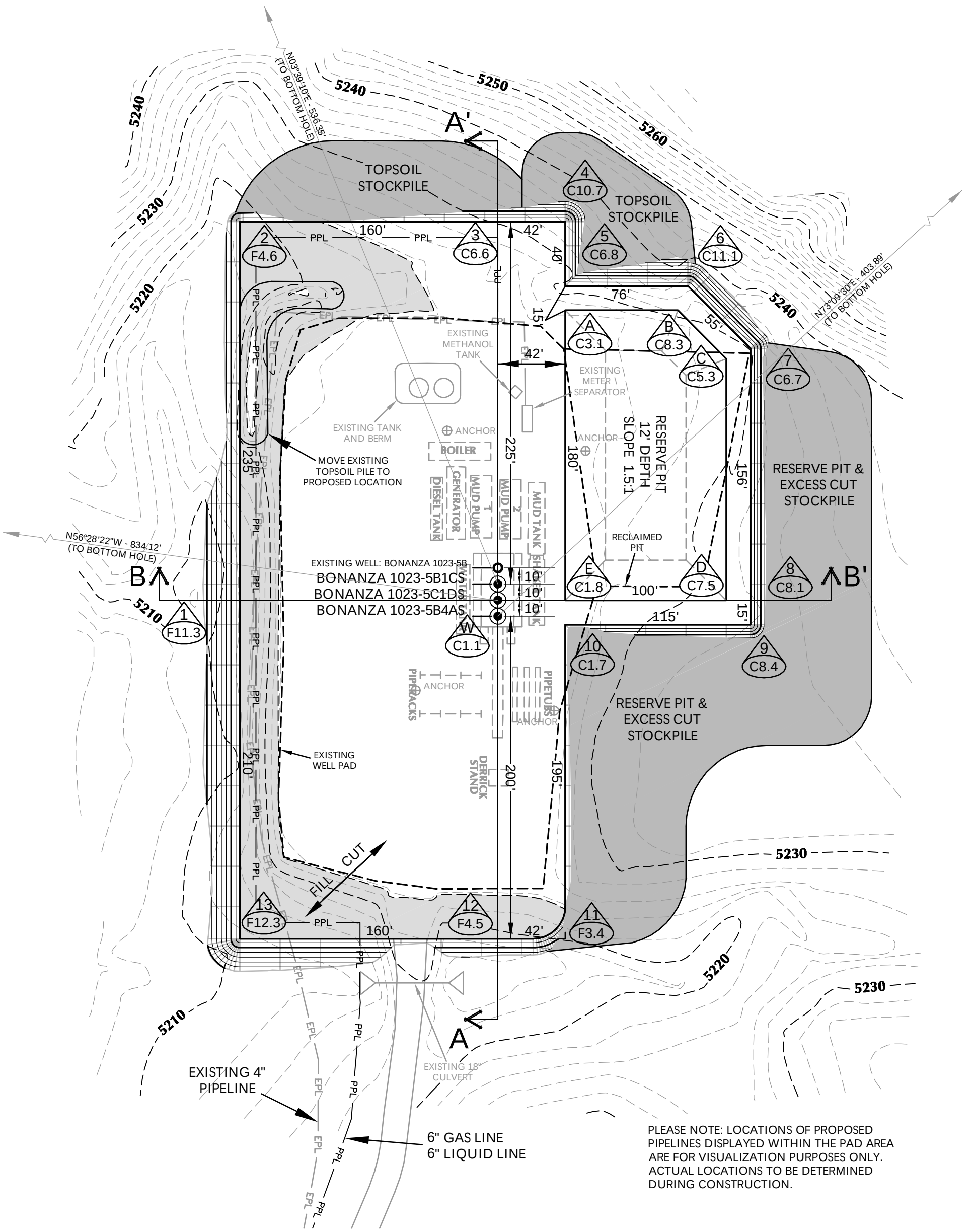
**WELL PAD INTERFERENCE PLAT**
**WELLS - BONANZA 1023-5B4AS, BONANZA 1023-5C1DS & BONANZA 1023-5B1CS**
**LOCATED IN SECTION 5, T10S, R23E, S.L.B.&M., UINTAH COUNTY, UTAH.**

609 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: 03-03-10 | SURVEYED BY: M.S.B. | SHEET NO: |
| DATE DRAWN: 03-04-10 | DRAWN BY: E.M.S. | **4** |
| SCALE: 1" = 60' | Date Last Revised: 06-02-10 E.M.S. | 4 OF 15 |

RECEIVED: October 14, 2011




PLEASE NOTE: LOCATIONS OF PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

## WELL PAD - BONANZA 1023-5B DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5224.7'
FINISHED GRADE ELEVATION = 5223.6'
CUT SLOPES = 1:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 2.97 ACRES
TOTAL DAMAGE AREA = 5.70 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

**WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 7,073 C.Y.
TOTAL FILL FOR WELL PAD = 6,237 C.Y.
TOPSOIL @ 6" DEPTH = 1,260 C.Y.
EXCESS MATERIAL = 836 C.Y.

**RESERVE PIT QUANTITIES**

TOTAL CUT FOR RESERVE PIT
+/- 5,820 CY
RESERVE PIT CAPACITY (2' OF FREEBOARD)
+/- 22,000 BARRELS

**WELL PAD LEGEND**

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE

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

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

WELL PAD - BONANZA 1023-5B

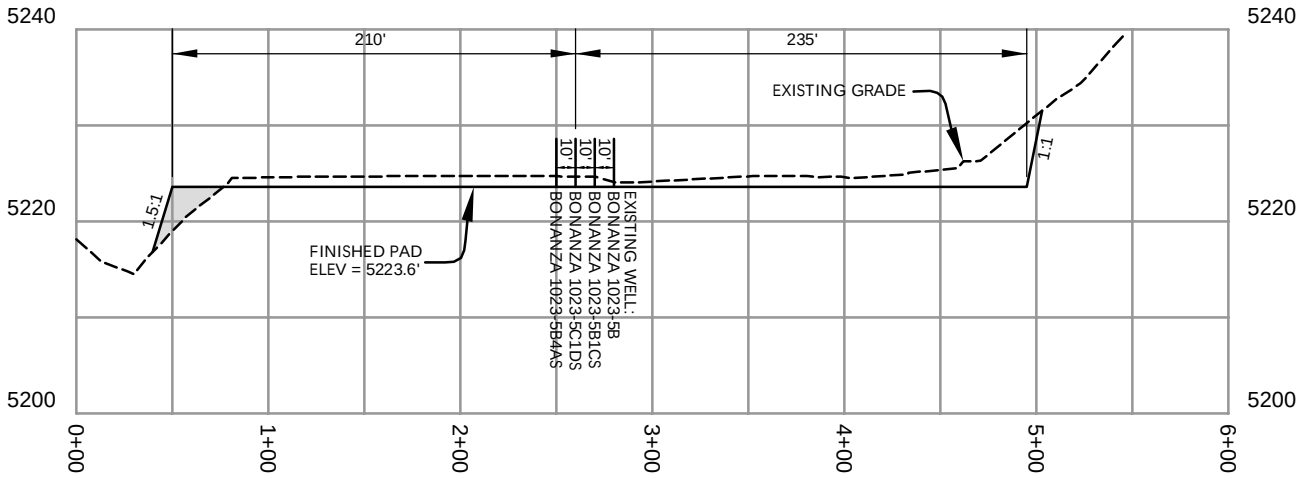
WELL PAD - LOCATION LAYOUT
BONANZA 1023-5B4AS,
BONANZA 1023-5C1DS
& BONANZA 1023-5B1CS
LOCATED IN SECTION 5, T10S, R23E,
S.L.B.&M., UINTAH COUNTY, UTAH

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

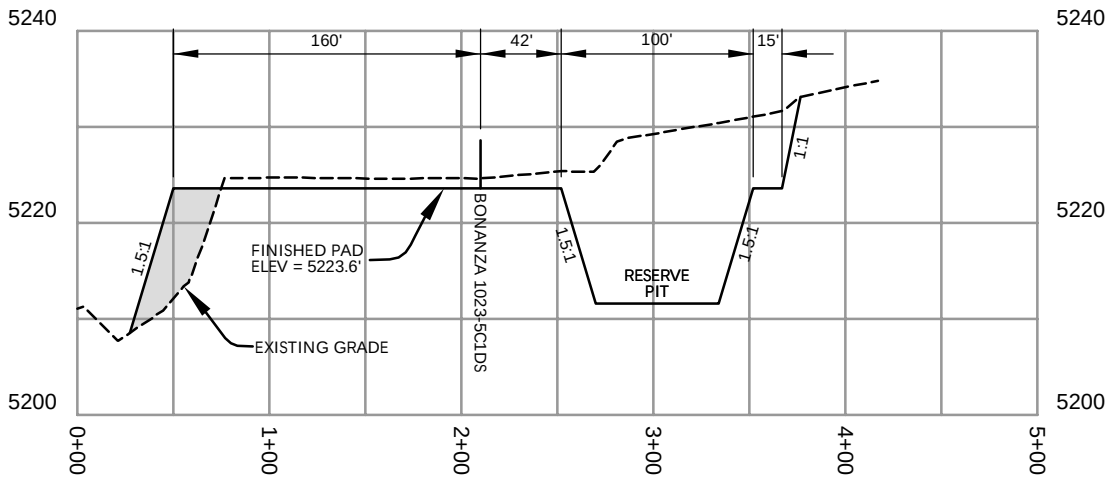
TIMBERLINE (435) 789-1365
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

| Scale: 1"=60' | Date: 3/30/10 | SHEET NO: |
|---|---|---|
| REVISED: | SEA 6/25/10 | 5 5 OF 15 |

RECEIVED: October 14, 2011




## CROSS SECTION A-A'




## CROSS SECTION B-B'

NOTE: CROSS SECTION B-B' DEPICTS MAXIMUM RESERVE PIT DEPTH.

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

WELL PAD - BONANZA 1023-5B

WELL PAD - CROSS SECTIONS
BONANZA 1023-5B4AS,
BONANZA 1023-5C1DS
& BONANZA 1023-5B1CS
LOCATED IN SECTION 5, T10S, R23E,
S.L.B.&M., UINTAH COUNTY, UTAH

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

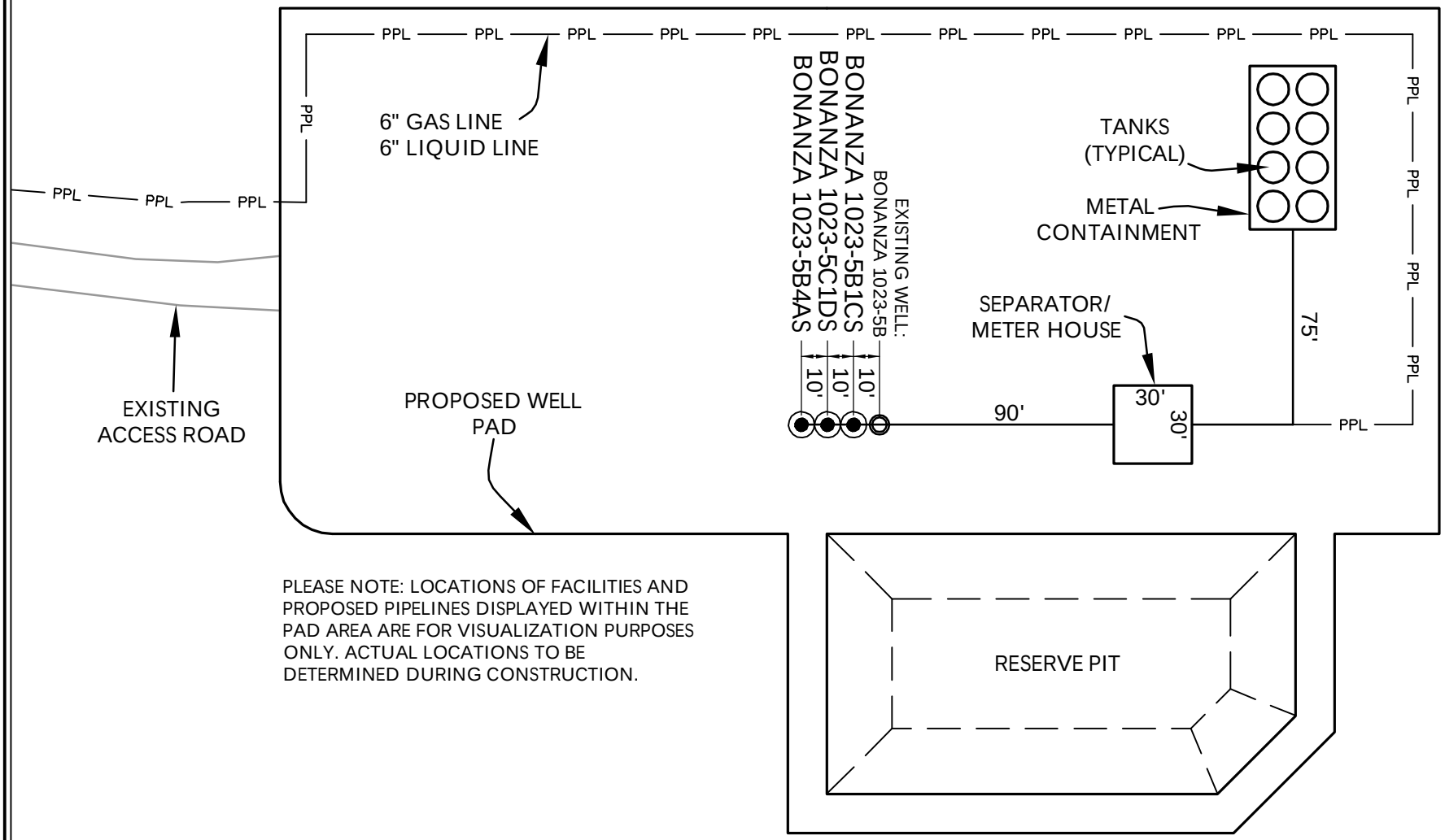
HORIZONTAL 0 50 100 1" = 100'
VERTICAL 0 10 20 1" = 20'

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

Scale: 1"=100' | Date: 3/30/10 | SHEET NO: 6
REVISED: SEA 6/25/10 | 6 OF 15

K:\ANADARKO\2010_11_BON_FOCUS_SEC_5-1023\DWGS\BONANZA 1023-5B\1023-5B_20100601.dwg, 7/28/2010 9:53:15 AM

RECEIVED: October 14, 2011




PLEASE NOTE: LOCATIONS OF FACILITIES AND PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

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

WELL PAD - BONANZA 1023-5B

WELL PAD - FACILITIES DIAGRAM
BONANZA 1023-5B4AS,
BONANZA 1023-5C1DS
& BONANZA 1023-5B1CS
LOCATED IN SECTION 5, T10S, R23E,
S.L.B.&M., UINTAH COUNTY, UTAH

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

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE

HORIZONTAL 0 30' 60' 1" = 60'

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

| Scale: 1"=60' | Date: 3/30/10 | SHEET NO: |
|---|---|---|
| REVISED: | SEA 6/25/10 | 7 — 7 OF 15 |

K:\ANADARKO\2010_11_BON_FOCUS_SEC_5-1023\DWGS\BONANZA 1023-5B\1023-5B_20100601.dwg, 7/28/2010 9:53:32 AM

RECEIVED: October 14, 2011

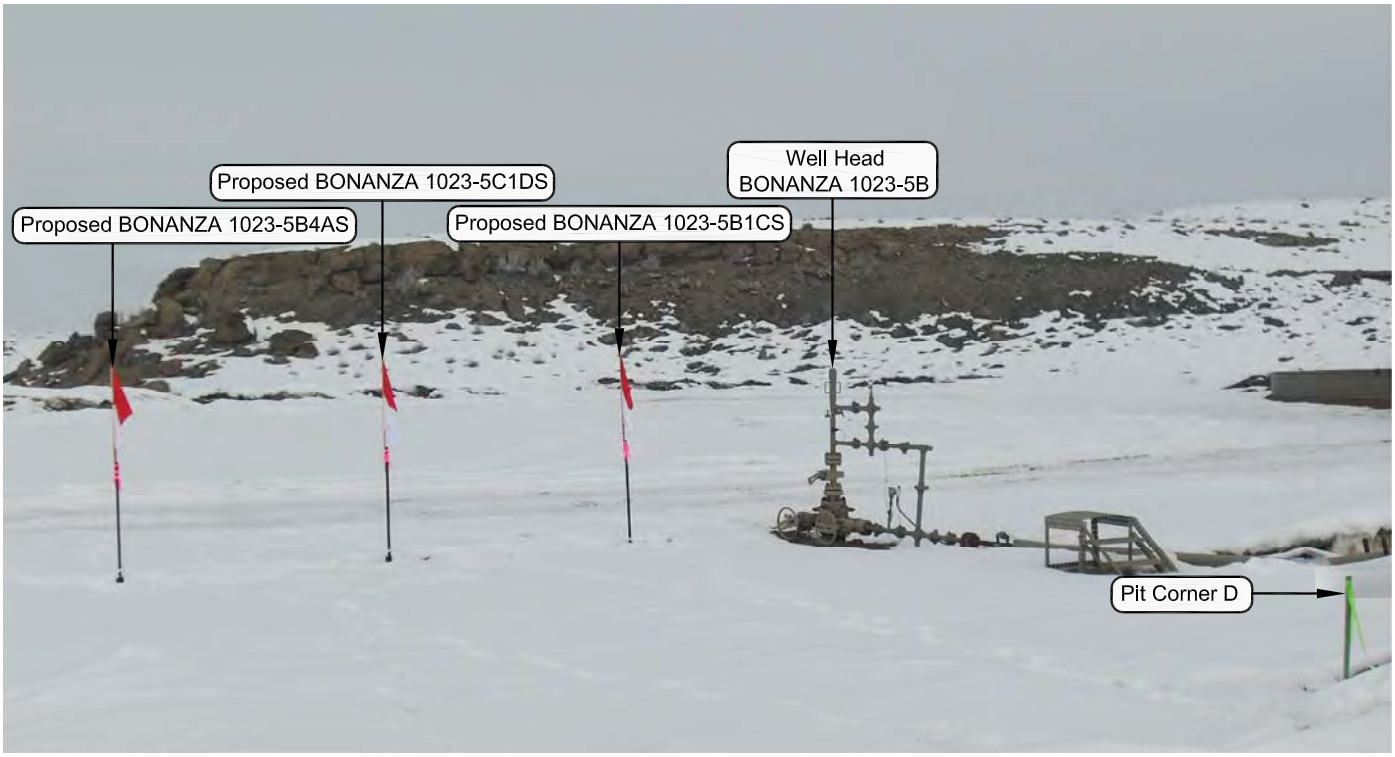



**PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKES** **CAMERA ANGLE: NORTHERLY**

**PHOTO VIEW: FROM EXISTING ROAD** **CAMERA ANGLE: NORTHEASTERLY**

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

**WELL PAD - BONANZA 1023-5B**

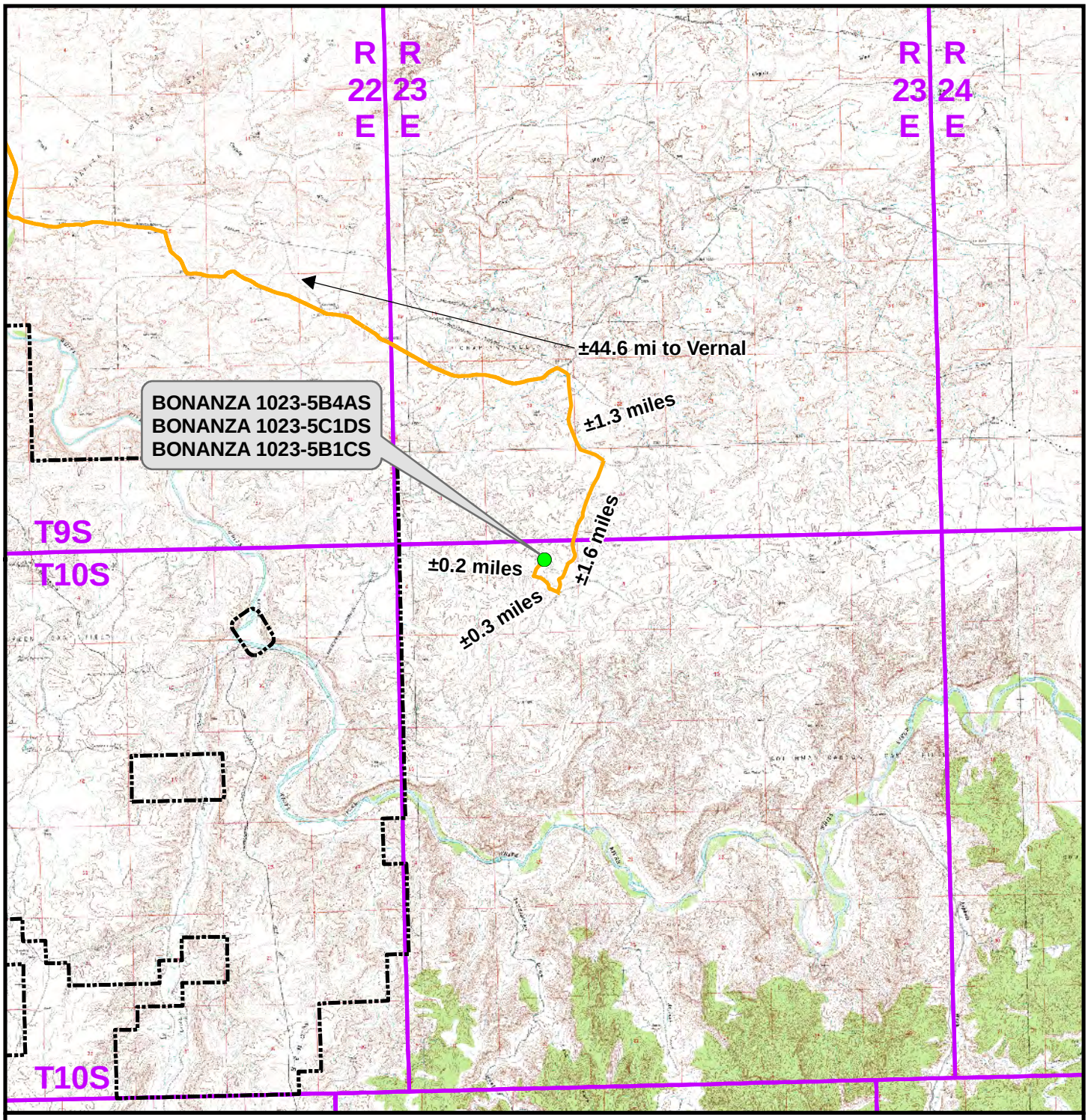
**LOCATION PHOTOS**
**BONANZA 1023-5B4AS, BONANZA 1023-5C1DS**
**& BONANZA 1023-5B1CS**
**LOCATED IN SECTION 5, T10S, R23E,**
**S.L.B.&M., UINTAH COUNTY, UTAH.**

609
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 PHOTOS TAKEN: 03-03-10 | PHOTOS TAKEN BY: M.S.B. | SHEET NO: |
| DATE DRAWN: 03-04-10 | DRAWN BY: E.M.S. | 8 |
| Date Last Revised: 06-02-10 E.M.S. | | 8 OF 15 |

RECEIVED: October 14, 2011




**Legend**

Distance From Well Pad - BONANZA 1023-5B To Unit Boundary: ±8,396ft

- Proposed Well Location
- Natural Buttes Unit Boundary
- Access Route - Proposed

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

**WELL PAD - BONANZA 1023-5B**

TOPO A
BONANZA 1023-5B4AS, BONANZA 1023-5C1DS, & BONANZA 1023-5B1CS
LOCATED IN SECTION 5, T10S, R23E
S.L.B.&M., UINTAH COUNTY, UTAH

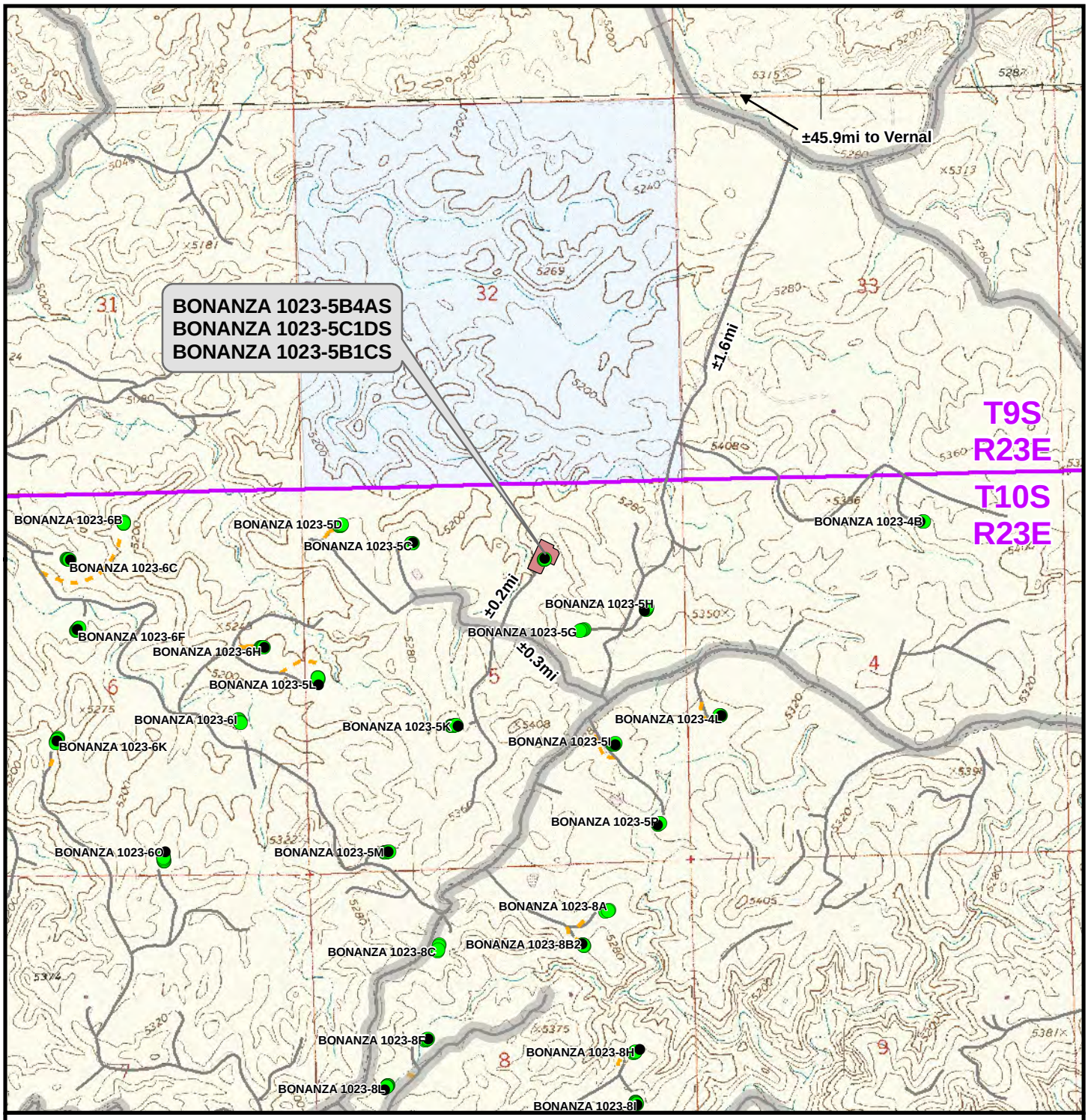
609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

| | | | |
|---|---|---|---|
| Scale: 1:100,000 | NAD83 USP Central | | Sheet No: 9 |
| Drawn: TL | Date: 29 Mar 2010 | | 9 of 15 |
| Revised: TL | Date: 25 June 2010 | | |

RECEIVED: October 14, 2011

API Well Number: 43047520860000




**Legend**

Total Proposed Road Length: ±0ft

| | | | | | |
|---|---|---|---|---|---|
| Well - Proposed | Well Pad | Road - Proposed | County Road | Bureau of Land Management | State |
| Well - Existing | | Road - Existing | | Indian Reservation | Private |

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

**WELL PAD - BONANZA 1023-5B**

TOPO B
BONANZA 1023-5B4AS, BONANZA 1023-5C1DS,
& BONANZA 1023-5B1CS
LOCATED IN SECTION 5, T10S, R23E
S.L.B.&M., UINTAH COUNTY, UTAH

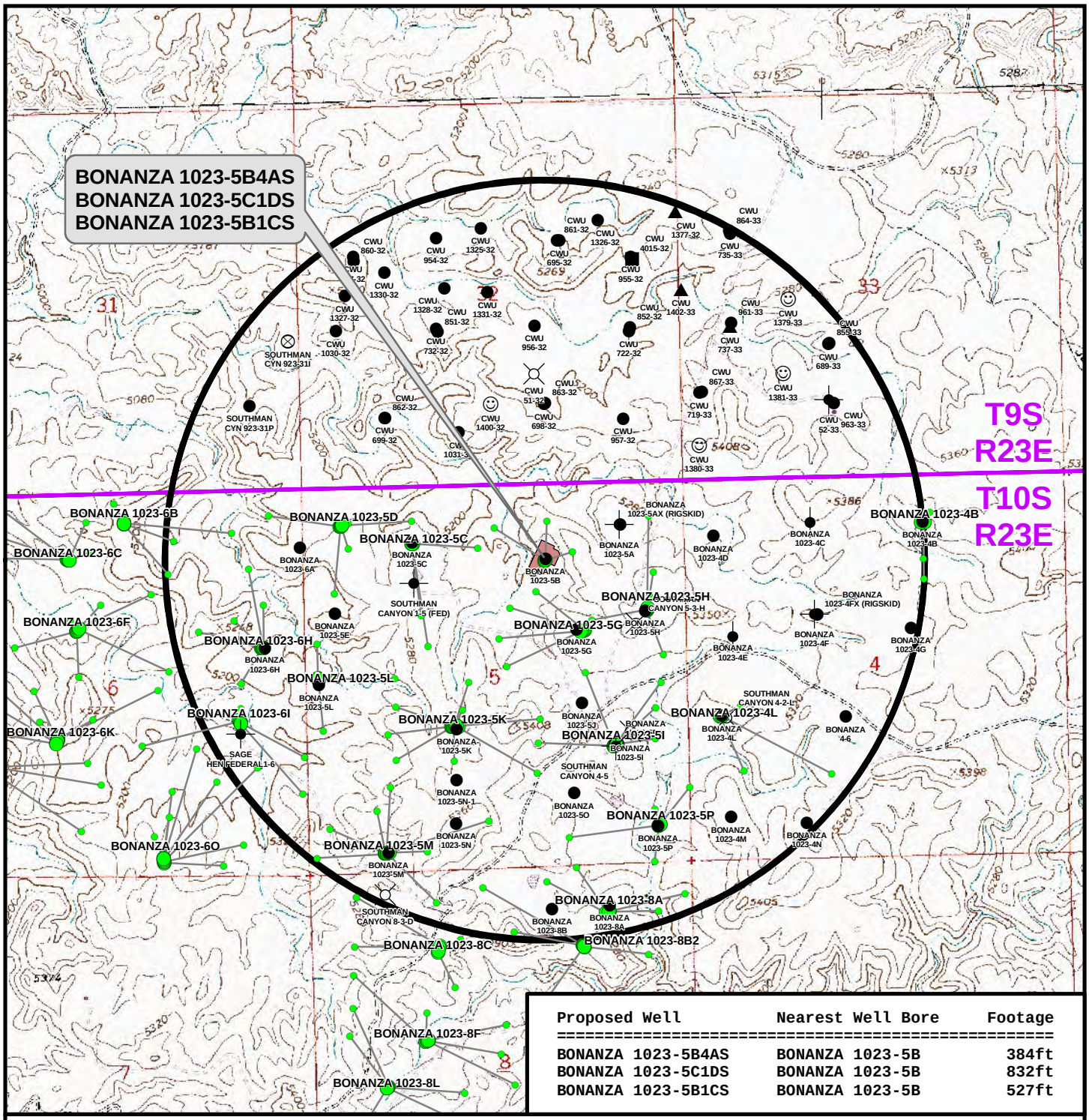
609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

| | | | |
|---|---|---|---|
| Scale: 1" = 2,000ft | NAD83 USP Central | | Sheet No: 10 |
| Drawn: TL | Date: 29 Mar 2010 | | 10 of 15 |
| Revised: TL | Date: 25 June 2010 | | |

RECEIVED: October 14, 2011

API Well Number: 43047520860000




| Proposed Well | Nearest Well Bore | Footage |
|---|---|---|
| BONANZA 1023-5B4AS | BONANZA 1023-5B | 384ft |
| BONANZA 1023-5C1DS | BONANZA 1023-5B | 832ft |
| BONANZA 1023-5B1CS | BONANZA 1023-5B | 527ft |

**Legend**

Well locations derived from State of Utah, Dept. of Natural Resources, Division of Oil, Gas and Mining

- Well - Proposed
- Bottom Hole - Proposed
- Well Path
- Well Pad
- Well - 1 Mile Radius
- Producing
- Active
- Spudded (Drilling commenced: Not yet completed)
- Approved permit (APD); not yet spudded
- New Permit (Not yet approved or drilled)
- Inactive
- Drilling Operations Suspended
- Temporarily-Abandoned
- Shut-In
- Plugged and Abandoned
- Location Abandoned
- Dry hole marker, buried
- Returned APD (Unapproved)

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

**WELL PAD - BONANZA 1023-5B**

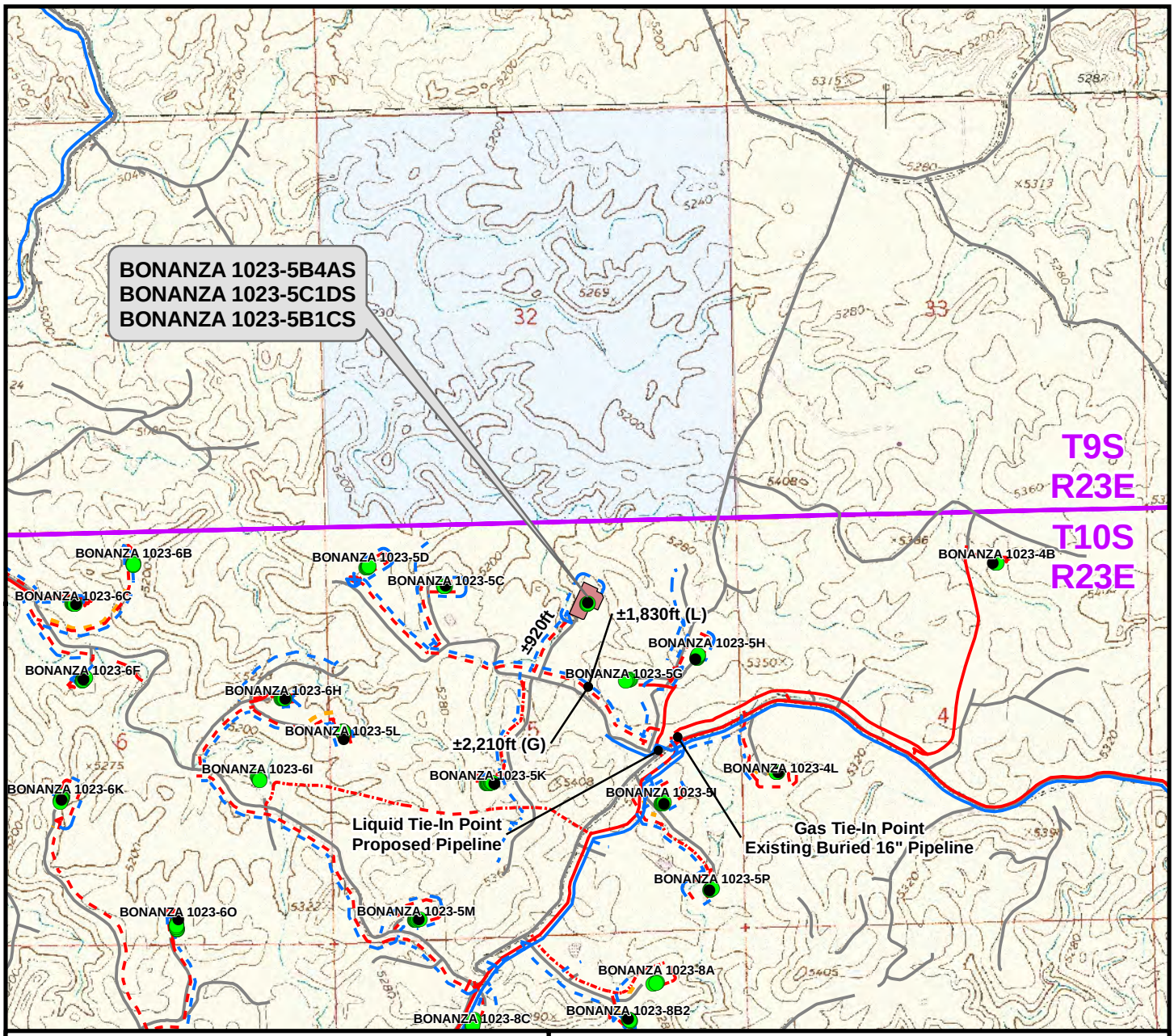
TOPO C
BONANZA 1023-5B4AS, BONANZA 1023-5C1DS,
& BONANZA 1023-5B1CS
LOCATED IN SECTION 5, T10S, R23E
S.L.B.&M., UINTAH COUNTY, UTAH

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

N

| Scale: 1" = 2,000ft | NAD83 USP Central | Sheet No: 11 |
|---|---|---|
| Drawn: TL | Date: 29 Mar 2010 | 11 of 15 |
| Revised: TL | Date: 25 June 2010 | |

RECEIVED: October 14, 2011




| Proposed Liquid Pipeline | Length |
|---|---|
| Proposed 6" (Meter House to Edge of Pad) | ±750ft |
| Proposed 6" (Edge of Pad to Tie-In Point) | ±2,750ft |
| TOTAL PROPOSED LIQUID PIPELINE = | ± 3,500ft |

| Proposed Gas Pipeline | Length |
|---|---|
| Proposed 6" (Meter House to Edge of Pad) | ±750ft |
| Proposed 6" (Edge of Pad to Main Road Intersection) | ±920ft |
| Proposed 10" (Main Road Intersection to Existing Buried 16" Pipeline) | ±2,210ft |
| TOTAL PROPOSED GAS PIPELINE = | ±3,880ft |

**Legend**

- Well - Proposed
- Well - Existing
- Well Pad
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - To Be Upgraded
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

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

**WELL PAD - BONANZA 1023-5B**

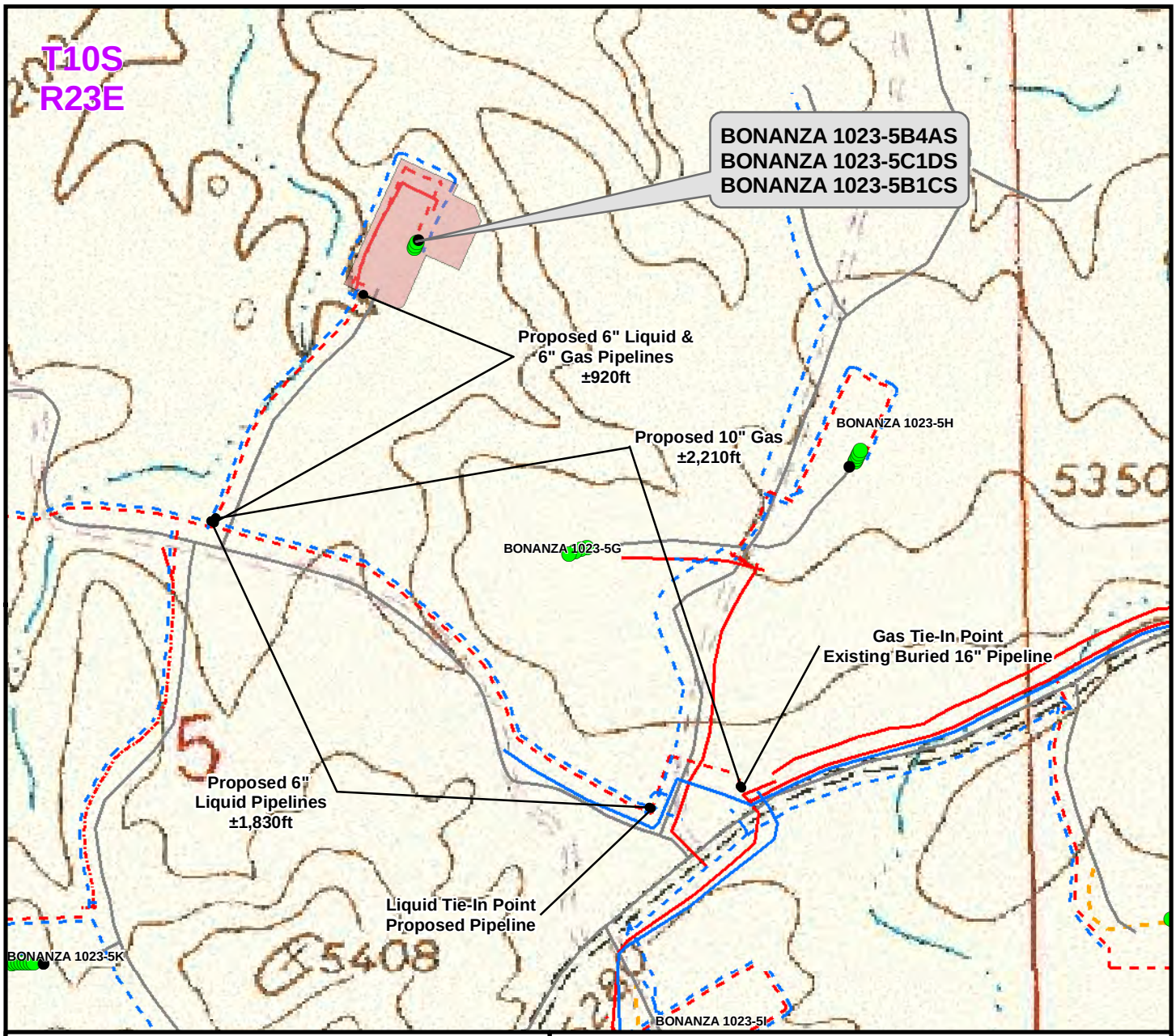
TOPO D
BONANZA 1023-5B4AS, BONANZA 1023-5C1DS,
& BONANZA 1023-5B1CS
LOCATED IN SECTION 5, T10S, R23E
S.L.B.&M., UINTAH COUNTY, UTAH

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

N

| Scale: 1" = 2,000ft | NAD83 USP Central | Sheet No: |
|---|---|---|
| Drawn: TL | Date: 29 Mar 2010 | 12 |
| Revised: TL | Date: 25 June 2010 | 12 of 15 |

RECEIVED: October 14, 2011




| Proposed Liquid Pipeline | Length |
|---|---|
| Proposed 6" (Meter House to Edge of Pad) | ±750ft |
| Proposed 6" (Edge of Pad to Tie-In Point) | ±2,750ft |
| TOTAL PROPOSED LIQUID PIPELINE = | ± 3,500ft |

| Proposed Gas Pipeline | Length |
|---|---|
| Proposed 6" (Meter House to Edge of Pad) | ±750ft |
| Proposed 6" (Edge of Pad to Main Road Intersection) | ±920ft |
| Proposed 10" (Main Road Intersection to Existing Buried 16" Pipeline) | ±2,210ft |
| TOTAL PROPOSED GAS PIPELINE = | ±3,880ft |

**Legend**

- Well - Proposed
- Well - Existing
- Well Pad
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - To Be Upgraded
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

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

**WELL PAD - BONANZA 1023-5B**

TOPO D (PAD & PIPELINE DETAIL)
BONANZA 1023-5B4AS, BONANZA 1023-5C1DS,
& BONANZA 1023-5B1CS
LOCATED IN SECTION 5, T10S, R23E
S.L.B.&M., UINTAH COUNTY, UTAH

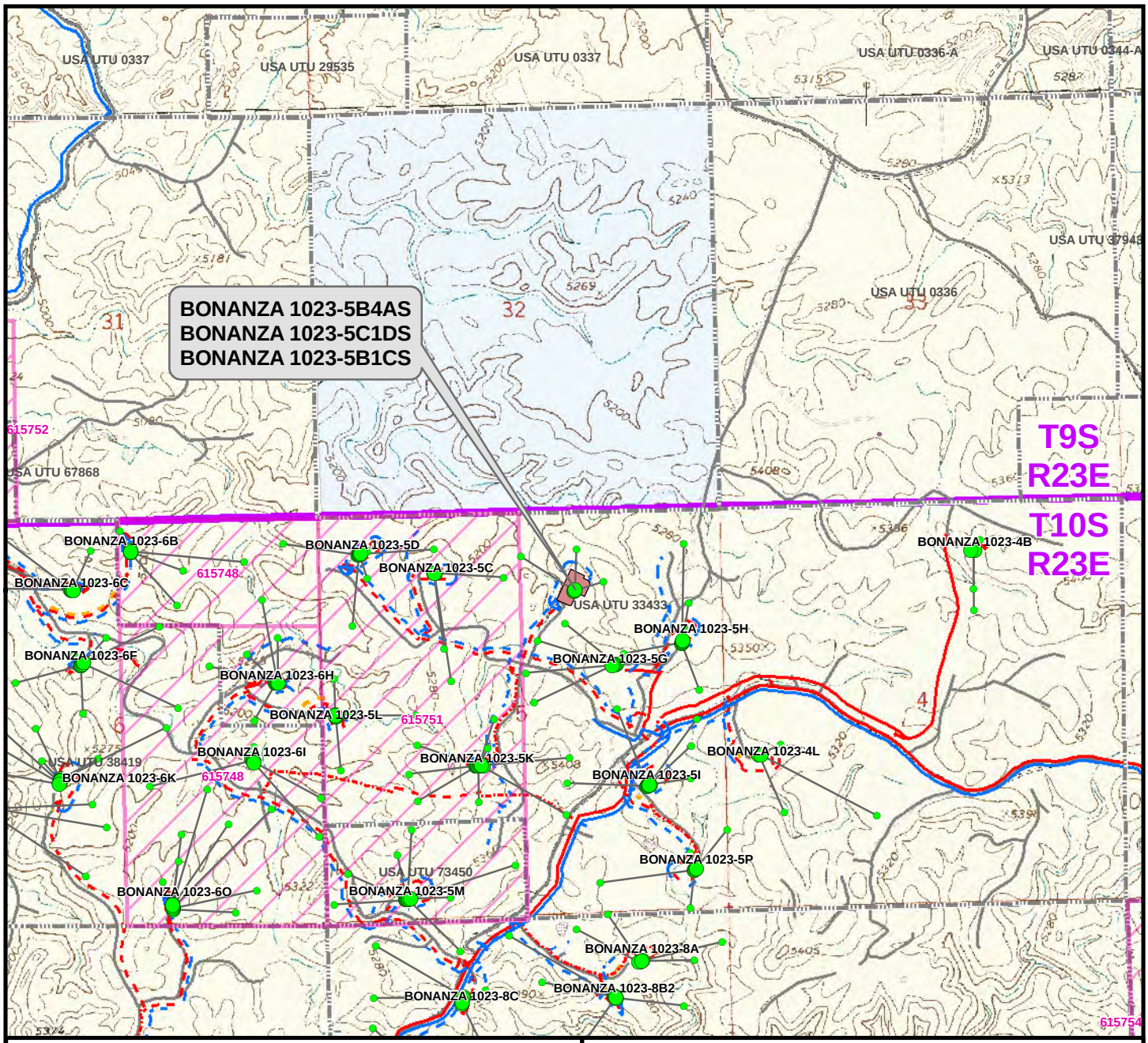
609 CONSULTING, LLC
371 Coffeen Avenue
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

N

| Scale: 1" = 500ft | NAD83 USP Central | Sheet No: |
|---|---|---|
| Drawn: TL | Date: 29 Mar 2010 | 13 |
| Revised: TL | Date: 25 June 2010 | 13 of 15 |

RECEIVED: October 14, 2011

API Well Number: 43047520860000




| Proposed Well | Distance to Nearest CA Boundary |
|---|---|
| BONANZA 1023-5B4AS | 1,058ft |
| BONANZA 1023-5C1DS | 17ft |
| BONANZA 1023-5B1CS | 717ft |

| Proposed Well | Distance To Nearest Lease Boundary |
|---|---|
| BONANZA 1023-5B4AS | 960ft |
| BONANZA 1023-5C1DS | 605ft |
| BONANZA 1023-5B1CS | 523ft |

**Legend**

- Well - Proposed
- Bottom Hole - Proposed
- Well Path
- Well Pad
- CA Agreement
- Lease Boundary
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - To Be Upgraded
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

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

**WELL PAD - BONANZA 1023-5B**

TOPO E
BONANZA 1023-5B4AS, BONANZA 1023-5C1DS,
& BONANZA 1023-5B1CS
LOCATED IN SECTION 5, T10S, R23E
S.L.B.&M., UINTAH COUNTY, UTAH

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

N

| | | | |
|---|---|---|---|
| Scale: 1" = 2,000ft | NAD83 USP Central | Sheet No: 14 | |
| Drawn: TL | Date: 29 Mar 2010 | | 14 of 15 |
| Revised: TL | Date: 25 June 2010 | | |

RECEIVED: October 14, 2011

**Kerr-McGee Oil & Gas Onshore, LP**
**WELL PAD – BONANZA 1023-5B**
**WELLS – BONANZA 1023-5B4AS, BONANZA 1023-5C1DS**
**& BONANZA 1023-5B1CS**
**Section 5, T10S, R23E, S.L.B.&M.**

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45; exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 14.4 miles to the intersection of the Chipeta Wells Road (County B Road 3410) which road intersection is approximately 400 feet northeast of the Mountain Fuel Bridge, at the White River. Exit left and proceed in a southeasterly direction along the Chipeta Wells road approximately 6.7 miles to a Class D County Road to the right. Exit right and proceed in a southeasterly then southerly direction along the Class D Road approximately 1.3 miles to a second Class D County Road to the right. Exit right and proceed in a southwesterly direction along second Class D Road approximately 1.6 miles to a third Class D County Road to the right. Exit right and proceed in a northwesterly direction along third Class D Road approximately 0.3 miles to a service road to the right. Exit right and follow the road flags in a northeasterly direction approximately 0.2 miles to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 48.0 miles in a southerly direction.



RECEIVED: October 14, 2011

# ANADARKO PETROLEUM CORP.

**UINTAH COUNTY, UTAH (nad 27)**
**Bonanza 1023-5B PAD**
**BONANZA 1023-5B1CS**

**BONANZA 1023-5B1CS**

**Plan: PLAN #1 4-28-10 RHS**

# Standard Planning Report

**28 April, 2010**

RECEIVED: October 14, 2011

API Well Number: 43047520860000

Anadarko Petroleum Corporation

Project: UINTAH COUNTY, UTAH (nad 27)
Site: Bonanza 1023-5B PAD
Well: BONANZA 1023-5B1CS
Wellbore: BONANZA 1023-5B1CS
Section: SECTION 5 T10S R23E
SHL: 1058 FNL 1948 FEL
Design: PLAN #1 4-28-10 RHS
Latitude: 39° 58' 56.546 N
Longitude: 109° 20' 51.295 W
GL: 5224.00
KB: WELL @ 5238.00ft (Original Well Elev)

Weatherford®

T M

Azimuths to True North
Magnetic North: 11.17°

Magnetic Field
Strength: 52467.0snT
Dip Angle: 65.93°
Date: 4/28/2010
Model: BGGM2009

LEGEND

- Bonanza 1023-5B EXISTING, Bonanza 1023-5B EXISTING, Bonanza 1023-5B EXISTING V0
- BONANZA 1023-5B4AS, BONANZA 1023-5B4AS, PLAN #1 4-28-10 RHS V0
- BONANZA 1023-5C1DS, BONANZA 1023-5C1DS, PLAN #1 4-28-10 RHS V0
- PLAN #1 4-28-10 RHS

SECTION DETAILS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | DLeg | TFace | VSec | Annotation |
|---|---|---|---|---|---|---|---|---|---|
| 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 | Start Build 3.00 |
| 807.85 | 15.24 | 3.75 | 801.88 | 66.98 | 4.38 | 3.00 | 3.75 | 67.12 | Start 1347.09 hold at 807.85 MD |
| 2154.93 | 15.24 | 3.75 | 2101.63 | 420.22 | 27.51 | 0.00 | 0.00 | 421.12 | Start Drop -1.75 |
| 3025.53 | 0.00 | 0.00 | 2962.00 | 535.04 | 35.02 | 1.75 | 180.00 | 536.19 | Start 5502.00 hold at 3025.53 MD |
| 8527.53 | 0.00 | 0.00 | 8464.00 | 535.04 | 35.02 | 0.00 | 0.00 | 536.19 | TD at 8527.53 |

FORMATION TOP DETAILS

| TVDPath | MDPath | Formation |
|---|---|---|
| 1238.00 | 1259.85 | GREEN RIVER |
| 4230.00 | 4293.53 | WASATCH |
| 7295.00 | 7358.53 | MESAVERDE |

CASING DETAILS

| TVD | MD | Name | Size |
|---|---|---|---|
| 2000.00 | 2049.61 | 8 5/8" | 8.62 |

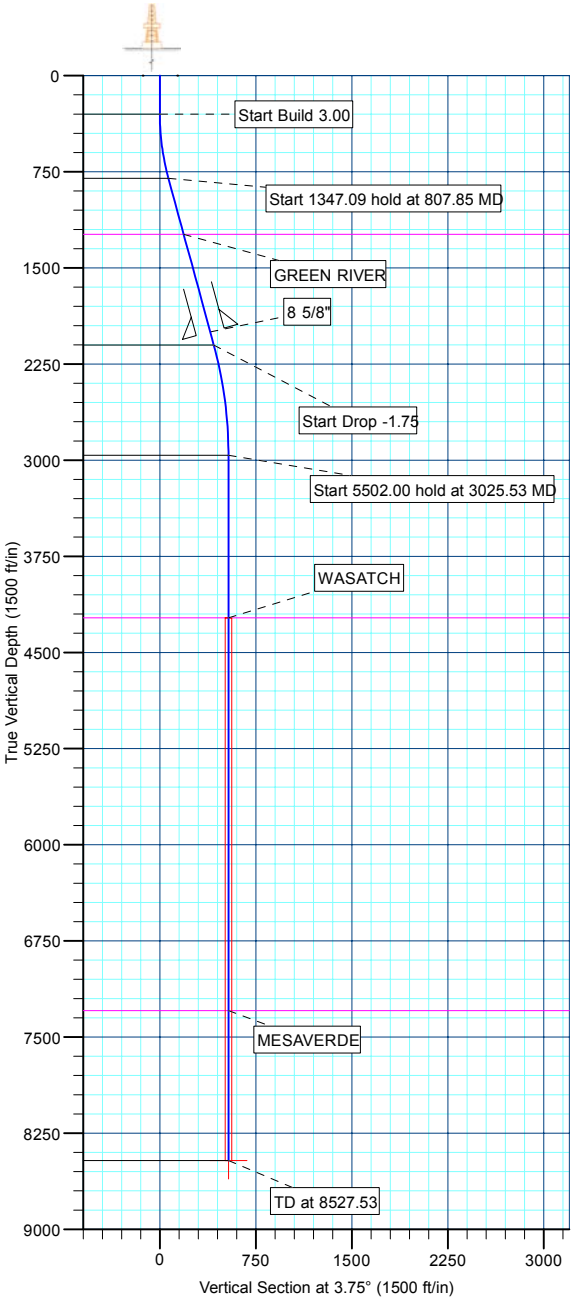
WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

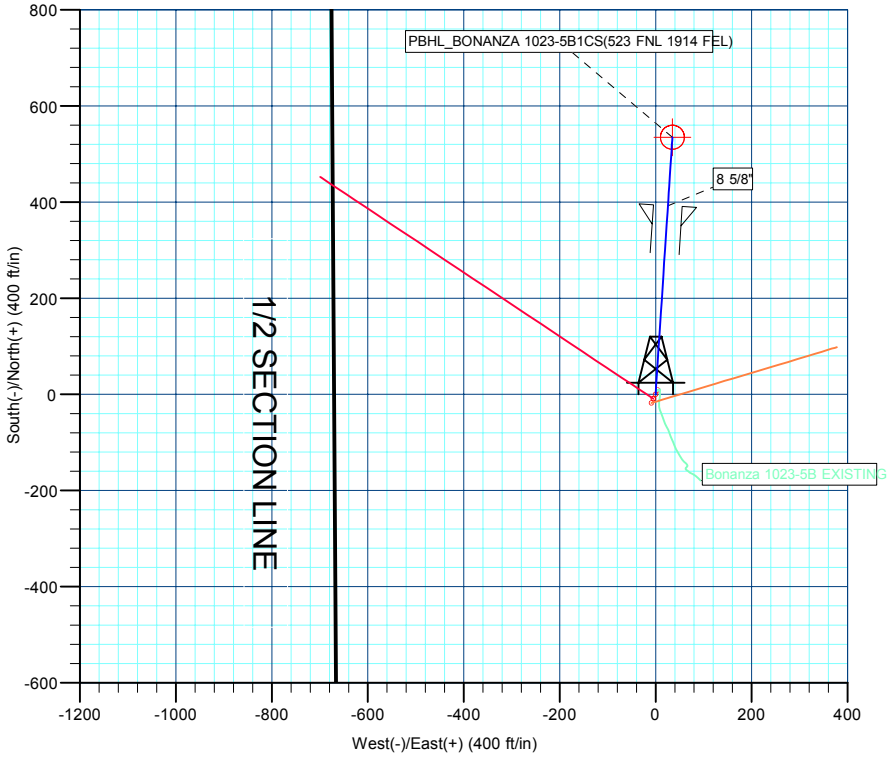
| Name | TVD | +N/-S | +E/-W | Latitude | Longitude | Shape |
|---|---|---|---|---|---|---|
| PBHL | 8464.00 | 535.04 | 35.02 | 39° 59' 1.835 N | 109° 20' 50.845 W | Circle (Radius: 25.00) |

WELL DETAILS: BONANZA 1023-5B1CS

Ground Level: 5224.00

| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude | Slot |
|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 14523915.91 | 2103320.33 | 39° 58' 56.546 N | 109° 20' 51.295 W | |




Plan: PLAN #1 4-28-10 RHS (BONANZA 1023-5B1CS/BONANZA 1023-5B1CS)

Created By: Robert H. Scott Date: 11:34, April 28 2010

# Weatherford International Ltd.

Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 2003.21 Single User Db | **Local Co-ordinate Reference:** | Well BONANZA 1023-5B1CS |
| **Company:** | ANADARKO PETROLEUM CORP. | **TVD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Project:** | UINTAH COUNTY, UTAH (nad 27) | **MD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Site:** | Bonanza 1023-5B PAD | **North Reference:** | True |
| **Well:** | BONANZA 1023-5B1CS | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | BONANZA 1023-5B1CS | | |
| **Design:** | PLAN #1 4-28-10 RHS | | |

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

| | | | |
|---|---|---|---|
| **Map System:** | Universal Transverse Mercator (US Survey Fee | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 (NADCON CONUS) | | |
| **Map Zone:** | Zone 12N (114 W to 108 W) | | |

**Site** Bonanza 1023-5B PAD, SECTION 5 T10S R23E

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 14,523,897.91 ft | **Latitude:** | 39° 58' 56.370 N |
| **From:** | Lat/Long | **Easting:** | 2,103,311.98 ft | **Longitude:** | 109° 20' 51.407 W |
| **Position Uncertainty:** | 0.00 ft | **Slot Radius:** | in | **Grid Convergence:** | 1.06 ° |

**Well** BONANZA 1023-5B1CS

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 17.85 ft | **Northing:** | 14,523,915.91 ft | **Latitude:** | 39° 58' 56.546 N |
| | **+E/-W** | 8.69 ft | **Easting:** | 2,103,320.33 ft | **Longitude:** | 109° 20' 51.295 W |
| **Position Uncertainty** | | 0.00 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 5,224.00 ft |

**Wellbore** BONANZA 1023-5B1CS

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | BGGM2009 | 4/28/2010 | 11.17 | 65.93 | 52,467 |

**Design** PLAN #1 4-28-10 RHS

**Audit Notes:**

| | | | | | |
|---|---|---|---|---|---|
| **Version:** | | **Phase:** | PLAN | **Tie On Depth:** | 0.00 |

| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
|---|---|---|---|---|
| | 0.00 | 0.00 | 0.00 | 3.75 |

**Plan Sections**

| 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 | |
| 807.85 | 15.24 | 3.75 | 801.88 | 66.98 | 4.38 | 3.00 | 3.00 | 0.00 | 3.75 | |
| 2,154.93 | 15.24 | 3.75 | 2,101.63 | 420.22 | 27.51 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 3,025.53 | 0.00 | 0.00 | 2,962.00 | 535.04 | 35.02 | 1.75 | -1.75 | 0.00 | 180.00 | |
| 8,527.53 | 0.00 | 0.00 | 8,464.00 | 535.04 | 35.02 | 0.00 | 0.00 | 0.00 | 0.00 | PBHL_BONANZA 1 |



RECEIVED: October 14, 2011

# Weatherford International Ltd.

Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 2003.21 Single User Db | **Local Co-ordinate Reference:** | Well BONANZA 1023-5B1CS |
| **Company:** | ANADARKO PETROLEUM CORP. | **TVD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Project:** | UINTAH COUNTY, UTAH (nad 27) | **MD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Site:** | Bonanza 1023-5B PAD | **North Reference:** | True |
| **Well:** | BONANZA 1023-5B1CS | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | BONANZA 1023-5B1CS | | |
| **Design:** | PLAN #1 4-28-10 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) |
|---|---|---|---|---|---|---|---|---|---|
| **Start Build 3.00** | | | | | | | | | |
| 300.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 400.00 | 3.00 | 3.75 | 399.95 | 2.61 | 0.17 | 2.62 | 3.00 | 3.00 | 0.00 |
| 500.00 | 6.00 | 3.75 | 499.63 | 10.44 | 0.68 | 10.46 | 3.00 | 3.00 | 0.00 |
| 600.00 | 9.00 | 3.75 | 598.77 | 23.46 | 1.54 | 23.51 | 3.00 | 3.00 | 0.00 |
| 700.00 | 12.00 | 3.75 | 697.08 | 41.65 | 2.73 | 41.74 | 3.00 | 3.00 | 0.00 |
| 800.00 | 15.00 | 3.75 | 794.31 | 64.94 | 4.25 | 65.08 | 3.00 | 3.00 | 0.00 |
| **Start 1347.09 hold at 807.85 MD** | | | | | | | | | |
| 807.85 | 15.24 | 3.75 | 801.88 | 66.98 | 4.38 | 67.12 | 3.00 | 3.00 | 0.00 |
| 900.00 | 15.24 | 3.75 | 890.80 | 91.14 | 5.97 | 91.34 | 0.00 | 0.00 | 0.00 |
| 1,000.00 | 15.24 | 3.75 | 987.28 | 117.37 | 7.68 | 117.62 | 0.00 | 0.00 | 0.00 |
| 1,100.00 | 15.24 | 3.75 | 1,083.77 | 143.59 | 9.40 | 143.90 | 0.00 | 0.00 | 0.00 |
| 1,200.00 | 15.24 | 3.75 | 1,180.25 | 169.81 | 11.12 | 170.18 | 0.00 | 0.00 | 0.00 |
| **GREEN RIVER** | | | | | | | | | |
| 1,259.85 | 15.24 | 3.75 | 1,238.00 | 185.51 | 12.14 | 185.90 | 0.00 | 0.00 | 0.00 |
| 1,300.00 | 15.24 | 3.75 | 1,276.74 | 196.03 | 12.83 | 196.45 | 0.00 | 0.00 | 0.00 |
| 1,400.00 | 15.24 | 3.75 | 1,373.22 | 222.26 | 14.55 | 222.73 | 0.00 | 0.00 | 0.00 |
| 1,500.00 | 15.24 | 3.75 | 1,469.71 | 248.48 | 16.27 | 249.01 | 0.00 | 0.00 | 0.00 |
| 1,600.00 | 15.24 | 3.75 | 1,566.20 | 274.70 | 17.98 | 275.29 | 0.00 | 0.00 | 0.00 |
| 1,700.00 | 15.24 | 3.75 | 1,662.68 | 300.92 | 19.70 | 301.57 | 0.00 | 0.00 | 0.00 |
| 1,800.00 | 15.24 | 3.75 | 1,759.17 | 327.15 | 21.42 | 327.85 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 15.24 | 3.75 | 1,855.65 | 353.37 | 23.13 | 354.13 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 15.24 | 3.75 | 1,952.14 | 379.59 | 24.85 | 380.40 | 0.00 | 0.00 | 0.00 |
| **8 5/8"** | | | | | | | | | |
| 2,049.61 | 15.24 | 3.75 | 2,000.00 | 392.60 | 25.70 | 393.44 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 15.24 | 3.75 | 2,048.62 | 405.81 | 26.57 | 406.68 | 0.00 | 0.00 | 0.00 |
| **Start Drop -1.75** | | | | | | | | | |
| 2,154.93 | 15.24 | 3.75 | 2,101.63 | 420.22 | 27.51 | 421.12 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 14.45 | 3.75 | 2,145.19 | 431.74 | 28.26 | 432.66 | 1.75 | -1.75 | 0.00 |
| 2,300.00 | 12.70 | 3.75 | 2,242.39 | 455.15 | 29.79 | 456.13 | 1.75 | -1.75 | 0.00 |
| 2,400.00 | 10.95 | 3.75 | 2,340.27 | 475.60 | 31.13 | 476.61 | 1.75 | -1.75 | 0.00 |
| 2,500.00 | 9.20 | 3.75 | 2,438.72 | 493.05 | 32.28 | 494.10 | 1.75 | -1.75 | 0.00 |
| 2,600.00 | 7.45 | 3.75 | 2,537.67 | 507.49 | 33.22 | 508.57 | 1.75 | -1.75 | 0.00 |
| 2,700.00 | 5.70 | 3.75 | 2,637.00 | 518.91 | 33.97 | 520.02 | 1.75 | -1.75 | 0.00 |
| 2,800.00 | 3.95 | 3.75 | 2,736.65 | 527.30 | 34.52 | 528.42 | 1.75 | -1.75 | 0.00 |
| 2,900.00 | 2.20 | 3.75 | 2,836.50 | 532.64 | 34.87 | 533.78 | 1.75 | -1.75 | 0.00 |
| 3,000.00 | 0.45 | 3.75 | 2,936.47 | 534.94 | 35.02 | 536.09 | 1.75 | -1.75 | 0.00 |
| **Start 5502.00 hold at 3025.53 MD** | | | | | | | | | |
| 3,025.53 | 0.00 | 0.00 | 2,962.00 | 535.04 | 35.02 | 536.19 | 1.75 | -1.75 | 0.00 |
| 3,100.00 | 0.00 | 0.00 | 3,036.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 0.00 | 0.00 | 3,136.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 0.00 | 0.00 | 3,236.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 0.00 | 0.00 | 3,336.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 0.00 | 0.00 | 3,436.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 0.00 | 0.00 | 3,536.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 0.00 | 0.00 | 3,636.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 0.00 | 0.00 | 3,736.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 0.00 | 0.00 | 3,836.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 0.00 | 0.00 | 3,936.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 0.00 | 0.00 | 4,036.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 0.00 | 0.00 | 4,136.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| **WASATCH** | | | | | | | | | |
| 4,293.53 | 0.00 | 0.00 | 4,230.00 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |



RECEIVED: October 14, 2011

# Weatherford International Ltd.

Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 2003.21 Single User Db | **Local Co-ordinate Reference:** | Well BONANZA 1023-5B1CS |
| **Company:** | ANADARKO PETROLEUM CORP. | **TVD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Project:** | UINTAH COUNTY, UTAH (nad 27) | **MD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Site:** | Bonanza 1023-5B PAD | **North Reference:** | True |
| **Well:** | BONANZA 1023-5B1CS | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | BONANZA 1023-5B1CS | | |
| **Design:** | PLAN #1 4-28-10 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) |
|---|---|---|---|---|---|---|---|---|---|
| 4,300.00 | 0.00 | 0.00 | 4,236.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 0.00 | 0.00 | 4,336.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 0.00 | 0.00 | 4,436.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 0.00 | 0.00 | 4,536.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 0.00 | 0.00 | 4,636.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 4,800.00 | 0.00 | 0.00 | 4,736.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 0.00 | 0.00 | 4,836.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 0.00 | 0.00 | 4,936.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 0.00 | 0.00 | 5,036.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 0.00 | 0.00 | 5,136.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 0.00 | 0.00 | 5,236.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 0.00 | 0.00 | 5,336.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 0.00 | 0.00 | 5,436.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 0.00 | 0.00 | 5,536.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 0.00 | 0.00 | 5,636.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 0.00 | 0.00 | 5,736.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 0.00 | 0.00 | 5,836.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 0.00 | 0.00 | 5,936.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 0.00 | 0.00 | 6,036.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 6,200.00 | 0.00 | 0.00 | 6,136.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 6,300.00 | 0.00 | 0.00 | 6,236.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 6,400.00 | 0.00 | 0.00 | 6,336.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 6,500.00 | 0.00 | 0.00 | 6,436.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 6,600.00 | 0.00 | 0.00 | 6,536.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 6,700.00 | 0.00 | 0.00 | 6,636.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 6,800.00 | 0.00 | 0.00 | 6,736.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 6,900.00 | 0.00 | 0.00 | 6,836.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 7,000.00 | 0.00 | 0.00 | 6,936.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 7,100.00 | 0.00 | 0.00 | 7,036.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 7,200.00 | 0.00 | 0.00 | 7,136.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 7,300.00 | 0.00 | 0.00 | 7,236.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| **MESAVERDE** | | | | | | | | | |
| 7,358.53 | 0.00 | 0.00 | 7,295.00 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 7,400.00 | 0.00 | 0.00 | 7,336.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 7,500.00 | 0.00 | 0.00 | 7,436.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 7,600.00 | 0.00 | 0.00 | 7,536.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 7,700.00 | 0.00 | 0.00 | 7,636.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 7,800.00 | 0.00 | 0.00 | 7,736.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 7,900.00 | 0.00 | 0.00 | 7,836.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 0.00 | 0.00 | 7,936.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 8,100.00 | 0.00 | 0.00 | 8,036.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 0.00 | 0.00 | 8,136.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 0.00 | 0.00 | 8,236.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 0.00 | 0.00 | 8,336.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 0.00 | 0.00 | 8,436.47 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |
| **PBHL_BONANZA 1023-5B1CS(523 FNL 1914 FEL)** | | | | | | | | | |
| 8,527.53 | 0.00 | 0.00 | 8,464.00 | 535.04 | 35.02 | 536.19 | 0.00 | 0.00 | 0.00 |



RECEIVED: October 14, 2011

# Weatherford International Ltd.

Planning Report

| | | | |
|---|---|---|---|
| **Database:** | EDM 2003.21 Single User Db | **Local Co-ordinate Reference:** | Well BONANZA 1023-5B1CS |
| **Company:** | ANADARKO PETROLEUM CORP. | **TVD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Project:** | UINTAH COUNTY, UTAH (nad 27) | **MD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Site:** | Bonanza 1023-5B PAD | **North Reference:** | True |
| **Well:** | BONANZA 1023-5B1CS | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | BONANZA 1023-5B1CS | | |
| **Design:** | PLAN #1 4-28-10 RHS | | |

## Design Targets

| Target Name<br>- hit/miss target<br>- Shape | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (ft) | Easting (ft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| PBHL_BONANZA 102<br>- plan hits target center<br>- Circle (radius 25.00) | 0.00 | 0.00 | 8,464.00 | 535.04 | 35.02 | 14,524,451.51 | 2,103,345.44 | 39° 59' 1.835 N | 109° 20' 50.845 W |

## Casing Points

| Measured Depth (ft) | Vertical Depth (ft) | Name | Casing Diameter (in) | Hole Diameter (in) |
|---|---|---|---|---|
| 2,049.61 | 2,000.00 | 8 5/8" | 8.62 | 11.00 |

## Formations

| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---|---|---|---|---|---|
| 1,259.85 | 1,238.00 | GREEN RIVER | | | |
| 4,293.53 | 4,230.00 | WASATCH | | | |
| 7,358.53 | 7,295.00 | MESAVERDE | | | |

## Plan Annotations

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates +N/-S (ft) | Local Coordinates +E/-W (ft) | Comment |
|---|---|---|---|---|
| 300.00 | 300.00 | 0.00 | 0.00 | Start Build 3.00 |
| 807.85 | 801.88 | 66.98 | 4.38 | Start 1347.09 hold at 807.85 MD |
| 2,154.93 | 2,101.63 | 420.22 | 27.51 | Start Drop -1.75 |
| 3,025.53 | 2,962.00 | 535.04 | 35.02 | Start 5502.00 hold at 3025.53 MD |
| 8,527.53 | 8,464.00 | 535.04 | 35.02 | TD at 8527.53 |



RECEIVED: October 14, 2011

Anadarko Petroleum Corporation

# ANADARKO PETROLEUM CORP.

**UINTAH COUNTY, UTAH (nad 27)**
**Bonanza 1023-5B PAD**
**BONANZA 1023-5B1CS**

**BONANZA 1023-5B1CS**
**PLAN #1 4-28-10 RHS**

# Anticollision Report

**28 April, 2010**

Weatherford®

RECEIVED: October 14, 2011

API Well Number: 43047520860000

# Weatherford International Ltd.

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | ANADARKO PETROLEUM CORP. | **Local Co-ordinate Reference:** | Well BONANZA 1023-5B1CS |
| **Project:** | UINTAH COUNTY, UTAH (nad 27) | **TVD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Reference Site:** | Bonanza 1023-5B PAD | **MD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Site Error:** | 0.00ft | **North Reference:** | True |
| **Reference Well:** | BONANZA 1023-5B1CS | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.00ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | BONANZA 1023-5B1CS | **Database:** | EDM 2003.21 Single User Db |
| **Reference Design:** | PLAN #1 4-28-10 RHS | **Offset TVD Reference:** | Offset Datum |

**Reference** PLAN #1 4-28-10 RHS

| | | | |
|---|---|---|---|
| **Filter type:** | NO GLOBAL FILTER: Using user defined selection & filtering criteria | | |
| **Interpolation Method:** | Stations | **Error Model:** | ISCWSA |
| **Depth Range:** | 0.00 to 20,000.00ft | **Scan Method:** | Closest Approach 3D |
| **Results Limited by:** | Maximum center-center distance of 10,000.00ft | **Error Surface:** | Elliptical Conic |
| **Warning Levels Evaluated at:** | 2.00 **Sigma** | | |

**Survey Tool Program** **Date** 4/28/2010

| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 0.00 | 8,527.53 | PLAN #1 4-28-10 RHS (BONANZA 1023-5 | MWD | MWD - Standard |

**Summary**

| Site Name<br>Offset Well - Wellbore - Design | Reference Measured Depth (ft) | Offset Measured Depth (ft) | Distance Between Centres (ft) | Distance Between Ellipses (ft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|
| Bonanza 1023-5B PAD | | | | | | |
| Bonanza 1023-5B EXISTING - Bonanza 1023-5B EXIST | 480.18 | 479.93 | 3.08 | 1.26 | 1.689 | CC, ES, SF |
| BONANZA 1023-5B4AS - BONANZA 1023-5B4AS - PLA | 300.00 | 300.00 | 19.85 | 18.74 | 17.912 | CC, ES |
| BONANZA 1023-5B4AS - BONANZA 1023-5B4AS - PLA | 500.00 | 500.70 | 25.27 | 23.24 | 12.439 | SF |
| BONANZA 1023-5C1DS - BONANZA 1023-5C1DS - PL/ | 300.00 | 300.00 | 10.15 | 9.06 | 9.291 | CC, ES |
| BONANZA 1023-5C1DS - BONANZA 1023-5C1DS - PL/ | 400.00 | 400.00 | 12.37 | 10.82 | 7.993 | SF |

**Offset Design** Bonanza 1023-5B PAD - Bonanza 1023-5B EXISTING - Bonanza 1023-5B EXISTING - Bonanza 1023-5 **Offset Site Error:** 0.00 ft

**Survey Program:** 100-NS-GYRO-MS **Offset Well Error:** 0.00 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis 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 | 26.21 | 9.11 | 4.48 | 10.15 | | | | |
| 100.00 | 100.00 | 100.04 | 100.04 | 0.10 | 0.11 | 26.60 | 8.89 | 4.45 | 9.94 | 9.73 | 0.21 | 47.111 | |
| 200.00 | 200.00 | 200.04 | 200.04 | 0.32 | 0.37 | 26.67 | 8.51 | 4.27 | 9.52 | 8.83 | 0.69 | 13.751 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.51 | 26.31 | 8.35 | 4.13 | 9.31 | 8.26 | 1.06 | 8.822 | |
| 400.00 | 399.95 | 399.98 | 399.97 | 0.78 | 0.67 | 29.52 | 8.32 | 3.91 | 6.83 | 5.38 | 1.44 | 4.727 | |
| 480.18 | 479.91 | 479.93 | 479.92 | 0.97 | 0.86 | 91.64 | 8.19 | 3.62 | 3.08 | 1.26 | 1.82 | 1.689 | CC, ES, SF |
| 500.00 | 499.63 | 499.64 | 499.63 | 1.02 | 0.91 | 124.90 | 8.12 | 3.57 | 3.70 | 1.78 | 1.92 | 1.928 | |
| 600.00 | 598.77 | 598.77 | 598.77 | 1.28 | 1.15 | 169.94 | 7.93 | 3.22 | 15.62 | 13.23 | 2.39 | 6.523 | |
| 700.00 | 697.08 | 697.00 | 697.00 | 1.61 | 1.40 | 175.98 | 7.79 | 2.83 | 33.85 | 30.98 | 2.87 | 11.793 | |
| 807.85 | 801.88 | 801.68 | 801.68 | 2.06 | 1.67 | 177.98 | 7.47 | 2.52 | 59.54 | 56.16 | 3.38 | 17.606 | |
| 900.00 | 890.80 | 890.78 | 890.77 | 2.49 | 1.81 | 178.65 | 7.31 | 2.39 | 83.92 | 80.15 | 3.76 | 22.295 | |
| 1,000.00 | 987.28 | 987.80 | 987.79 | 2.99 | 1.89 | 178.83 | 7.49 | 2.67 | 109.99 | 105.88 | 4.11 | 26.783 | |
| 1,100.00 | 1,083.77 | 1,084.64 | 1,084.62 | 3.49 | 1.96 | 178.62 | 8.00 | 3.69 | 135.71 | 131.27 | 4.45 | 30.517 | |
| 1,200.00 | 1,180.25 | 1,181.71 | 1,181.68 | 4.00 | 2.05 | 178.29 | 8.66 | 5.23 | 161.26 | 156.45 | 4.82 | 33.484 | |
| 1,300.00 | 1,276.74 | 1,278.56 | 1,278.52 | 4.51 | 2.17 | 178.08 | 9.52 | 6.68 | 186.62 | 181.41 | 5.21 | 35.797 | |
| 1,400.00 | 1,373.22 | 1,374.26 | 1,374.20 | 5.03 | 2.31 | 177.97 | 10.22 | 7.93 | 212.15 | 206.51 | 5.63 | 37.665 | |
| 1,500.00 | 1,469.71 | 1,470.24 | 1,470.18 | 5.55 | 2.47 | 178.02 | 10.46 | 8.64 | 238.14 | 232.07 | 6.07 | 39.234 | |
| 1,600.00 | 1,566.20 | 1,566.12 | 1,566.06 | 6.08 | 2.64 | 178.12 | 10.54 | 9.05 | 264.32 | 257.80 | 6.52 | 40.538 | |
| 1,700.00 | 1,662.68 | 1,661.78 | 1,661.72 | 6.60 | 2.81 | 178.23 | 10.34 | 9.35 | 290.77 | 283.80 | 6.97 | 41.695 | |
| 1,800.00 | 1,759.17 | 1,757.85 | 1,757.79 | 7.13 | 2.99 | 178.38 | 9.94 | 9.34 | 317.44 | 310.01 | 7.43 | 42.726 | |
| 1,900.00 | 1,855.65 | 1,853.41 | 1,853.35 | 7.65 | 3.17 | 178.50 | 9.47 | 9.34 | 344.19 | 336.30 | 7.89 | 43.611 | |
| 2,000.00 | 1,952.14 | 1,948.97 | 1,948.90 | 8.18 | 3.36 | 178.60 | 8.68 | 9.29 | 371.25 | 362.89 | 8.36 | 44.385 | |

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



RECEIVED: October 14, 2011

Anadarko Petroleum Corporation

# Weatherford International Ltd.

## Anticollision Report

Weatherford

| | | | |
|---|---|---|---|
| **Company:** | ANADARKO PETROLEUM CORP. | **Local Co-ordinate Reference:** | Well BONANZA 1023-5B1CS |
| **Project:** | UINTAH COUNTY, UTAH (nad 27) | **TVD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Reference Site:** | Bonanza 1023-5B PAD | **MD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Site Error:** | 0.00ft | **North Reference:** | True |
| **Reference Well:** | BONANZA 1023-5B1CS | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.00ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | BONANZA 1023-5B1CS | **Database:** | EDM 2003.21 Single User Db |
| **Reference Design:** | PLAN #1 4-28-10 RHS | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Bonanza 1023-5B PAD - Bonanza 1023-5B EXISTING - Bonanza 1023-5B EXISTING - Bonanza 1023-5

**Offset Site Error:** 0.00 ft

**Offset Well Error:** 0.00 ft

**Survey Program:** 100-NS-GYRO-MS

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2,100.00 | 2,048.62 | 2,045.22 | 2,045.15 | 8.71 | 3.56 | 178.69 | 7.84 | 9.29 | 398.36 | 389.52 | 8.85 | 45.035 | |
| 2,154.93 | 2,101.63 | 2,098.09 | 2,098.02 | 9.00 | 3.68 | 178.74 | 7.38 | 9.27 | 413.26 | 404.14 | 9.11 | 45.353 | |
| 2,200.00 | 2,145.19 | 2,140.80 | 2,140.73 | 9.21 | 3.77 | 178.78 | 6.97 | 9.24 | 425.21 | 415.88 | 9.33 | 45.553 | |
| 2,300.00 | 2,242.39 | 2,235.91 | 2,235.83 | 9.60 | 3.98 | 178.86 | 5.79 | 9.10 | 449.89 | 440.09 | 9.80 | 45.915 | |
| 2,400.00 | 2,340.27 | 2,332.17 | 2,332.08 | 9.95 | 4.20 | 178.94 | 4.22 | 8.84 | 471.98 | 461.72 | 10.26 | 46.021 | |
| 2,500.00 | 2,438.72 | 2,429.69 | 2,429.59 | 10.28 | 4.42 | 178.99 | 2.51 | 8.73 | 491.19 | 480.48 | 10.71 | 45.880 | |
| 2,600.00 | 2,537.67 | 2,526.32 | 2,526.19 | 10.57 | 4.65 | 178.98 | 0.51 | 8.95 | 507.69 | 496.54 | 11.14 | 45.562 | |
| 2,700.00 | 2,637.00 | 2,623.51 | 2,623.35 | 10.82 | 4.88 | 179.00 | -1.90 | 8.94 | 521.59 | 510.02 | 11.57 | 45.096 | |
| 2,800.00 | 2,736.65 | 2,722.90 | 2,722.71 | 11.03 | 5.12 | 179.02 | -4.50 | 8.78 | 532.60 | 520.62 | 11.98 | 44.461 | |
| 2,900.00 | 2,836.50 | 2,822.11 | 2,821.89 | 11.21 | 5.36 | 179.05 | -7.09 | 8.53 | 540.57 | 528.20 | 12.37 | 43.683 | |
| 3,000.00 | 2,936.47 | 2,920.25 | 2,919.98 | 11.35 | 5.59 | 179.09 | -9.91 | 8.04 | 545.77 | 533.02 | 12.75 | 42.806 | |
| 3,025.53 | 2,962.00 | 2,945.76 | 2,945.48 | 11.38 | 5.66 | -177.15 | -10.68 | 7.89 | 546.64 | 533.80 | 12.84 | 42.560 | |
| 3,100.00 | 3,036.47 | 3,019.95 | 3,019.64 | 11.46 | 5.84 | -177.12 | -12.91 | 7.46 | 548.90 | 535.74 | 13.15 | 41.726 | |
| 3,200.00 | 3,136.47 | 3,118.70 | 3,118.33 | 11.58 | 6.08 | -177.11 | -16.03 | 7.16 | 552.08 | 538.49 | 13.59 | 40.637 | |
| 3,300.00 | 3,236.47 | 3,217.63 | 3,217.21 | 11.70 | 6.33 | -177.13 | -19.39 | 7.26 | 555.47 | 541.45 | 14.02 | 39.621 | |
| 3,400.00 | 3,336.47 | 3,317.54 | 3,317.06 | 11.82 | 6.58 | -177.17 | -22.88 | 7.46 | 558.94 | 544.48 | 14.46 | 38.652 | |
| 3,500.00 | 3,436.47 | 3,417.61 | 3,417.06 | 11.95 | 6.83 | -177.20 | -26.36 | 7.61 | 562.41 | 547.51 | 14.90 | 37.735 | |
| 3,600.00 | 3,536.47 | 3,518.43 | 3,517.82 | 12.08 | 7.08 | -177.27 | -29.79 | 8.13 | 565.78 | 550.43 | 15.35 | 36.858 | |
| 3,700.00 | 3,636.47 | 3,619.50 | 3,618.84 | 12.22 | 7.34 | -177.40 | -33.10 | 9.26 | 569.00 | 553.20 | 15.80 | 36.015 | |
| 3,800.00 | 3,736.47 | 3,721.66 | 3,720.94 | 12.35 | 7.59 | -177.54 | -36.12 | 10.45 | 571.90 | 555.65 | 16.25 | 35.191 | |
| 3,900.00 | 3,836.47 | 3,823.63 | 3,822.88 | 12.49 | 7.85 | -177.64 | -38.74 | 11.43 | 574.43 | 557.73 | 16.70 | 34.387 | |
| 4,000.00 | 3,936.47 | 3,924.91 | 3,924.13 | 12.63 | 8.11 | -177.74 | -41.06 | 12.32 | 576.68 | 559.52 | 17.16 | 33.607 | |
| 4,100.00 | 4,036.47 | 4,024.91 | 4,024.10 | 12.77 | 8.36 | -177.84 | -43.15 | 13.19 | 578.74 | 561.13 | 17.61 | 32.860 | |
| 4,200.00 | 4,136.47 | 4,121.19 | 4,120.35 | 12.92 | 8.60 | -177.93 | -45.55 | 14.08 | 581.19 | 563.14 | 18.06 | 32.184 | |
| 4,300.00 | 4,236.47 | 4,218.17 | 4,217.28 | 13.07 | 8.85 | -178.04 | -48.57 | 15.05 | 584.27 | 565.77 | 18.51 | 31.569 | |
| 4,400.00 | 4,336.47 | 4,318.45 | 4,317.50 | 13.22 | 9.11 | -178.16 | -51.88 | 16.19 | 587.53 | 568.56 | 18.97 | 30.975 | |
| 4,500.00 | 4,436.47 | 4,418.67 | 4,417.65 | 13.37 | 9.36 | -178.30 | -55.13 | 17.48 | 590.73 | 571.31 | 19.43 | 30.405 | |
| 4,600.00 | 4,536.47 | 4,518.62 | 4,517.54 | 13.52 | 9.62 | -178.44 | -58.35 | 18.81 | 593.92 | 574.03 | 19.89 | 29.860 | |
| 4,700.00 | 4,636.47 | 4,618.69 | 4,617.54 | 13.68 | 9.88 | -178.57 | -61.58 | 20.16 | 597.10 | 576.75 | 20.35 | 29.339 | |
| 4,800.00 | 4,736.47 | 4,719.23 | 4,718.03 | 13.84 | 10.13 | -178.72 | -64.75 | 21.64 | 600.23 | 579.41 | 20.82 | 28.836 | |
| 4,900.00 | 4,836.47 | 4,819.56 | 4,818.30 | 14.00 | 10.39 | -178.89 | -67.82 | 23.31 | 603.25 | 581.97 | 21.28 | 28.350 | |
| 5,000.00 | 4,936.47 | 4,919.00 | 4,917.67 | 14.16 | 10.64 | -179.05 | -70.89 | 24.92 | 606.31 | 584.57 | 21.74 | 27.887 | |
| 5,100.00 | 5,036.47 | 5,018.46 | 5,017.07 | 14.32 | 10.90 | -179.19 | -74.04 | 26.38 | 609.45 | 587.25 | 22.21 | 27.446 | |
| 5,200.00 | 5,136.47 | 5,118.00 | 5,116.55 | 14.49 | 11.16 | -179.31 | -77.26 | 27.68 | 612.67 | 590.00 | 22.67 | 27.022 | |
| 5,300.00 | 5,236.47 | 5,217.63 | 5,216.12 | 14.66 | 11.42 | -179.42 | -80.54 | 28.81 | 615.95 | 592.81 | 23.14 | 26.617 | |
| 5,400.00 | 5,336.47 | 5,317.70 | 5,316.14 | 14.82 | 11.68 | -179.53 | -83.85 | 29.94 | 619.25 | 595.63 | 23.61 | 26.225 | |
| 5,500.00 | 5,436.47 | 5,417.84 | 5,416.21 | 14.99 | 11.94 | -179.64 | -87.13 | 31.13 | 622.52 | 598.43 | 24.08 | 25.848 | |
| 5,600.00 | 5,536.47 | 5,518.25 | 5,516.56 | 15.16 | 12.20 | -179.76 | -90.37 | 32.46 | 625.74 | 601.18 | 24.56 | 25.482 | |
| 5,700.00 | 5,636.47 | 5,618.49 | 5,616.74 | 15.34 | 12.46 | -179.90 | -93.53 | 33.95 | 628.88 | 603.85 | 25.03 | 25.127 | |
| 5,800.00 | 5,736.47 | 5,717.98 | 5,716.17 | 15.51 | 12.72 | 179.97 | -96.69 | 35.38 | 632.06 | 606.56 | 25.50 | 24.787 | |
| 5,900.00 | 5,836.47 | 5,817.13 | 5,815.26 | 15.69 | 12.98 | 179.85 | -99.91 | 36.66 | 635.31 | 609.34 | 25.97 | 24.463 | |
| 6,000.00 | 5,936.47 | 5,914.61 | 5,912.68 | 15.86 | 13.23 | 179.74 | -103.35 | 37.97 | 638.84 | 612.40 | 26.44 | 24.163 | |
| 6,100.00 | 6,036.47 | 6,012.61 | 6,010.58 | 16.04 | 13.49 | 179.60 | -107.17 | 39.49 | 642.75 | 615.85 | 26.91 | 23.887 | |
| 6,200.00 | 6,136.47 | 6,114.42 | 6,112.31 | 16.22 | 13.76 | 179.45 | -111.11 | 41.20 | 646.64 | 619.25 | 27.39 | 23.610 | |
| 6,300.00 | 6,236.47 | 6,216.17 | 6,213.97 | 16.40 | 14.02 | 179.29 | -114.75 | 43.03 | 650.23 | 622.36 | 27.87 | 23.333 | |
| 6,400.00 | 6,336.47 | 6,317.49 | 6,315.22 | 16.58 | 14.29 | 179.14 | -118.12 | 44.84 | 653.58 | 625.24 | 28.34 | 23.058 | |
| 6,500.00 | 6,436.47 | 6,418.13 | 6,415.80 | 16.76 | 14.55 | 178.99 | -121.27 | 46.57 | 656.74 | 627.92 | 28.82 | 22.787 | |
| 6,600.00 | 6,536.47 | 6,515.72 | 6,513.32 | 16.94 | 14.80 | 178.84 | -124.48 | 48.39 | 660.07 | 630.78 | 29.29 | 22.536 | |
| 6,700.00 | 6,636.47 | 6,613.42 | 6,610.92 | 17.13 | 15.05 | 178.67 | -128.04 | 50.45 | 663.75 | 633.99 | 29.76 | 22.305 | |
| 6,800.00 | 6,736.47 | 6,711.95 | 6,709.35 | 17.31 | 15.31 | 178.46 | -131.87 | 52.91 | 667.71 | 637.48 | 30.23 | 22.089 | |
| 6,900.00 | 6,836.47 | 6,810.53 | 6,807.81 | 17.50 | 15.56 | 178.22 | -135.90 | 55.86 | 671.88 | 641.18 | 30.70 | 21.887 | |
| 7,000.00 | 6,936.47 | 6,909.88 | 6,907.00 | 17.69 | 15.81 | 177.92 | -140.06 | 59.55 | 676.19 | 645.02 | 31.16 | 21.698 | |

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



RECEIVED: October 14, 2011

# Weatherford International Ltd.

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | ANADARKO PETROLEUM CORP. | **Local Co-ordinate Reference:** | Well BONANZA 1023-5B1CS |
| **Project:** | UINTAH COUNTY, UTAH (nad 27) | **TVD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Reference Site:** | Bonanza 1023-5B PAD | **MD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Site Error:** | 0.00ft | **North Reference:** | True |
| **Reference Well:** | BONANZA 1023-5B1CS | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.00ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | BONANZA 1023-5B1CS | **Database:** | EDM 2003.21 Single User Db |
| **Reference Design:** | PLAN #1 4-28-10 RHS | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Bonanza 1023-5B PAD - Bonanza 1023-5B EXISTING - Bonanza 1023-5B EXISTING - Bonanza 1023-5

**Offset Site Error:** 0.00 ft

**Offset Well Error:** 0.00 ft

**Survey Program:** 100-NS-GYRO-MS

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7,100.00 | 7,036.47 | 7,009.71 | 7,006.63 | 17.87 | 16.06 | 177.55 | -144.27 | 64.13 | 680.59 | 648.97 | 31.63 | 21.520 | |
| 7,200.00 | 7,136.47 | 7,115.12 | 7,111.93 | 18.06 | 16.28 | 177.37 | -148.38 | 66.36 | 684.58 | 652.52 | 32.07 | 21.350 | |
| 7,300.00 | 7,236.47 | 7,219.27 | 7,215.98 | 18.25 | 16.50 | 177.61 | -151.83 | 63.72 | 687.78 | 655.29 | 32.50 | 21.164 | |
| 7,400.00 | 7,336.47 | 7,318.12 | 7,314.77 | 18.44 | 16.70 | 177.73 | -154.92 | 62.42 | 690.84 | 657.93 | 32.92 | 20.987 | |
| 7,500.00 | 7,436.47 | 7,417.88 | 7,414.44 | 18.63 | 16.92 | 177.51 | -158.01 | 65.21 | 694.06 | 660.71 | 33.35 | 20.813 | |
| 7,600.00 | 7,536.47 | 7,522.32 | 7,518.77 | 18.82 | 17.16 | 177.19 | -160.81 | 69.14 | 696.91 | 663.10 | 33.81 | 20.611 | |
| 7,700.00 | 7,636.47 | 7,626.14 | 7,622.51 | 19.02 | 17.41 | 176.94 | -162.96 | 72.37 | 699.15 | 664.87 | 34.28 | 20.398 | |
| 7,800.00 | 7,736.47 | 7,727.96 | 7,724.27 | 19.21 | 17.64 | 176.69 | -164.70 | 75.46 | 701.01 | 666.29 | 34.73 | 20.187 | |
| 7,900.00 | 7,836.47 | 7,828.27 | 7,824.52 | 19.40 | 17.87 | 176.44 | -166.16 | 78.63 | 702.66 | 667.48 | 35.18 | 19.976 | |
| 8,000.00 | 7,936.47 | 7,924.93 | 7,921.12 | 19.60 | 18.10 | 176.22 | -167.85 | 81.49 | 704.60 | 668.98 | 35.62 | 19.780 | |
| 8,100.00 | 8,036.47 | 8,022.23 | 8,018.37 | 19.79 | 18.33 | 176.02 | -170.02 | 84.07 | 707.00 | 670.93 | 36.07 | 19.598 | |
| 8,200.00 | 8,136.47 | 8,121.77 | 8,117.84 | 19.99 | 18.58 | 175.83 | -172.43 | 86.57 | 709.60 | 673.05 | 36.54 | 19.418 | |
| 8,300.00 | 8,236.47 | 8,221.62 | 8,217.64 | 20.18 | 18.83 | 175.65 | -174.91 | 89.02 | 712.25 | 675.23 | 37.01 | 19.243 | |
| 8,400.00 | 8,336.47 | 8,322.67 | 8,318.62 | 20.38 | 19.08 | 175.46 | -177.31 | 91.59 | 714.82 | 677.33 | 37.49 | 19.069 | |
| 8,500.00 | 8,436.47 | 8,400.00 | 8,395.90 | 20.58 | 19.28 | 175.31 | -179.04 | 93.66 | 717.63 | 679.73 | 37.90 | 18.935 | |
| 8,527.53 | 8,464.00 | 8,400.00 | 8,395.90 | 20.63 | 19.28 | 175.31 | -179.04 | 93.66 | 719.71 | 681.75 | 37.96 | 18.960 | |



**RECEIVED: October 14, 2011**

Anadarko Petroleum Corporation

# Weatherford International Ltd.

## Anticollision Report

Weatherford

| | | | |
|---|---|---|---|
| **Company:** | ANADARKO PETROLEUM CORP. | **Local Co-ordinate Reference:** | Well BONANZA 1023-5B1CS |
| **Project:** | UINTAH COUNTY, UTAH (nad 27) | **TVD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Reference Site:** | Bonanza 1023-5B PAD | **MD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Site Error:** | 0.00ft | **North Reference:** | True |
| **Reference Well:** | BONANZA 1023-5B1CS | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.00ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | BONANZA 1023-5B1CS | **Database:** | EDM 2003.21 Single User Db |
| **Reference Design:** | PLAN #1 4-28-10 RHS | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Bonanza 1023-5B PAD - BONANZA 1023-5B4AS - BONANZA 1023-5B4AS - PLAN #1 4-28-10 RHS

**Offset Site Error:** 0.00 ft

**Offset Well Error:** 0.00 ft

**Survey Program:** 0-MWD

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis 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 | -154.05 | -17.85 | -8.69 | 19.85 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.11 | -154.05 | -17.85 | -8.69 | 19.85 | 19.64 | 0.21 | 94.954 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.34 | -154.05 | -17.85 | -8.69 | 19.85 | 19.19 | 0.66 | 30.139 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.56 | -154.05 | -17.85 | -8.69 | 19.85 | 18.74 | 1.11 | 17.912 | CC, ES |
| 400.00 | 399.95 | 400.62 | 400.57 | 0.78 | 0.78 | -165.96 | -17.08 | -6.15 | 20.69 | 19.13 | 1.56 | 13.265 | |
| 500.00 | 499.63 | 500.70 | 500.33 | 1.02 | 1.02 | 174.61 | -14.82 | 1.40 | 25.27 | 23.24 | 2.03 | 12.439 | SF |
| 600.00 | 598.77 | 599.71 | 598.48 | 1.28 | 1.29 | 156.44 | -11.09 | 13.79 | 36.67 | 34.11 | 2.56 | 14.322 | |
| 700.00 | 697.08 | 697.31 | 694.47 | 1.61 | 1.62 | 144.97 | -6.03 | 30.65 | 55.31 | 52.14 | 3.17 | 17.440 | |
| 807.85 | 801.88 | 801.82 | 796.94 | 2.06 | 2.02 | 140.27 | -0.12 | 50.31 | 81.46 | 77.57 | 3.89 | 20.927 | |
| 900.00 | 890.80 | 890.66 | 884.06 | 2.49 | 2.37 | 139.32 | 4.90 | 67.02 | 105.88 | 101.34 | 4.54 | 23.305 | |
| 1,000.00 | 987.28 | 987.07 | 978.59 | 2.99 | 2.77 | 138.68 | 10.35 | 85.15 | 132.40 | 127.12 | 5.28 | 25.090 | |
| 1,100.00 | 1,083.77 | 1,083.49 | 1,073.13 | 3.49 | 3.17 | 138.25 | 15.80 | 103.28 | 158.93 | 152.90 | 6.03 | 26.360 | |
| 1,200.00 | 1,180.25 | 1,179.90 | 1,167.66 | 4.00 | 3.57 | 137.95 | 21.25 | 121.41 | 185.46 | 178.67 | 6.79 | 27.300 | |
| 1,300.00 | 1,276.74 | 1,276.31 | 1,262.20 | 4.51 | 3.98 | 137.72 | 26.69 | 139.54 | 212.00 | 204.43 | 7.57 | 28.013 | |
| 1,400.00 | 1,373.22 | 1,372.72 | 1,356.73 | 5.03 | 4.39 | 137.55 | 32.14 | 157.68 | 238.54 | 230.19 | 8.35 | 28.577 | |
| 1,500.00 | 1,469.71 | 1,469.13 | 1,451.26 | 5.55 | 4.80 | 137.40 | 37.59 | 175.81 | 265.08 | 255.95 | 9.13 | 29.030 | |
| 1,600.00 | 1,566.20 | 1,565.54 | 1,545.80 | 6.08 | 5.21 | 137.29 | 43.04 | 193.94 | 291.62 | 281.71 | 9.92 | 29.400 | |
| 1,700.00 | 1,662.68 | 1,661.95 | 1,640.33 | 6.60 | 5.62 | 137.19 | 48.49 | 212.07 | 318.17 | 307.46 | 10.71 | 29.708 | |
| 1,800.00 | 1,759.17 | 1,758.37 | 1,734.87 | 7.13 | 6.04 | 137.11 | 53.94 | 230.20 | 344.71 | 333.21 | 11.50 | 29.969 | |
| 1,900.00 | 1,855.65 | 1,854.78 | 1,829.40 | 7.65 | 6.45 | 137.04 | 59.38 | 248.34 | 371.26 | 358.96 | 12.30 | 30.191 | |
| 2,000.00 | 1,952.14 | 1,951.19 | 1,923.93 | 8.18 | 6.87 | 136.98 | 64.83 | 266.47 | 397.80 | 384.71 | 13.09 | 30.382 | |
| 2,100.00 | 2,048.62 | 2,047.60 | 2,018.47 | 8.71 | 7.28 | 136.93 | 70.28 | 284.60 | 424.35 | 410.46 | 13.89 | 30.550 | |
| 2,154.93 | 2,101.63 | 2,100.56 | 2,070.40 | 9.00 | 7.51 | 136.90 | 73.27 | 294.56 | 438.93 | 424.61 | 14.33 | 30.633 | |
| 2,200.00 | 2,145.19 | 2,144.07 | 2,113.06 | 9.21 | 7.70 | 137.00 | 75.73 | 302.74 | 450.68 | 436.00 | 14.68 | 30.696 | |
| 2,300.00 | 2,242.39 | 2,242.20 | 2,209.30 | 9.60 | 8.10 | 137.02 | 81.26 | 321.12 | 475.15 | 459.74 | 15.41 | 30.830 | |
| 2,400.00 | 2,340.27 | 2,345.50 | 2,311.01 | 9.95 | 8.45 | 137.00 | 86.43 | 338.34 | 496.67 | 480.61 | 16.07 | 30.912 | |
| 2,500.00 | 2,438.72 | 2,449.83 | 2,414.27 | 10.28 | 8.74 | 137.06 | 90.72 | 352.61 | 514.86 | 498.22 | 16.64 | 30.934 | |
| 2,600.00 | 2,537.67 | 2,555.01 | 2,518.80 | 10.57 | 9.00 | 137.19 | 94.08 | 363.79 | 529.66 | 512.50 | 17.16 | 30.870 | |
| 2,700.00 | 2,637.00 | 2,660.84 | 2,624.29 | 10.82 | 9.22 | 137.37 | 96.48 | 371.79 | 541.05 | 523.44 | 17.61 | 30.731 | |
| 2,800.00 | 2,736.65 | 2,767.11 | 2,730.44 | 11.03 | 9.40 | 137.62 | 97.91 | 376.54 | 548.99 | 531.00 | 17.99 | 30.523 | |
| 2,900.00 | 2,836.50 | 2,873.18 | 2,836.50 | 11.21 | 9.55 | 137.92 | 98.34 | 377.99 | 553.49 | 535.19 | 18.30 | 30.245 | |
| 3,000.00 | 2,936.47 | 2,973.15 | 2,936.47 | 11.35 | 9.68 | 138.10 | 98.34 | 377.99 | 555.20 | 536.63 | 18.57 | 29.892 | |
| 3,025.53 | 2,962.00 | 2,998.68 | 2,962.00 | 11.38 | 9.72 | 141.86 | 98.34 | 377.99 | 555.28 | 536.64 | 18.64 | 29.789 | |
| 3,100.00 | 3,036.47 | 3,073.15 | 3,036.47 | 11.46 | 9.82 | 141.86 | 98.34 | 377.99 | 555.28 | 536.43 | 18.85 | 29.458 | |
| 3,200.00 | 3,136.47 | 3,173.15 | 3,136.47 | 11.58 | 9.96 | 141.86 | 98.34 | 377.99 | 555.28 | 536.13 | 19.14 | 29.008 | |
| 3,300.00 | 3,236.47 | 3,273.15 | 3,236.47 | 11.70 | 10.11 | 141.86 | 98.34 | 377.99 | 555.28 | 535.83 | 19.44 | 28.562 | |
| 3,400.00 | 3,336.47 | 3,373.15 | 3,336.47 | 11.82 | 10.26 | 141.86 | 98.34 | 377.99 | 555.28 | 535.53 | 19.75 | 28.122 | |
| 3,500.00 | 3,436.47 | 3,473.15 | 3,436.47 | 11.95 | 10.41 | 141.86 | 98.34 | 377.99 | 555.28 | 535.22 | 20.05 | 27.688 | |
| 3,600.00 | 3,536.47 | 3,573.15 | 3,536.47 | 12.08 | 10.57 | 141.86 | 98.34 | 377.99 | 555.28 | 534.91 | 20.37 | 27.260 | |
| 3,700.00 | 3,636.47 | 3,673.15 | 3,636.47 | 12.22 | 10.72 | 141.86 | 98.34 | 377.99 | 555.28 | 534.59 | 20.69 | 26.839 | |
| 3,800.00 | 3,736.47 | 3,773.15 | 3,736.47 | 12.35 | 10.88 | 141.86 | 98.34 | 377.99 | 555.28 | 534.26 | 21.01 | 26.424 | |
| 3,900.00 | 3,836.47 | 3,873.15 | 3,836.47 | 12.49 | 11.05 | 141.86 | 98.34 | 377.99 | 555.28 | 533.93 | 21.34 | 26.016 | |
| 4,000.00 | 3,936.47 | 3,973.15 | 3,936.47 | 12.63 | 11.21 | 141.86 | 98.34 | 377.99 | 555.28 | 533.60 | 21.68 | 25.616 | |
| 4,100.00 | 4,036.47 | 4,073.15 | 4,036.47 | 12.77 | 11.38 | 141.86 | 98.34 | 377.99 | 555.28 | 533.26 | 22.01 | 25.223 | |
| 4,200.00 | 4,136.47 | 4,173.15 | 4,136.47 | 12.92 | 11.54 | 141.86 | 98.34 | 377.99 | 555.28 | 532.92 | 22.36 | 24.838 | |
| 4,300.00 | 4,236.47 | 4,273.15 | 4,236.47 | 13.07 | 11.71 | 141.86 | 98.34 | 377.99 | 555.28 | 532.57 | 22.70 | 24.460 | |
| 4,400.00 | 4,336.47 | 4,373.15 | 4,336.47 | 13.22 | 11.89 | 141.86 | 98.34 | 377.99 | 555.28 | 532.23 | 23.05 | 24.090 | |
| 4,500.00 | 4,436.47 | 4,473.15 | 4,436.47 | 13.37 | 12.06 | 141.86 | 98.34 | 377.99 | 555.28 | 531.87 | 23.40 | 23.727 | |
| 4,600.00 | 4,536.47 | 4,573.15 | 4,536.47 | 13.52 | 12.23 | 141.86 | 98.34 | 377.99 | 555.28 | 531.52 | 23.76 | 23.372 | |
| 4,700.00 | 4,636.47 | 4,673.15 | 4,636.47 | 13.68 | 12.41 | 141.86 | 98.34 | 377.99 | 555.28 | 531.16 | 24.12 | 23.024 | |
| 4,800.00 | 4,736.47 | 4,773.15 | 4,736.47 | 13.84 | 12.59 | 141.86 | 98.34 | 377.99 | 555.28 | 530.80 | 24.48 | 22.684 | |
| 4,900.00 | 4,836.47 | 4,873.15 | 4,836.47 | 14.00 | 12.77 | 141.86 | 98.34 | 377.99 | 555.28 | 530.43 | 24.84 | 22.351 | |

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



RECEIVED: October 14, 2011

# Weatherford International Ltd.

Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | ANADARKO PETROLEUM CORP. | **Local Co-ordinate Reference:** | Well BONANZA 1023-5B1CS |
| **Project:** | UINTAH COUNTY, UTAH (nad 27) | **TVD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Reference Site:** | Bonanza 1023-5B PAD | **MD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Site Error:** | 0.00ft | **North Reference:** | True |
| **Reference Well:** | BONANZA 1023-5B1CS | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.00ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | BONANZA 1023-5B1CS | **Database:** | EDM 2003.21 Single User Db |
| **Reference Design:** | PLAN #1 4-28-10 RHS | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Bonanza 1023-5B PAD - BONANZA 1023-5B4AS - BONANZA 1023-5B4AS - PLAN #1 4-28-10 RHS

**Offset Site Error:** 0.00 ft

**Survey Program:** 0-MWD

**Offset Well Error:** 0.00 ft

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,000.00 | 4,936.47 | 4,973.15 | 4,936.47 | 14.16 | 12.95 | 141.86 | 98.34 | 377.99 | 555.28 | 530.07 | 25.21 | 22.026 | |
| 5,100.00 | 5,036.47 | 5,073.15 | 5,036.47 | 14.32 | 13.13 | 141.86 | 98.34 | 377.99 | 555.28 | 529.70 | 25.58 | 21.707 | |
| 5,200.00 | 5,136.47 | 5,173.15 | 5,136.47 | 14.49 | 13.32 | 141.86 | 98.34 | 377.99 | 555.28 | 529.32 | 25.95 | 21.395 | |
| 5,300.00 | 5,236.47 | 5,273.15 | 5,236.47 | 14.66 | 13.50 | 141.86 | 98.34 | 377.99 | 555.28 | 528.95 | 26.33 | 21.091 | |
| 5,400.00 | 5,336.47 | 5,373.15 | 5,336.47 | 14.82 | 13.69 | 141.86 | 98.34 | 377.99 | 555.28 | 528.57 | 26.71 | 20.793 | |
| 5,500.00 | 5,436.47 | 5,473.15 | 5,436.47 | 14.99 | 13.87 | 141.86 | 98.34 | 377.99 | 555.28 | 528.19 | 27.08 | 20.502 | |
| 5,600.00 | 5,536.47 | 5,573.15 | 5,536.47 | 15.16 | 14.06 | 141.86 | 98.34 | 377.99 | 555.28 | 527.81 | 27.47 | 20.217 | |
| 5,700.00 | 5,636.47 | 5,673.15 | 5,636.47 | 15.34 | 14.25 | 141.86 | 98.34 | 377.99 | 555.28 | 527.43 | 27.85 | 19.938 | |
| 5,800.00 | 5,736.47 | 5,773.15 | 5,736.47 | 15.51 | 14.44 | 141.86 | 98.34 | 377.99 | 555.28 | 527.04 | 28.24 | 19.666 | |
| 5,900.00 | 5,836.47 | 5,873.15 | 5,836.47 | 15.69 | 14.63 | 141.86 | 98.34 | 377.99 | 555.28 | 526.65 | 28.62 | 19.400 | |
| 6,000.00 | 5,936.47 | 5,973.15 | 5,936.47 | 15.86 | 14.83 | 141.86 | 98.34 | 377.99 | 555.28 | 526.26 | 29.01 | 19.140 | |
| 6,100.00 | 6,036.47 | 6,073.15 | 6,036.47 | 16.04 | 15.02 | 141.86 | 98.34 | 377.99 | 555.28 | 525.87 | 29.40 | 18.885 | |
| 6,200.00 | 6,136.47 | 6,173.15 | 6,136.47 | 16.22 | 15.21 | 141.86 | 98.34 | 377.99 | 555.28 | 525.48 | 29.80 | 18.636 | |
| 6,300.00 | 6,236.47 | 6,273.15 | 6,236.47 | 16.40 | 15.41 | 141.86 | 98.34 | 377.99 | 555.28 | 525.09 | 30.19 | 18.393 | |
| 6,400.00 | 6,336.47 | 6,373.15 | 6,336.47 | 16.58 | 15.61 | 141.86 | 98.34 | 377.99 | 555.28 | 524.69 | 30.58 | 18.155 | |
| 6,500.00 | 6,436.47 | 6,473.15 | 6,436.47 | 16.76 | 15.80 | 141.86 | 98.34 | 377.99 | 555.28 | 524.29 | 30.98 | 17.922 | |
| 6,600.00 | 6,536.47 | 6,573.15 | 6,536.47 | 16.94 | 16.00 | 141.86 | 98.34 | 377.99 | 555.28 | 523.90 | 31.38 | 17.695 | |
| 6,700.00 | 6,636.47 | 6,673.15 | 6,636.47 | 17.13 | 16.20 | 141.86 | 98.34 | 377.99 | 555.28 | 523.50 | 31.78 | 17.472 | |
| 6,800.00 | 6,736.47 | 6,773.15 | 6,736.47 | 17.31 | 16.40 | 141.86 | 98.34 | 377.99 | 555.28 | 523.09 | 32.18 | 17.254 | |
| 6,900.00 | 6,836.47 | 6,873.15 | 6,836.47 | 17.50 | 16.60 | 141.86 | 98.34 | 377.99 | 555.28 | 522.69 | 32.58 | 17.041 | |
| 7,000.00 | 6,936.47 | 6,973.15 | 6,936.47 | 17.69 | 16.80 | 141.86 | 98.34 | 377.99 | 555.28 | 522.29 | 32.99 | 16.833 | |
| 7,100.00 | 7,036.47 | 7,073.15 | 7,036.47 | 17.87 | 17.00 | 141.86 | 98.34 | 377.99 | 555.28 | 521.88 | 33.39 | 16.629 | |
| 7,200.00 | 7,136.47 | 7,173.15 | 7,136.47 | 18.06 | 17.20 | 141.86 | 98.34 | 377.99 | 555.28 | 521.48 | 33.80 | 16.429 | |
| 7,300.00 | 7,236.47 | 7,273.15 | 7,236.47 | 18.25 | 17.40 | 141.86 | 98.34 | 377.99 | 555.28 | 521.07 | 34.21 | 16.233 | |
| 7,400.00 | 7,336.47 | 7,373.15 | 7,336.47 | 18.44 | 17.60 | 141.86 | 98.34 | 377.99 | 555.28 | 520.66 | 34.61 | 16.042 | |
| 7,500.00 | 7,436.47 | 7,473.15 | 7,436.47 | 18.63 | 17.81 | 141.86 | 98.34 | 377.99 | 555.28 | 520.25 | 35.02 | 15.854 | |
| 7,600.00 | 7,536.47 | 7,573.15 | 7,536.47 | 18.82 | 18.01 | 141.86 | 98.34 | 377.99 | 555.28 | 519.84 | 35.43 | 15.671 | |
| 7,700.00 | 7,636.47 | 7,673.15 | 7,636.47 | 19.02 | 18.21 | 141.86 | 98.34 | 377.99 | 555.28 | 519.43 | 35.84 | 15.491 | |
| 7,800.00 | 7,736.47 | 7,773.15 | 7,736.47 | 19.21 | 18.42 | 141.86 | 98.34 | 377.99 | 555.28 | 519.02 | 36.26 | 15.315 | |
| 7,900.00 | 7,836.47 | 7,873.15 | 7,836.47 | 19.40 | 18.62 | 141.86 | 98.34 | 377.99 | 555.28 | 518.61 | 36.67 | 15.143 | |
| 8,000.00 | 7,936.47 | 7,973.15 | 7,936.47 | 19.60 | 18.83 | 141.86 | 98.34 | 377.99 | 555.28 | 518.19 | 37.08 | 14.974 | |
| 8,100.00 | 8,036.47 | 8,073.15 | 8,036.47 | 19.79 | 19.03 | 141.86 | 98.34 | 377.99 | 555.28 | 517.78 | 37.50 | 14.808 | |
| 8,200.00 | 8,136.47 | 8,173.15 | 8,136.47 | 19.99 | 19.24 | 141.86 | 98.34 | 377.99 | 555.28 | 517.36 | 37.91 | 14.646 | |
| 8,300.00 | 8,236.47 | 8,273.15 | 8,236.47 | 20.18 | 19.45 | 141.86 | 98.34 | 377.99 | 555.28 | 516.95 | 38.33 | 14.487 | |
| 8,400.00 | 8,336.47 | 8,373.15 | 8,336.47 | 20.38 | 19.65 | 141.86 | 98.34 | 377.99 | 555.28 | 516.53 | 38.75 | 14.331 | |
| 8,464.36 | 8,400.83 | 8,437.51 | 8,400.83 | 20.51 | 19.79 | 141.86 | 98.34 | 377.99 | 555.28 | 516.26 | 39.01 | 14.233 | |
| 8,500.00 | 8,436.47 | 8,466.68 | 8,430.00 | 20.58 | 19.85 | 141.86 | 98.34 | 377.99 | 555.31 | 516.16 | 39.15 | 14.184 | |
| 8,527.53 | 8,464.00 | 8,466.68 | 8,430.00 | 20.63 | 19.85 | 141.86 | 98.34 | 377.99 | 556.32 | 517.11 | 39.21 | 14.189 | |



**RECEIVED: October 14, 2011**

Anadarko Petroleum Corporation

# Weatherford International Ltd.

## Anticollision Report

Weatherford

| | | | |
|---|---|---|---|
| **Company:** | ANADARKO PETROLEUM CORP. | **Local Co-ordinate Reference:** | Well BONANZA 1023-5B1CS |
| **Project:** | UINTAH COUNTY, UTAH (nad 27) | **TVD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Reference Site:** | Bonanza 1023-5B PAD | **MD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Site Error:** | 0.00ft | **North Reference:** | True |
| **Reference Well:** | BONANZA 1023-5B1CS | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.00ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | BONANZA 1023-5B1CS | **Database:** | EDM 2003.21 Single User Db |
| **Reference Design:** | PLAN #1 4-28-10 RHS | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Bonanza 1023-5B PAD - BONANZA 1023-5C1DS - BONANZA 1023-5C1DS - PLAN #1 4-28-10 RHS

**Offset Site Error:** 0.00 ft

**Offset Well Error:** 0.00 ft

**Survey Program:** 0-MWD

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis 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 | -153.79 | -9.11 | -4.48 | 10.15 | | | | |
| 100.00 | 100.00 | 100.00 | 100.00 | 0.10 | 0.10 | -153.79 | -9.11 | -4.48 | 10.15 | 9.96 | 0.19 | 52.506 | |
| 200.00 | 200.00 | 200.00 | 200.00 | 0.32 | 0.32 | -153.79 | -9.11 | -4.48 | 10.15 | 9.51 | 0.64 | 15.789 | |
| 300.00 | 300.00 | 300.00 | 300.00 | 0.55 | 0.55 | -153.79 | -9.11 | -4.48 | 10.15 | 9.06 | 1.09 | 9.291 | CC, ES |
| 400.00 | 399.95 | 400.00 | 399.98 | 0.78 | 0.77 | -154.12 | -8.14 | -5.94 | 12.37 | 10.82 | 1.55 | 7.993 | SF |
| 500.00 | 499.63 | 499.76 | 499.58 | 1.02 | 1.00 | -148.01 | -5.13 | -10.46 | 19.15 | 17.13 | 2.02 | 9.500 | |
| 600.00 | 598.77 | 598.91 | 598.18 | 1.28 | 1.25 | -141.30 | 0.58 | -19.06 | 30.79 | 28.26 | 2.53 | 12.185 | |
| 700.00 | 697.08 | 697.05 | 695.12 | 1.61 | 1.55 | -136.18 | 9.03 | -31.76 | 47.51 | 44.39 | 3.12 | 15.242 | |
| 807.85 | 801.88 | 801.36 | 797.15 | 2.06 | 1.94 | -132.29 | 21.00 | -49.79 | 71.21 | 67.34 | 3.87 | 18.387 | |
| 900.00 | 890.80 | 889.21 | 882.06 | 2.49 | 2.35 | -129.37 | 33.47 | -68.55 | 94.63 | 90.01 | 4.62 | 20.475 | |
| 1,000.00 | 987.28 | 983.20 | 971.64 | 2.99 | 2.88 | -125.46 | 49.19 | -92.19 | 121.93 | 116.41 | 5.53 | 22.055 | |
| 1,100.00 | 1,083.77 | 1,077.50 | 1,060.36 | 3.49 | 3.47 | -121.65 | 66.89 | -118.82 | 151.24 | 144.73 | 6.50 | 23.249 | |
| 1,200.00 | 1,180.25 | 1,172.65 | 1,149.76 | 4.00 | 4.11 | -118.96 | 84.90 | -145.92 | 181.11 | 173.61 | 7.50 | 24.147 | |
| 1,300.00 | 1,276.74 | 1,267.79 | 1,239.17 | 4.51 | 4.75 | -117.03 | 102.91 | -173.02 | 211.25 | 202.74 | 8.50 | 24.847 | |
| 1,400.00 | 1,373.22 | 1,362.93 | 1,328.57 | 5.03 | 5.41 | -115.58 | 120.92 | -200.12 | 241.55 | 232.03 | 9.52 | 25.385 | |
| 1,500.00 | 1,469.71 | 1,458.07 | 1,417.98 | 5.55 | 6.07 | -114.45 | 138.93 | -227.22 | 271.96 | 261.43 | 10.53 | 25.828 | |
| 1,600.00 | 1,566.20 | 1,553.22 | 1,507.39 | 6.08 | 6.73 | -113.55 | 156.94 | -254.31 | 302.44 | 290.89 | 11.55 | 26.192 | |
| 1,700.00 | 1,662.68 | 1,648.36 | 1,596.79 | 6.60 | 7.40 | -112.82 | 174.96 | -281.41 | 332.98 | 320.42 | 12.57 | 26.495 | |
| 1,800.00 | 1,759.17 | 1,743.50 | 1,686.20 | 7.13 | 8.07 | -112.20 | 192.97 | -308.51 | 363.57 | 349.98 | 13.59 | 26.752 | |
| 1,900.00 | 1,855.65 | 1,838.65 | 1,775.61 | 7.65 | 8.74 | -111.69 | 210.98 | -335.61 | 394.18 | 379.57 | 14.61 | 26.972 | |
| 2,000.00 | 1,952.14 | 1,933.79 | 1,865.01 | 8.18 | 9.42 | -111.25 | 228.99 | -362.71 | 424.82 | 409.18 | 15.64 | 27.162 | |
| 2,100.00 | 2,048.62 | 2,028.93 | 1,954.42 | 8.71 | 10.09 | -110.86 | 247.00 | -389.81 | 455.48 | 438.81 | 16.67 | 27.329 | |
| 2,154.93 | 2,101.63 | 2,081.20 | 2,003.53 | 9.00 | 10.46 | -110.67 | 256.89 | -404.69 | 472.33 | 455.10 | 17.23 | 27.412 | |
| 2,200.00 | 2,145.19 | 2,124.10 | 2,043.85 | 9.21 | 10.77 | -110.73 | 265.01 | -416.91 | 486.05 | 468.36 | 17.69 | 27.481 | |
| 2,300.00 | 2,242.39 | 2,219.44 | 2,133.44 | 9.60 | 11.45 | -110.63 | 283.06 | -444.06 | 515.78 | 497.16 | 18.62 | 27.703 | |
| 2,400.00 | 2,340.27 | 2,314.90 | 2,223.14 | 9.95 | 12.12 | -110.27 | 301.13 | -471.25 | 544.56 | 525.05 | 19.51 | 27.914 | |
| 2,500.00 | 2,438.72 | 2,410.40 | 2,312.88 | 10.28 | 12.80 | -109.68 | 319.21 | -498.45 | 572.47 | 552.12 | 20.35 | 28.131 | |
| 2,600.00 | 2,537.67 | 2,505.84 | 2,402.57 | 10.57 | 13.48 | -108.90 | 337.28 | -525.64 | 599.62 | 578.48 | 21.14 | 28.369 | |
| 2,700.00 | 2,637.00 | 2,601.14 | 2,492.12 | 10.82 | 14.16 | -107.95 | 355.32 | -552.78 | 626.12 | 604.26 | 21.86 | 28.640 | |
| 2,800.00 | 2,736.65 | 2,712.62 | 2,597.50 | 11.03 | 14.84 | -106.69 | 375.44 | -583.05 | 651.01 | 628.49 | 22.52 | 28.907 | |
| 2,900.00 | 2,836.50 | 2,827.69 | 2,707.68 | 11.21 | 15.40 | -105.46 | 393.82 | -610.70 | 672.77 | 649.73 | 23.05 | 29.191 | |
| 3,000.00 | 2,936.47 | 2,944.85 | 2,821.12 | 11.35 | 15.91 | -104.23 | 409.99 | -635.04 | 691.30 | 667.82 | 23.48 | 29.439 | |
| 3,025.53 | 2,962.00 | 2,975.07 | 2,850.57 | 11.38 | 16.03 | -100.18 | 413.75 | -640.69 | 695.50 | 671.92 | 23.58 | 29.496 | |
| 3,100.00 | 3,036.47 | 3,063.97 | 2,937.59 | 11.46 | 16.36 | -99.15 | 423.80 | -655.81 | 706.69 | 682.86 | 23.82 | 29.666 | |
| 3,200.00 | 3,136.47 | 3,185.01 | 3,056.90 | 11.58 | 16.74 | -98.04 | 435.07 | -672.76 | 719.23 | 695.09 | 24.14 | 29.799 | |
| 3,300.00 | 3,236.47 | 3,307.60 | 3,178.50 | 11.70 | 17.05 | -97.23 | 443.63 | -685.64 | 728.75 | 704.32 | 24.44 | 29.824 | |
| 3,400.00 | 3,336.47 | 3,431.30 | 3,301.76 | 11.82 | 17.29 | -96.70 | 449.34 | -694.23 | 735.10 | 710.38 | 24.72 | 29.739 | |
| 3,500.00 | 3,436.47 | 3,555.67 | 3,426.02 | 11.95 | 17.45 | -96.45 | 452.10 | -698.40 | 738.17 | 713.18 | 24.99 | 29.536 | |
| 3,600.00 | 3,536.47 | 3,666.12 | 3,536.47 | 12.08 | 17.56 | -96.43 | 452.37 | -698.80 | 738.47 | 713.22 | 25.25 | 29.245 | |
| 3,700.00 | 3,636.47 | 3,766.12 | 3,636.47 | 12.22 | 17.65 | -96.43 | 452.37 | -698.80 | 738.47 | 712.97 | 25.50 | 28.957 | |
| 3,800.00 | 3,736.47 | 3,866.12 | 3,736.47 | 12.35 | 17.74 | -96.43 | 452.37 | -698.80 | 738.47 | 712.71 | 25.76 | 28.668 | |
| 3,900.00 | 3,836.47 | 3,966.12 | 3,836.47 | 12.49 | 17.84 | -96.43 | 452.37 | -698.80 | 738.47 | 712.45 | 26.02 | 28.379 | |
| 4,000.00 | 3,936.47 | 4,066.12 | 3,936.47 | 12.63 | 17.94 | -96.43 | 452.37 | -698.80 | 738.47 | 712.18 | 26.29 | 28.090 | |
| 4,100.00 | 4,036.47 | 4,166.12 | 4,036.47 | 12.77 | 18.05 | -96.43 | 452.37 | -698.80 | 738.47 | 711.91 | 26.56 | 27.801 | |
| 4,200.00 | 4,136.47 | 4,266.12 | 4,136.47 | 12.92 | 18.15 | -96.43 | 452.37 | -698.80 | 738.47 | 711.63 | 26.84 | 27.514 | |
| 4,300.00 | 4,236.47 | 4,366.12 | 4,236.47 | 13.07 | 18.26 | -96.43 | 452.37 | -698.80 | 738.47 | 711.35 | 27.12 | 27.228 | |
| 4,400.00 | 4,336.47 | 4,466.12 | 4,336.47 | 13.22 | 18.37 | -96.43 | 452.37 | -698.80 | 738.47 | 711.06 | 27.41 | 26.943 | |
| 4,500.00 | 4,436.47 | 4,566.12 | 4,436.47 | 13.37 | 18.48 | -96.43 | 452.37 | -698.80 | 738.47 | 710.77 | 27.70 | 26.661 | |
| 4,600.00 | 4,536.47 | 4,666.12 | 4,536.47 | 13.52 | 18.59 | -96.43 | 452.37 | -698.80 | 738.47 | 710.48 | 27.99 | 26.380 | |
| 4,700.00 | 4,636.47 | 4,766.12 | 4,636.47 | 13.68 | 18.71 | -96.43 | 452.37 | -698.80 | 738.47 | 710.18 | 28.29 | 26.101 | |
| 4,800.00 | 4,736.47 | 4,866.12 | 4,736.47 | 13.84 | 18.83 | -96.43 | 452.37 | -698.80 | 738.47 | 709.88 | 28.60 | 25.824 | |
| 4,900.00 | 4,836.47 | 4,966.12 | 4,836.47 | 14.00 | 18.95 | -96.43 | 452.37 | -698.80 | 738.47 | 709.57 | 28.90 | 25.550 | |

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



RECEIVED: October 14, 2011

Anadarko Petroleum Corporation

# Weatherford International Ltd.

## Anticollision Report

Weatherford

| | | | |
|---|---|---|---|
| **Company:** | ANADARKO PETROLEUM CORP. | **Local Co-ordinate Reference:** | Well BONANZA 1023-5B1CS |
| **Project:** | UINTAH COUNTY, UTAH (nad 27) | **TVD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Reference Site:** | Bonanza 1023-5B PAD | **MD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Site Error:** | 0.00ft | **North Reference:** | True |
| **Reference Well:** | BONANZA 1023-5B1CS | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.00ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | BONANZA 1023-5B1CS | **Database:** | EDM 2003.21 Single User Db |
| **Reference Design:** | PLAN #1 4-28-10 RHS | **Offset TVD Reference:** | Offset Datum |

**Offset Design** Bonanza 1023-5B PAD - BONANZA 1023-5C1DS - BONANZA 1023-5C1DS - PLAN #1 4-28-10 RHS

**Offset Site Error:** 0.00 ft

**Offset Well Error:** 0.00 ft

**Survey Program:** 0-MWD

| Reference Measured Depth (ft) | Reference Vertical Depth (ft) | Offset Measured Depth (ft) | Offset Vertical Depth (ft) | Semi Major Axis Reference (ft) | Semi Major Axis 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,000.00 | 4,936.47 | 5,066.12 | 4,936.47 | 14.16 | 19.07 | -96.43 | 452.37 | -698.80 | 738.47 | 709.26 | 29.21 | 25.279 | |
| 5,100.00 | 5,036.47 | 5,166.12 | 5,036.47 | 14.32 | 19.19 | -96.43 | 452.37 | -698.80 | 738.47 | 708.94 | 29.53 | 25.010 | |
| 5,200.00 | 5,136.47 | 5,266.12 | 5,136.47 | 14.49 | 19.32 | -96.43 | 452.37 | -698.80 | 738.47 | 708.63 | 29.84 | 24.744 | |
| 5,300.00 | 5,236.47 | 5,366.12 | 5,236.47 | 14.66 | 19.45 | -96.43 | 452.37 | -698.80 | 738.47 | 708.31 | 30.17 | 24.481 | |
| 5,400.00 | 5,336.47 | 5,466.12 | 5,336.47 | 14.82 | 19.57 | -96.43 | 452.37 | -698.80 | 738.47 | 707.98 | 30.49 | 24.221 | |
| 5,500.00 | 5,436.47 | 5,566.12 | 5,436.47 | 14.99 | 19.70 | -96.43 | 452.37 | -698.80 | 738.47 | 707.65 | 30.82 | 23.964 | |
| 5,600.00 | 5,536.47 | 5,666.12 | 5,536.47 | 15.16 | 19.84 | -96.43 | 452.37 | -698.80 | 738.47 | 707.32 | 31.15 | 23.710 | |
| 5,700.00 | 5,636.47 | 5,766.12 | 5,636.47 | 15.34 | 19.97 | -96.43 | 452.37 | -698.80 | 738.47 | 706.99 | 31.48 | 23.459 | |
| 5,800.00 | 5,736.47 | 5,866.12 | 5,736.47 | 15.51 | 20.11 | -96.43 | 452.37 | -698.80 | 738.47 | 706.66 | 31.82 | 23.211 | |
| 5,900.00 | 5,836.47 | 5,966.12 | 5,836.47 | 15.69 | 20.24 | -96.43 | 452.37 | -698.80 | 738.47 | 706.32 | 32.15 | 22.967 | |
| 6,000.00 | 5,936.47 | 6,066.12 | 5,936.47 | 15.86 | 20.38 | -96.43 | 452.37 | -698.80 | 738.47 | 705.98 | 32.50 | 22.725 | |
| 6,100.00 | 6,036.47 | 6,166.12 | 6,036.47 | 16.04 | 20.52 | -96.43 | 452.37 | -698.80 | 738.47 | 705.63 | 32.84 | 22.487 | |
| 6,200.00 | 6,136.47 | 6,266.12 | 6,136.47 | 16.22 | 20.66 | -96.43 | 452.37 | -698.80 | 738.47 | 705.28 | 33.19 | 22.252 | |
| 6,300.00 | 6,236.47 | 6,366.12 | 6,236.47 | 16.40 | 20.81 | -96.43 | 452.37 | -698.80 | 738.47 | 704.94 | 33.54 | 22.021 | |
| 6,400.00 | 6,336.47 | 6,466.12 | 6,336.47 | 16.58 | 20.95 | -96.43 | 452.37 | -698.80 | 738.47 | 704.58 | 33.89 | 21.793 | |
| 6,500.00 | 6,436.47 | 6,566.12 | 6,436.47 | 16.76 | 21.10 | -96.43 | 452.37 | -698.80 | 738.47 | 704.23 | 34.24 | 21.567 | |
| 6,600.00 | 6,536.47 | 6,666.12 | 6,536.47 | 16.94 | 21.24 | -96.43 | 452.37 | -698.80 | 738.47 | 703.87 | 34.60 | 21.346 | |
| 6,700.00 | 6,636.47 | 6,766.12 | 6,636.47 | 17.13 | 21.39 | -96.43 | 452.37 | -698.80 | 738.47 | 703.52 | 34.95 | 21.127 | |
| 6,800.00 | 6,736.47 | 6,866.12 | 6,736.47 | 17.31 | 21.54 | -96.43 | 452.37 | -698.80 | 738.47 | 703.16 | 35.31 | 20.912 | |
| 6,900.00 | 6,836.47 | 6,966.12 | 6,836.47 | 17.50 | 21.69 | -96.43 | 452.37 | -698.80 | 738.47 | 702.79 | 35.68 | 20.699 | |
| 7,000.00 | 6,936.47 | 7,066.12 | 6,936.47 | 17.69 | 21.85 | -96.43 | 452.37 | -698.80 | 738.47 | 702.43 | 36.04 | 20.490 | |
| 7,100.00 | 7,036.47 | 7,166.12 | 7,036.47 | 17.87 | 22.00 | -96.43 | 452.37 | -698.80 | 738.47 | 702.06 | 36.41 | 20.284 | |
| 7,200.00 | 7,136.47 | 7,266.12 | 7,136.47 | 18.06 | 22.16 | -96.43 | 452.37 | -698.80 | 738.47 | 701.70 | 36.77 | 20.081 | |
| 7,300.00 | 7,236.47 | 7,366.12 | 7,236.47 | 18.25 | 22.31 | -96.43 | 452.37 | -698.80 | 738.47 | 701.33 | 37.14 | 19.882 | |
| 7,400.00 | 7,336.47 | 7,466.12 | 7,336.47 | 18.44 | 22.47 | -96.43 | 452.37 | -698.80 | 738.47 | 700.96 | 37.51 | 19.685 | |
| 7,500.00 | 7,436.47 | 7,566.12 | 7,436.47 | 18.63 | 22.63 | -96.43 | 452.37 | -698.80 | 738.47 | 700.58 | 37.89 | 19.491 | |
| 7,600.00 | 7,536.47 | 7,666.12 | 7,536.47 | 18.82 | 22.79 | -96.43 | 452.37 | -698.80 | 738.47 | 700.21 | 38.26 | 19.300 | |
| 7,700.00 | 7,636.47 | 7,766.12 | 7,636.47 | 19.02 | 22.95 | -96.43 | 452.37 | -698.80 | 738.47 | 699.83 | 38.64 | 19.112 | |
| 7,800.00 | 7,736.47 | 7,866.12 | 7,736.47 | 19.21 | 23.11 | -96.43 | 452.37 | -698.80 | 738.47 | 699.45 | 39.02 | 18.927 | |
| 7,900.00 | 7,836.47 | 7,966.12 | 7,836.47 | 19.40 | 23.27 | -96.43 | 452.37 | -698.80 | 738.47 | 699.08 | 39.40 | 18.745 | |
| 8,000.00 | 7,936.47 | 8,066.12 | 7,936.47 | 19.60 | 23.44 | -96.43 | 452.37 | -698.80 | 738.47 | 698.69 | 39.78 | 18.566 | |
| 8,100.00 | 8,036.47 | 8,166.12 | 8,036.47 | 19.79 | 23.60 | -96.43 | 452.37 | -698.80 | 738.47 | 698.31 | 40.16 | 18.389 | |
| 8,200.00 | 8,136.47 | 8,266.12 | 8,136.47 | 19.99 | 23.77 | -96.43 | 452.37 | -698.80 | 738.47 | 697.93 | 40.54 | 18.215 | |
| 8,300.00 | 8,236.47 | 8,366.12 | 8,236.47 | 20.18 | 23.93 | -96.43 | 452.37 | -698.80 | 738.47 | 697.54 | 40.93 | 18.044 | |
| 8,400.00 | 8,336.47 | 8,466.12 | 8,336.47 | 20.38 | 24.10 | -96.43 | 452.37 | -698.80 | 738.47 | 697.16 | 41.31 | 17.875 | |
| 8,500.00 | 8,436.47 | 8,566.12 | 8,436.47 | 20.58 | 24.27 | -96.43 | 452.37 | -698.80 | 738.47 | 696.77 | 41.70 | 17.709 | |
| 8,527.53 | 8,464.00 | 8,593.65 | 8,464.00 | 20.63 | 24.32 | -96.43 | 452.37 | -698.80 | 738.47 | 696.66 | 41.81 | 17.664 | |



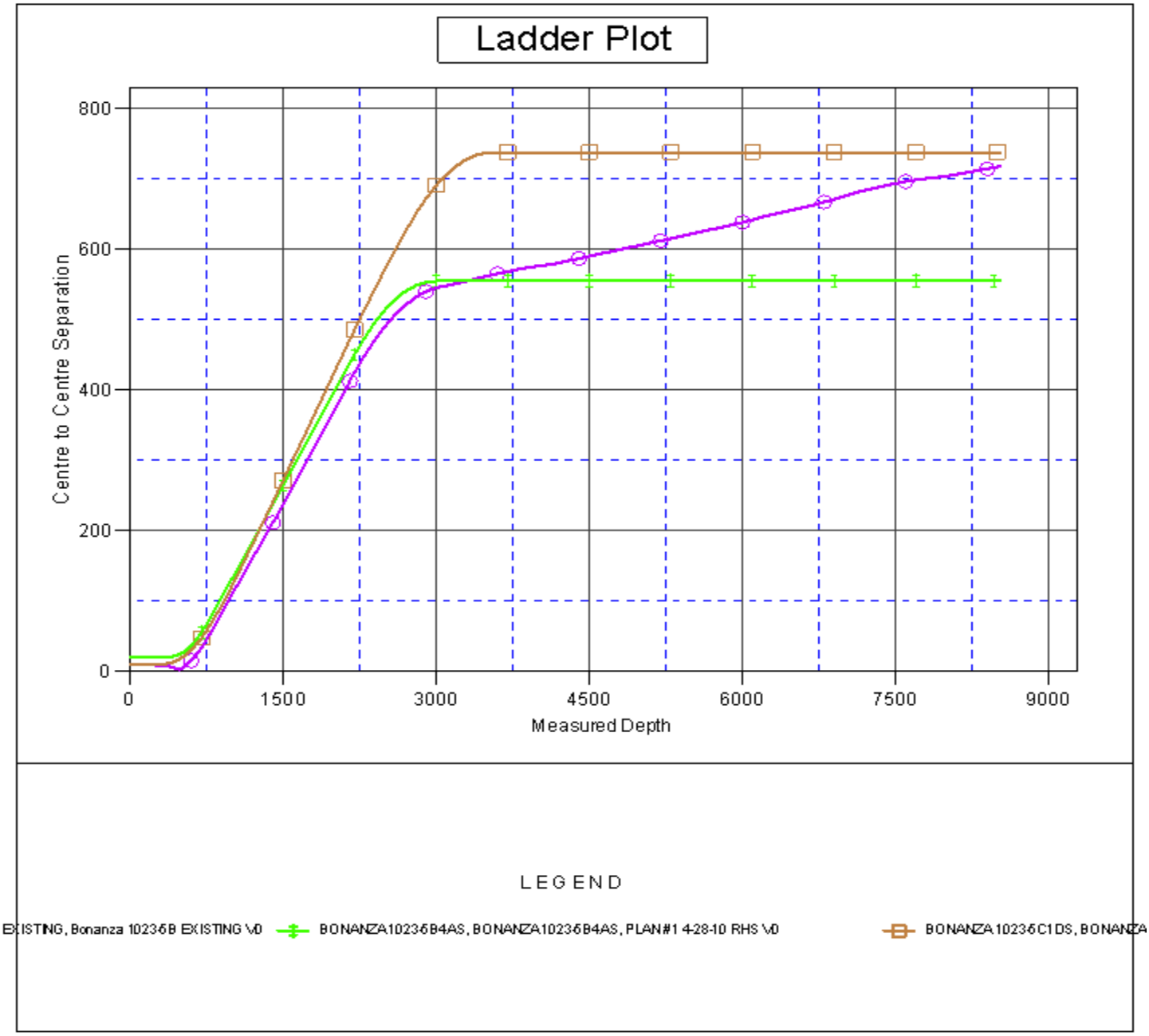
**RECEIVED: October 14, 2011**

# Weatherford International Ltd.

Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | ANADARKO PETROLEUM CORP. | **Local Co-ordinate Reference:** | Well BONANZA 1023-5B1CS |
| **Project:** | UINTAH COUNTY, UTAH (nad 27) | **TVD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Reference Site:** | Bonanza 1023-5B PAD | **MD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Site Error:** | 0.00ft | **North Reference:** | True |
| **Reference Well:** | BONANZA 1023-5B1CS | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.00ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | BONANZA 1023-5B1CS | **Database:** | EDM 2003.21 Single User Db |
| **Reference Design:** | PLAN #1 4-28-10 RHS | **Offset TVD Reference:** | Offset Datum |

Reference Depths are relative to WELL @ 5238.00ft (Original Well Ele\Coordinates are relative to: BONANZA 1023-5B1CS
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: 1.06°





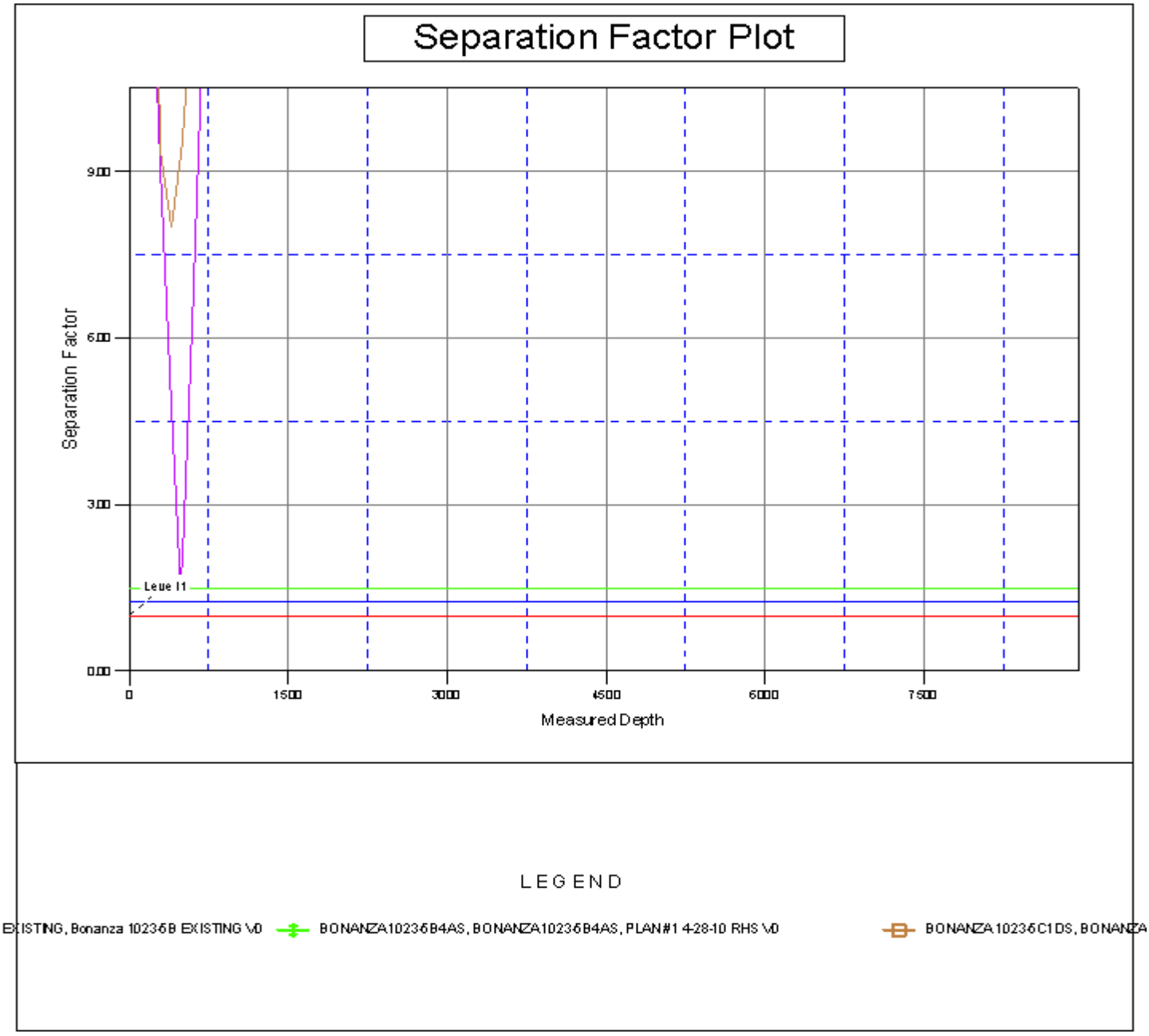

RECEIVED: October 14, 2011

# Weatherford International Ltd.

Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | ANADARKO PETROLEUM CORP. | **Local Co-ordinate Reference:** | Well BONANZA 1023-5B1CS |
| **Project:** | UINTAH COUNTY, UTAH (nad 27) | **TVD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Reference Site:** | Bonanza 1023-5B PAD | **MD Reference:** | WELL @ 5238.00ft (Original Well Elev) |
| **Site Error:** | 0.00ft | **North Reference:** | True |
| **Reference Well:** | BONANZA 1023-5B1CS | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 0.00ft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | BONANZA 1023-5B1CS | **Database:** | EDM 2003.21 Single User Db |
| **Reference Design:** | PLAN #1 4-28-10 RHS | **Offset TVD Reference:** | Offset Datum |

Reference Depths are relative to WELL @ 5238.00ft (Original Well Ele\Coordinates are relative to: BONANZA 1023-5B1CS
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: 1.06°






RECEIVED: October 14, 2011

# Kerr-McGee Oil & Gas Onshore. L.P.

## Bonanza 1023-5B Pad

| | | | | |
|---|---|---|---|---|
| **API #** | | **BONANZA 1023-5B1CS** | | |
| | Surface: | 1058 FNL / 1948 FEL | NWNE | Lot 2 |
| | BHL: | 523 FNL / 1914 FEL | NWNE | Lot 2 |
| **API #** | | **BONANZA 1023-5B4AS** | | |
| | Surface: | 1076 FNL / 1957 FEL | NWNE | Lot 2 |
| | BHL: | 960 FNL / 1570 FEL | NWNE | Lot 2 |
| **API #** | | **BONANZA 1023-5C1DS** | | |
| | Surface: | 1067 FNL / 1952 FEL | NWNE | Lot 2 |
| | BHL: | 605 FNL / 2627 FWL | NENW | Lot 3 |

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

An on-site meeting was held on May 19, 2010. Present were:

- David Gordon, NRS; Kevin Sadiler, NRS; Ryan Angus, PET Engineer; Steve Strong, Reclamation; Dan Emmett, Wildlife Biologist - BLM;
- John Slaugh, Mitch Batty, Brian Venn, Jacob Dunham, Jake Edmunds, B.J. Reenders - 609 & Timberline Engineering & Land Surveying, Inc.
- Danielle Piernot and Kathy Schneebeck Dulnoan, Regulatory; Brad Burman, Completions; Clay Einerson, Construction; Grizz Oleen, Environmental; Charles Chase, Reclamation; Lovell Young, Drilling, Roger Parry and Ramey Hoopes, Construction

**A. Existing Roads:**

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with Onshore Order #1, Kerr-McGee will, in accordance with BMPs, improve or maintain existing roads in a condition that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B.

The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing will be performed where excessive rutting or erosion may occur. Dust control will be performed as necessary to ensure safe operating conditions.

Roads, gathering lines and electrical distribution lines will occupy common disturbance corridors where possible. Where available, roadways will be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor will overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Please refer to Topo B, for existing roads.



RECEIVED: October 14, 2011

**All access roads leading to the pad are exsisting and on lease; therefore do not require a ROW.**

(0.2 miles) – Section 5 T10S R23E (NW/4 NE/4) – On-lease UTU33433, from existing pad traveling southwest onto existing road to the county road intersection.

**B. New or Reconstructed Access Roads:**

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BLM. BMPs. Described in the BLM's Surface Operating Standards for Oil and Gas Exploration and Development, 4th Edition (Gold Book) (USDI and USDA, 2007) and/or BLM Manual Section 9113 (1985) will be considered in consultation with the BLM in the design, construction, improvement and maintenance of all new or reconstructed roads. If a new road would cross a water of the United States, Kerr-McGee will adhere to the requirements of applicable Nationwide Permits of the Department of Army Corps of Engineers.

Each new well pad or pad expansion may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts, bridges, low water crossings, range infrastructure, and haul routes, as per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met. As applicable, Kerr-McGee may use unimproved and/or two-track roads for lease operations, to lessen total disturbance.

Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities, such as V- or wing-ditches, will be constructed to divert surface water runoff. Drainage features, including culverts, will be constructed or installed prior to commencing other operations, including drilling or facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s), as necessary.

Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activity will not be conducted using frozen or saturated materials or during periods when significant watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating conditions. All vehicular traffic, personnel movement, construction/restoration operations will be confined to the

Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.



RECEIVED: October 14, 2011

**There are no new or reconstructed access roads for the proposed well pad.**

** Please refer to Topo B

**C. Location of Existing Wells:**

A) Refer to Topo Map C.

**D. Location of Existing and/or Proposed Facilities:**

This pad will expand the existing pad for the Bonanza 1023-5B, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on May 20, 2011. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad. A berm will be constructed completely around production components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will generally be constructed of compacted subsoil or corrugated metal, and will hold the capacity of the largest tank and have sufficient freeboard to accomodate a 25 year rainfall event. This includes pumping units. Aboveground structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with the BLM (typically Shadow Gray). A production facility layout is provided as part of a project-specific APD, ROW or NOS submission.

**GAS GATHERING**

*Please refer to Exhibit B and Topo D- Pad and Pipeline Detail.*

The gas gathering pipeline material: Steel line pipe. Surface = Bare pipe. Buried = Coated with fusion bonded epoxy coating (or equivalent). The total gas gathering pipeline distance from the meter to the tie in point is ±3,880' and the individual segments are broken up as follows:

**The following segments are "onlease", no ROW needed.**

±750' (0.13 miles) – Section 5 T10S R23E (NW/4 NE/4) – On-lease UTU33433, BLM surface, New 6" buried gas gathering pipeline from the meter house to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

±920' (0.17 miles) – Section 5 T10S R23E (NW/4 NE/4) – On-lease UTU33433, BLM surface, New 6" buried gas gathering pipeline from the edge of the pad to the proposed 10" tie-in at the main road intersection. Please refer to Topo D and Exhibit A, Line 6.

±2,210' (0.42 miles) – Section 5 T10S R23E (SW/4 NE/4) – On-lease UTU33433, BLM surface, New 10" buried gas gathering pipeline from the main road intersection traveling Southeast to the existing buried 16" gas pipeline. Please refer to Exhibit A, Line 7. This pipeline will be used concurrently with the Bonanza 1023-5C, Bonanza 1023-5D, Bonanza 1023-5K and Bonanza 1023-5H pads.

**LIQUID GATHERING**

The total liquid gathering pipeline distance from the separator to the tie in point is ±3,570' and the individual segments are broken up as follows:

±750' (0.14 miles) – Section 5 T10S R23E (NW/4 NE/4) – On-lease UTU33433, BLM surface, New 6" buried liquid gathering pipeline from the separator to the edge of the pad. Please refer to Topo D2- Pad and Pipeline Detail.



RECEIVED: October 14, 2011

±920' (0.17 miles) – Section 5 T10S R23E (NW/4 NE/4) – On-lease UTU33433, BLM surface, New 6" buried liquid gathering pipeline from the edge of the pad to the main road intersection. Please refer Topo D and Exhibit B, Line 2.

±1,830' (0.35 miles) – Section 5 T10S R23E (SW/4 NE/4) – On-lease UTU33433, BLM surface, New 6" buried liquid gathering pipeline from the main road intersection traveling Southeast to the tie-in point. Please refer Exhibit B, Line 7. This pipeline will be used concurrently with the Bonanza 1023-5C, Bonanza 1023-5D and Bonanza 1023-5K pads.

±70' (0.01 miles) – Section 5 T10S R23E (NE/4 SE/4) – On-lease UTU33433, BLM surface, New 6" buried liquid gathering pipeline from the tie-in point to the compressor site. Please refer to Exhibit B, Line 8. This pipeline will be used concurrently with the Bonanza 1023-5C, Bonanza 1023-5D, Bonanza 1023-5H and Bonanza 1023-5K pads.

**Pipeline Gathering Construction**

Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee. Gas gathering pipeline(s,) gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. The area of disturbance during construction from the edge of road or well pad will typically be 30' in width. Where pipelines run cross country, the width of disturbance will typically be 45 ft for buried lines and 30 ft for surface lines. In addition, Kerr-McGee requests for a permanent 30' distrubance width that will be maintained for the portion adjacent to the road. The need for the 30' permanent distrubance width is for maintenance and repairs. Cross country permanent distrubance width also are required to be 30ft.

Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. In some surface pipeline installation instances pipe cannot be constructed where it will lay. In these cases where an above-ground pipeline is constructed parallel and adjacent to a road, it will be welded/fused on the road and then lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment.

Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2 inches (typically fuel gas lines) to 24 inches (typically transportation lines) in diameter, but 6 to 16 inches is typical for a buried gas line. The diameter of liquids pipelines may vary from 2 inches to 12 inches, but 6 inches is the typical diameter. Gas lift lines may vary from 2 to 12 inches in diameter, but 6-inch diameter pipes are generally used for gas lift. If two or more pipelines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

Typically, to install a buried pipeline, topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6 feet, but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18-48 inches.

The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radiographically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route's intersection with an access road.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections



RECEIVED: October 14, 2011

for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, Kerr-McGee will apply all applicable Army Corps mandates as well as the BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface.
Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves and lateral T's will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation.
When no longer deemed necessary by the operator, Kerr-McGee or it's successor will consult with the BLM, Vernal Field Office before terminating of the use of the pipeline(s).

**The Anadarko Completions Transportation System (ACTS) information:**

Please refer to Exhibit C for ACTs Lines

Kerr-McGee will use either a closed loop drilling system that will require one pit and one storage area to be constructed on the drilling pad or a traditional drilling operation with one pit. The storage area will be used to contain only the de-watered drill cuttings and will be lined and reclaimed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit is lined and will be used for the wells drilled on the pad or used as part of our Anadarko Completions Transportation (ACTS) system which is disussed in more detail below. Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completion pit.

If Kerr-McGee does not use a closed loop system, it will construct a drilling reserve pit to contain drill cuttings and for use in completion operations. Depending on the location of the pit, its relation to future drilling locations, the reserve/completion pit will be utilized for the completion of the wells on that pad and/or be used as part of our ACTS system.

Kerr-McGee will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of frac fluids by utilizing existing reserve pits and temporary, surface-laid aluminum liquids transfer lines between frac locations. The pit will be refurbished as follows when a traditional drill pit is used: mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom of pit with cat. Kerr-McGee will reline the pit with a 30 mil liner and double felt padding. The refurbished pit will be the same size or smaller as specified in the originally approved ROW/APD. The pit refurb will be done in a normal procedure and there will be no modification to the pit.

All four sides of the completions pit will be fenced in according to standard pit fencing procedures. Netting will be installed over all pits.

The collected hydrocarbons will be treated and sold at approved sales facilities. A loading rack with drip containment will also be installed where water trucks would unload and load to prevent damage caused from pulling hoses in and out of the pit .

ACTS will require temporarily laying multiple 6" aluminum water transfer lines on the surface between either existing or refurbished reserve pits. Please see the attached ACTS exhibit C for placement of the proposed temporary lines. The temporary aluminum transfer lines will be utilized to transport frac fluid being injected and/or recovered during the



RECEIVED: October 14, 2011

completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon completion of the frac operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. Kerr-McGee requests to keep the netted pit open for one year from first production of the first produced well on the pad. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other frac jobs in the area. After one year Kerr-McGee will backfill the pit and reclaim. If the pit is not needed for an entire year it will be backfilled and reclaimed earlier. Kerr-McGee understands that due to the temporary nature of this system, BLM considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BLM.

**E. Location and Types of Water Supply:**

Water for drilling and completion operations will be obtained from the following sources:

| | | |
|---|---|---|
| Permit # 49-2307 | JD Field Services | Green River- Section 15, T2N, R22E |
| Permit # 49-2321 | R.N. Industries | White River- Section 2, T10S, R24E |
| Permit # 49-2319 | R.N. Industries | White River- Various Sources |
| Permit # 49-2320 | R.N. Industries | Green River- Section 33, T8S, R23E |

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

**F. Construction Materials:**

Construction operations will typically be completed with native materials found on location. Construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source (described in site-specific documents). No construction materials will be removed from federal lands without prior approval from the BLM. A source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BLM.

**G. Methods for Handling Waste:**

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. Kerr-McGee also maintains a Spill Control and Countermeasure Plan, which includes notification requirements, including the BLM, for all reportable spills of oil, produced liquids, and hazardous materials.

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of CERCLA, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, Kerr-McGee will comply with the notification requirements of NTL-3A. Drill cuttings and/or drilling fluids will be contained in the reserve/frac pit whether a closed loop system is used or not. Cuttings will be buried in pit(s) upon closure. Unless specifically approved by the BLM, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface precipitation runoff into the pit (via appropriate placement of subsoil storage areas and/or construction of berms, ditches, etc). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/ sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by the BLM. Should timely removal not



RECEIVED: October 14, 2011

be feasible, the pit will be netted as soon as practical. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with an impermeable liner. The liner will be a synthetic material 30 mil or thicker. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions (freeboard, etc.) allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per Onshore Order Number 7 (OSO 7). Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Otherwise, fluids disposal locations and associated haul routes, for ROW consideration, are typically depicted on Topo A of individual projects. Revisions to the water source or method of transportation will be subject to written approval from the BLM.

Any additional pits necessary for subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after one year from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as 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. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements. Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

**Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term “hazardous materials” as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in



RECEIVED: October 14, 2011

40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. Kerr-McGee maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time. Chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-344 will not be used.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities (crude oil/condensate, produced water). They may also be kept in limited quantities on drilling sites (barite, diesel fuel, cement, cottonseed hulls etc.) for short periods of time during drilling or completion activities.

Fluids disposal and pipeline/haul routes are depicted on Topo Map A.

Any produced water separated from recoverable condensate from the proposed well will be contained in a water tank and will then be transported by pipeline and/or 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

Or to one of the following Kerr-McGee active Salt Water Disposal (SWD) wells:

NBU 159 SWD in Sec. 35 T9S R21E
CIGE 112D SWD in Sec. 19 T9S R21E
CIGE 114 SWD in Sec. 34 T9S R21E
NBU 921-34K SWD in Sec. 34 T9S R21E
NBU 921-33F SWD in Sec. 34 T9S R21E

**H. Ancillary Facilities:**

No additional ancillary facilities are planned for this location.

**I. Well Site Layout:**

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit (for closed loop or non-closed loop operations), access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure, proposed cuts and fills, and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment depending on whether a closed loop system is used. Surface



RECEIVED: October 14, 2011

distance may be less if using closed loop. But in either case, the area of distrubance will not exceed the maximum disturbance outlined in the attached exhibits.

For the protection of livestock and wildlife, all open pits and cellars will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as 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.

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production/ Produced Liquid tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BLM.

**J. Plans for Surface Reclamation:**

The surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. Interim reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

**Interim Reclamation**

Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification will be provided to the BLM for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left “rough” after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Disposal of pit fluids and linings is discussed in Section G.

**Final Reclamation**

Final reclamation will be performed for unproductive wells and after the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by Kerr-McGee. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. The BLM will be notified prior to commencement of



RECEIVED: October 14, 2011

reclamation operations. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring the site to the approximate contour that existed prior to pad construction, final grading will be conducted over the entire surface of the well site and access road. The area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers, where practical. The surface soil material will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep, where practical. The entire area will be uniformly covered with the depressions constructed perpendicular to the natural flow of water.

Reclamation of roads will be performed at the discretion of the BLM. All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with the seeding specifications of the BLM.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to the BLM.

**Measures Common to Interim and Final Reclamation**

Soil preparation will be conducted using a disk for areas in need of more soil preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

Seeding will occur year-round as conditions allow and will typically be accomplished through the use of a no-till rangeland style seed drill with a “picker box” in order to seed “fluffy” seed. Where drill seeding is not the preferred method, seed will be broadcast and then raked into the ground at double the rate of drill seeding. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The seed mixes will be selected from a list provided by or approved by the BLM, or a specific seed mix will be proposed by Kerr-McGee to the BLM and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be maintained by Kerr-McGee. Every effort will be made to obtain “cheat grass free seed”.

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

| **Bonanza Area Mix** | **Pure Live Seed lbs/acre** |
|---|---|
| Crested Wheat (Hycrest) | 2 |
| Bottlebrush Squirreltail | 1 |
| Western Wheatgrass | 1 |
| Indian Ricegrass | 1 |
| Fourwing Saltbush | 2 |
| Shadscale | 2 |
| Forage Kochia | 0.25 |
| Rocky Mountain Bee | 0.5 |
| **Total** | 9.75 |

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will



RECEIVED: October 14, 2011

include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage. Soil amendments such as "Sustain" (an organic fertilizer that will be applied at the rate 1,800 – 2,100 lbs/acre with seed) may also be dry broadcast or applied with hydro-seeding equipment.

**Weed Control**

All weed management will be done in accordance with the Vernal BLM Surface Disturbance Weed Policy. Noxious weeds will be controlled, as applicable, on project areas. Monitoring and management of noxious and/or invasive weeds of concern will be completed annually until the project is deemed successfully reclaimed by the surface management agency and/or owner according to the Anadarko Integrated Weed Management Plan. Noxious weed infestations will be mapped using a GPS unit and submitted to the BLM with information required in the Vernal BLM Surface Disturbance Weed Policy. If herbicide is to be applied it will be done according to an approved Pesticide Use Permit (PUP), inclusive of applicable locations. All pesticide applications will be recorded using a Pesticide Application Record (PAR) and will be submitted along with a Pesticide Use Report (PUR) annually prior to Dec. 31.

**Monitoring**

Monitoring of reclaimed project areas will be completed annually during the growing season and actions to ensure reclamation success will be taken as needed. During the first two growing seasons an ocular methodology will be used to determine the success of the reclamation activities. During the 3rd growing season a 200 point line intercept (quantitative) methodology will be used to obtain basal cover. The goal is to have the reclaimed area reach 30% basal cover when compared to the reference site. If after three growing seasons the area has not reached 30% basal cover, additional reclamation activities may be necessary. Monitoring will continue until the reclaimed area reaches 75% basal cover of desirable vegetation when compared to the reference site. (Green River District Reclamation Guidelines)

All monitoring reports will be submitted electronically to the Vernal BLM in the form of a geo-database no later than March 1st of the calendar year following the data collection.

**K. Surface/Mineral Ownership:**

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

**L. Other Information:**

**Onsite Specifics:**

- Construction: 30 Mil Double Felt.
- Facilities: Will be painted Shadow Grey. Will need separate condensate tanks due to BHL for the Bonanza 1023-5C1DS crosses CA boundary.
- Top Soil: Move top soil pile near corner 2 to proposed pile between corners 2 and 3. Need 4' of topsoil.

**Cultural and Paleontological Resources**

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and Kerr-McGee will provide immediate notification to the BLM.



RECEIVED: October 14, 2011

**Resource Reports:**

A Class I literature survey was completed on April 23, 2010 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 10-056.

A paleontological reconnaissance survey was completed on May 13, 2010 by SWCA Environmental Consultants. For additional details please refer to report UT10-14314-09.

Biological field survey was completed on April 22, 2010 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-200.

**Proposed Action Annual Emissions Tables:**

**Table 1: Proposed Action Annual Emissions (tons/year)[1]**

| Pollutant | Development | Production | Total |
|---|---|---|---|
| NOx | 3.8 | 0.12 | 3.92 |
| CO | 2.2 | 0.11 | 2.31 |
| VOC | 0.1 | 4.9 | 5 |
| $SO_2$ | 0.005 | 0.0043 | 0.0093 |
| $PM_{10}$ | 1.7 | 0.11 | 1.81 |
| $PM_{2.5}$ | 0.4 | 0.025 | 0.425 |
| Benzene | 2.2E-03 | 0.044 | 0.046 |
| Toluene | 1.6E-03 | 0.103 | 0.105 |
| Ethylbenzene | 3.4E-04 | 0.005 | 0.005 |
| Xylene | 1.1E-03 | 0.076 | 0.077 |
| n-Hexane | 1.7E-04 | 0.145 | 0.145 |
| Formaldehyde | 1.3E-02 | 8.64E-05 | 1.31E-02 |

[1] Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

**Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison**

| Species | Proposed Action Production Emissions (ton/yr) | 2012 Uintah Basin Emission Inventory[a] (ton/yr) | Percentage of Proposed Action to WRAP Phase III |
|---|---|---|---|
| NOx | 11.76 | 16,547 | 0.07% |
| VOC | 15 | 127,495 | 0.01% |

[a] http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html Uintah Basin Data



RECEIVED: October 14, 2011

**M. Lessee's or Operators' Representative & Certification:**

Gina T. Becker
Regulatory Analyst II
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6086

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.

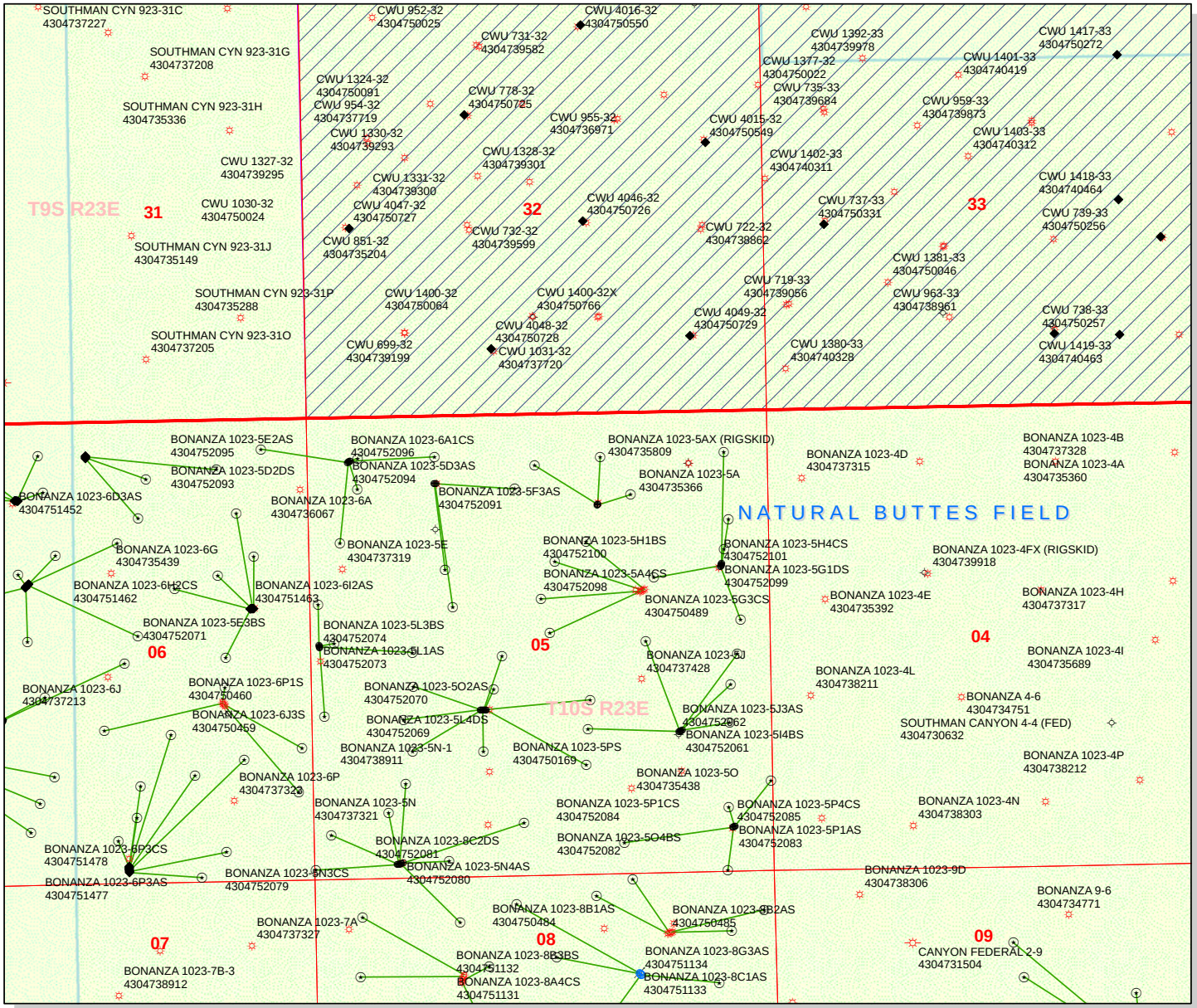
Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

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.

Gina T.Becker

October 13, 2011
Date

API Well Number: 43047520860000




**API Number: 4304752086**

**Well Name: BONANZA 1023-5B1CS**

**Township T1.0 . Range R2.3 . Section 05**

**Meridian: SLBM**

Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:
Map Produced by Diana Mason

**Units**
**STATUS**
- ACTIVE
- EXPLORATORY
- GAS STORAGE
- NF PP OIL
- NF SECONDARY
- PI OIL
- PP GAS
- PP GEOTHERML
- PP OIL
- SECONDARY
- TERMINATED

**Fields**
**STATUS**
- Unknown
- ABANDONED
- ACTIVE
- COMBINED
- INACTIVE
- STORAGE
- TERMINATED

**Wells Query**
**Status**
- APD - Aproved Permit
- DRL - Spuded (Drilling Commenced)
- GIW - Gas Injection
- GS - Gas Storage
- LA - Location Abandoned
- LOC - New Location
- OPS - Operation Suspended
- PA - Plugged Abandoned
- PGW - Producing Gas Well
- POW - Producing Oil Well
- RET - Returned APD
- SGW - Shut-in Gas Well
- SOW - Shut-in Oil Well
- TA - Temp. Abandoned
- TW - Test Well
- WDW - Water Disposal
- WIW - Water Injection Well
- WSW - Water Supply Well

1,500 750 0 1,500 Feet

1:14,184

**RECEIVED: October 26, 2011**

# WORKSHEET
# APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 10/14/2011 **API NO. ASSIGNED:** 43047520860000
**WELL NAME:** BONANZA 1023-5B1CS
**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) **PHONE NUMBER:** 720 929-6086
**CONTACT:** Gina Becker

**PROPOSED LOCATION:** NWNE 05 100S 230E **Permit Tech Review:** ✔

**SURFACE:** 1058 FNL 1948 FEL **Engineering Review:** ✔

**BOTTOM:** 0523 FNL 1914 FEL **Geology Review:** ✔

**COUNTY:** UINTAH
**LATITUDE:** 39.98238 **LONGITUDE:** -109.34828
**UTM SURF EASTINGS:** 641030.00 **NORTHINGS:** 4427108.00
**FIELD NAME:** NATURAL BUTTES
**LEASE TYPE:** 1 - Federal
**LEASE NUMBER:** UTU33433 **PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE
**SURFACE OWNER:** 1 - Federal **COALBED METHANE:** NO

**RECEIVED AND/OR REVIEWED:**

- ✔ **PLAT**
- ✔ **Bond:** FEDERAL - WYB000291
- ☐ **Potash**
- ☐ **Oil Shale 190-5**
- ☐ **Oil Shale 190-3**
- ☐ **Oil Shale 190-13**
- ✔ **Water Permit:** 43-8496
- ☐ **RDCC Review:**
- ☐ **Fee Surface Agreement**
- ✔ **Intent to Commingle**

**Commingling Approved**

**LOCATION AND SITING:**

- ☐ **R649-2-3.**

**Unit:**

- ☐ **R649-3-2. General**
- ☐ **R649-3-3. Exception**
- ✔ **Drilling Unit**

**Board Cause No:** Cause 179-14
**Effective Date:** 6/12/2008
**Siting:** 460' Fr Ext Drl Unit Boundary

- ✔ **R649-3-11. Directional Drill**

**Comments:** Presite Completed

**Stipulations:**
3 - Commingling - ddoucet
4 - Federal Approval - dmason
15 - Directional - dmason

**RECEIVED: October 26, 2011**

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:** BONANZA 1023-5B1CS
**API Well Number:** 43047520860000
**Lease Number:** UTU33433
**Surface Owner:** FEDERAL
**Approval Date:** 10/26/2011

**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 179-14. 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. 179-14, 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.

**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 http://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:**

For John Rogers
Associate Director, Oil & Gas

Form 3160-3
(August 2007)

RECEIVED
JUL 2 2 2011
BLM

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

# APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
UTU33433

6. If Indian, Allottee or Tribe Name

1a. Type of Work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone

8. Lease Name and Well No.
BONANZA 1023-5B1CS

2. Name of Operator
KERR-MCGEE OIL & GAS ONSHORE
Contact: GINA T BECKER
Email: GINA.BECKER@ANADARKO.COM

9. API Well No.
43-047-52086

3a. Address
P.O. BOX 173779
DENVER, CO 80202-3779

3b. Phone No. (include area code)
Ph: 720-929-6086
Fx: 720-929-7086

10. Field and Pool, or Exploratory
BONANZA

4. Location of Well (*Report location clearly and in accordance with any State requirements.**)

At surface NWNE Lot 2 1058FNL 1948FEL 39.982340 N Lat, 109.348261 W Lon

At proposed prod. zone NWNE Lot 2 523FNL 1914FEL 39.983809 N Lat, 109.348136 W Lon

11. Sec., T., R., M., or Blk. and Survey or Area
Sec 5 T10S R23E Mer SLB

14. Distance in miles and direction from nearest town or post office*
APPROXIMATELY 48 MILES SOUTHEAST OF VERNAL, UTAH

12. County or Parish
UINTAH

13. State
UT

15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
523

16. No. of Acres in Lease
1923.00

17. Spacing Unit dedicated to this well

18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.
523

19. Proposed Depth
8528 MD
8464 TVD

20. BLM/BIA Bond No. on file
WYB000291

21. Elevations (Show whether DF, KB, RT, GL, etc.
5225 GL

22. Approximate date work will start
12/31/2011

23. Estimated duration
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:

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

25. Signature
(Electronic Submission)

Name (Printed/Typed)
GINA T BECKER Ph: 720-929-6086

Date
07/05/2011

Title
REGULATORY ANALYST II

Approved by (Signature)

Name (Printed/Typed) Jerry Kenczka

Date JAN 3 0 2012

Title Assistant Field Manager
Lands & Mineral Resources

Office 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.

CONDITIONS OF APPROVAL 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 #112206 verified by the BLM Well Information System**
**For KERR-MCGEE OIL & GAS ONSHORE, sent to the Vernal**

NOTICE OF APPROVAL

UDOGM

RECEIVED
FEB 0 3 2012
DIV. OF OIL, GAS & MINING

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

10RRH0207AE NOS 04/13/2010

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 2, Sec. 5, T10S, R23E** |
| **Well No:** | **Bonanza 1023-5B1CS** | **Lease No:** | **UTU-33433** |
| **API No:** | **43-047-52086** | **Agreement:** | |

# 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

| | | |
|---|---|---|
| Location Construction<br>(Notify Environmental Scientist) | - | Forty-Eight (48) hours prior to construction of location and access roads. |
| Location Completion<br>(Notify Environmental Scientist) | - | Prior to moving on the drilling rig. |
| Spud Notice<br>(Notify Petroleum Engineer) | - | Twenty-Four (24) hours prior to spudding the well. |
| Casing String & Cementing<br>(Notify Supv. Petroleum Tech.) | - | Twenty-Four (24) hours prior to running casing and cementing all casing strings to:<br>blm_ut_vn_opreport@blm.gov |
| BOP & Related Equipment Tests<br>(Notify Supv. Petroleum Tech.) | - | Twenty-Four (24) hours prior to initiating pressure tests. |
| First Production Notice<br>(Notify 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)*

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horse power must not emit more than 2 grams of NOx per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower-hour.

- All new and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gram of NOx per horsepower-hour.

- Construction or drilling is not allowed for the Bonanza 1023-5M and Bonanza 1023-5P pads from January 1 – August 31 to minimize impacts during golden eagle nesting.

- If it is anticipated that construction or drilling will occur during the given timing restriction, a BLM or qualified biologist shall be notified to conduct surveys for raptors. Depending upon the results of the surveys, permission to proceed may or may not be granted by the Authorized Officer.

- All reclamation will comply with the Green River Reclamation Guidelines

- All vehicles and equipment shall be cleaned either through power-washing, or other approved method, if the vehicles or equipment were previously operated outside the Uinta Basin, to prevent weed seed introduction.

- All disturbance areas shall be monitored for noxious weeds annually, for a minimum of three growing seasons following completion of project or until desirable vegetation is established

- Noxious and invasive weeds will be controlled throughout the area of project disturbance.

- Noxious weeds will be inventoried and reported to BLM in the annual reclamation report. Where an integrated pest management program is applicable, coordination has been undertaken with the state and local management program (if existing). A copy of the pest management plan will be submitted for each project.

- A pesticide use permit (PUP) will be obtained for the project, if applicable.

- A permitted paleontologist is to be present to monitor construction at well pads 1023-5C, 5D, 5K, 5L, 5M and 5P during all surface disturbing actives: examples include the following building of the well pad, access road, and pipelines.

- The best method to avoid entrainment is to pump from an off-channel location – one that does not connect to the river during high spring flows. An infiltration gallery constructed in a BLM and Service approved location is best.

- If the pump head is located in the river channel where larval fish are known to occur, the following measures apply:
    a. do not situate the pump in a low-flow or no-flow area as these habitats tend to concentrate larval fishes;
    b. limit the amount of pumping, to the greatest extent possible, during that period of the year when larval fish may be present (April 1 to August 31); and

c. limit the amount of pumping, to the greatest extent possible, during the pre-dawn hours as larval drift studies indicate that this is a period of greatest daily activity.

- Screen all pump intakes with 3/32" mesh material.

- Approach velocities for intake structures will follow the National Marine Fisheries Service's document "Fish Screening Criteria for Anadromous Salmonids". For projects with an in-stream intake that operate in stream reaches where larval fish may be present, the approach velocity will not exceed 0.33 feet per second (ft/s).

- Report any fish impinged on the intake screen to the Service (801.975.3330) and the Utah Division of Wildlife Resources:
  Northeastern Region
  152 East 100 North, Vernal, UT 84078
  Phone: (435) 781-9453

- Discovery Stipulation: Reinitiation of section 7 consultation with the USFWS will be sought immediately if any loss of plants or occupied habitat for Pariette cactus or Uinta Basin hookless cactus is anticipated as a result of project activities.

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

**SITE SPECIFIC DOWNHOLE COAs:**

- Gamma ray Log shall be run from Total Depth to Surface.
- Cement for the production casing must be brought 200' above the surface casing shoe.
- CBL will be run from TD to TOC.

**Variances Granted: Air Drilling**

- Properly lubricated and maintained rotating head. Variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the well bore. Variance granted for blooie line discharge to be 45' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for truck/trailer mounted air compressors located 40'from the well bore.
- In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for the kill medium and will utilize a skid pump near the reserve pit to supply the water to the well bore if necessary.
- Automatic igniter. Variance granted for igniter due to there being no productive formations encountered while air drilling.

**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 BLM_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.

- 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.

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

FORM 9

**5.LEASE DESIGNATION AND SERIAL NUMBER:** UTU33433

## SUNDRY NOTICES AND REPORTS ON WELLS

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.

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** PONDEROSA

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** BONANZA 1023-5B1CS

**2. NAME OF OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:** 43047520860000

**3. ADDRESS OF OPERATOR:** P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

**PHONE NUMBER:** 720 929-6515 EXT

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 1058 FNL 1948 FEL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: NWNE Section: 05 Township: 10.0S Range: 23.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

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

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ✓ NOTICE OF INTENT<br>Approximate date work will start: 10/26/2012 | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ☐ SUBSEQUENT REPORT<br>Date of Work Completion: | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| ☐ SPUD REPORT<br>Date of Spud: | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| ☐ DRILLING REPORT<br>Report Date: | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ✓ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**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:** October 22, 2012

**By:**

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Danielle Piernot | 720 929-6156 | Regulatory Analyst |

| SIGNATURE | DATE |
|---|---|
| N/A | 10/19/2012 |

RECEIVED: Oct. 19, 2012

## 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 43047520860000

**API:** 43047520860000
**Well Name:** BONANZA 1023-5B1CS
**Location:** 1058 FNL 1948 FEL QTR NWNE SEC 05 TWNP 100S RNG 230E MER S
**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.
**Date Original Permit Issued:** 10/26/2011

**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:** Danielle Piernot **Date:** 10/19/2012
**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

RECEIVED: Oct. 19, 2012

FORM 9

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

**5.LEASE DESIGNATION AND SERIAL NUMBER:** UTU33433

## SUNDRY NOTICES AND REPORTS ON WELLS

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.

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** PONDEROSA

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** BONANZA 1023-5B1CS

**2. NAME OF OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:** 43047520860000

**3. ADDRESS OF OPERATOR:** P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

**PHONE NUMBER:** 720 929-6515 EXT

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 1058 FNL 1948 FEL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: NWNE Section: 05 Township: 10.0S Range: 23.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

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

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ✓ NOTICE OF INTENT<br>Approximate date work will start: 10/26/2011 | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ☐ SUBSEQUENT REPORT<br>Date of Work Completion: | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| ☐ SPUD REPORT<br>Date of Spud: | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| ☐ DRILLING REPORT<br>Report Date: | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ✓ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**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:** October 02, 2013

**By:**

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Teena Paulo | 720 929-6236 | Staff Regulatory Specialist |
| **SIGNATURE** N/A | | **DATE** 9/30/2013 |

RECEIVED: Sep. 30, 2013

## 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 43047520860000

**API:** 43047520860000
**Well Name:** BONANZA 1023-5B1CS
**Location:** 1058 FNL 1948 FEL QTR NWNE SEC 05 TWNP 100S RNG 230E MER S
**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.
**Date Original Permit Issued:** 10/26/2011

**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:** Teena Paulo **Date:** 9/30/2013
**Title:** Staff Regulatory Specialist **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

RECEIVED: Sep. 30, 2013

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
NOV 14 2013
BLM

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

## SUNDRY NOTICES AND REPORTS ON WELLS

***Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***

***SUBMIT IN TRIPLICATE - Other instructions on reverse side.***

5. Lease Serial No.
UTU33433

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
UTU88209A

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
BONANZA 1023-5B1CS

2. Name of Operator
KERR MCGEE OIL & GAS ONSHORE L
Contact: KAY E KELLY
E-Mail: kay.kelly@anadarko.com

9. API Well No.
43-047-52086-00-X1

3a. Address
1368 SOUTH 1200 EAST
VERNAL, UT 84078

3b. Phone No. (include area code)
Ph: 720-929-6582

10. Field and Pool, or Exploratory
BONANZA
NATURAL BUTTES

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 5 T10S R23E Lot 2 1058FNL 1948FEL
39.982340 N Lat, 109.348261 W Lon

11. County or Parish, and State
UINTAH COUNTY, UT

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION | TYPE OF ACTION | | | |
|---|---|---|---|---|
| ☒ Notice of Intent | ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| ☐ Subsequent Report | ☐ Alter Casing | ☐ Fracture Treat | ☐ Reclamation | ☐ Well Integrity |
| ☐ Final Abandonment Notice | ☐ Casing Repair | ☐ New Construction | ☐ Recomplete | ☒ Other Change to Original A PD |
| | ☐ Change Plans | ☐ Plug and Abandon | ☐ Temporarily Abandon | |
| | ☐ Convert to Injection | ☐ Plug Back | ☐ Water Disposal | |

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

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.

RECEIVED
JUL 21 2014
DIV. OF OIL, GAS & MINING

VERNAL FIELD OFFICE
ENG. MR 6/24/14
GEOL.
E.S.
PET.
RECL.

14. I hereby certify that the foregoing is true and correct.
**Electronic Submission #226891 verified by the BLM Well Information System**
**For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal**
**Committed to AFMSS for processing by LESLIE BUHLER on 11/15/2013 (14LBB2866SE)**

Name *(Printed/Typed)* KAY E KELLY — Title REGULATORY SPECIALIST

Signature (Electronic Submission) — Date 11/14/2013

**THIS SPACE FOR FEDERAL OR STATE OFFICE USE**

Approved By — Title Assistant Field Manager Lands & Mineral Resources — Date JUN 19 2014

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

Office VERNAL FIELD OFFICE

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.

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

UDOGM

# CONDITIONS OF APPROVAL

## Kerr McGee Oil & Gas

**Notice of Intent**
**APD Extension**

**Lease:** UTU-33433
**Well:** Bonanza 1023-5B1CS
**Location:** Lot 2 Sec 5 T10S-R23E

An extension for the referenced APD is granted with the following conditions:

---

1. The APD extension shall expire on 1/30/16

2. No other extension shall be granted.

If you have any other questions concerning this matter, please contact Michael Riches of this office at (435) 781-4438

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

**FORM 9**

**5.LEASE DESIGNATION AND SERIAL NUMBER:** UTU33433

## SUNDRY NOTICES AND REPORTS ON WELLS

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.

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** PONDEROSA

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** BONANZA 1023-5B1CS

**2. NAME OF OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:** 43047520860000

**3. ADDRESS OF OPERATOR:** P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

**PHONE NUMBER:** 720 929-6100 EXT

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 1058 FNL 1948 FEL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: NWNE Section: 05 Township: 10.0S Range: 23.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

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

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ✓ NOTICE OF INTENT<br>Approximate date work will start: 11/24/2014 | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ☐ SUBSEQUENT REPORT<br>Date of Work Completion: | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| ☐ SPUD REPORT<br>Date of Spud: | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| ☐ DRILLING REPORT<br>Report Date: | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ✓ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**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: November 25, 2014

By: [signature]

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Joel Malefyt | 720 929-6828 | Regualtory Analyst |

| SIGNATURE | DATE |
|---|---|
| N/A | 11/24/2014 |

RECEIVED: Nov. 24, 2014

## 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 43047520860000

**API:** 43047520860000
**Well Name:** BONANZA 1023-5B1CS
**Location:** 1058 FNL 1948 FEL QTR NWNE SEC 05 TWNP 100S RNG 230E MER S
**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.
**Date Original Permit Issued:** 10/26/2011

**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:** Joel Malefyt **Date:** 11/24/2014
**Title:** Regualtory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

RECEIVED: Nov. 24, 2014

FORM 9

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

**5.LEASE DESIGNATION AND SERIAL NUMBER:** UTU33433

## SUNDRY NOTICES AND REPORTS ON WELLS

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.

**6. IF INDIAN, ALLOTTEE OR TRIBE NAME:**

**7.UNIT or CA AGREEMENT NAME:** PONDEROSA

**1. TYPE OF WELL** Gas Well

**8. WELL NAME and NUMBER:** BONANZA 1023-5B1CS

**2. NAME OF OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**9. API NUMBER:** 43047520860000

**3. ADDRESS OF OPERATOR:** P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779

**PHONE NUMBER:** 720 929-6100 EXT

**9. FIELD and POOL or WILDCAT:** NATURAL BUTTES

**4. LOCATION OF WELL**
**FOOTAGES AT SURFACE:** 1058 FNL 1948 FEL
**QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:** Qtr/Qtr: NWNE Section: 05 Township: 10.0S Range: 23.0E Meridian: S

**COUNTY:** UINTAH

**STATE:** UTAH

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

| TYPE OF SUBMISSION | TYPE OF ACTION | | |
|---|---|---|---|
| ✓ NOTICE OF INTENT<br>Approximate date work will start: 10/21/2015 | ☐ ACIDIZE | ☐ ALTER CASING | ☐ CASING REPAIR |
| | ☐ CHANGE TO PREVIOUS PLANS | ☐ CHANGE TUBING | ☐ CHANGE WELL NAME |
| | ☐ CHANGE WELL STATUS | ☐ COMMINGLE PRODUCING FORMATIONS | ☐ CONVERT WELL TYPE |
| ☐ SUBSEQUENT REPORT<br>Date of Work Completion: | ☐ DEEPEN | ☐ FRACTURE TREAT | ☐ NEW CONSTRUCTION |
| | ☐ OPERATOR CHANGE | ☐ PLUG AND ABANDON | ☐ PLUG BACK |
| | ☐ PRODUCTION START OR RESUME | ☐ RECLAMATION OF WELL SITE | ☐ RECOMPLETE DIFFERENT FORMATION |
| ☐ SPUD REPORT<br>Date of Spud: | ☐ REPERFORATE CURRENT FORMATION | ☐ SIDETRACK TO REPAIR WELL | ☐ TEMPORARY ABANDON |
| | ☐ TUBING REPAIR | ☐ VENT OR FLARE | ☐ WATER DISPOSAL |
| ☐ DRILLING REPORT<br>Report Date: | ☐ WATER SHUTOFF | ☐ SI TA STATUS EXTENSION | ✓ APD EXTENSION |
| | ☐ WILDCAT WELL DETERMINATION | ☐ OTHER | OTHER: |

**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
October 26, 2015
Date:
By:

| NAME (PLEASE PRINT) | PHONE NUMBER | TITLE |
|---|---|---|
| Jennifer Thomas | 720 929-6808 | Regulatory Specialist |
| **SIGNATURE** N/A | | **DATE** 10/21/2015 |

RECEIVED: Oct. 21, 2015

## 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 43047520860000

**API:** 43047520860000
**Well Name:** BONANZA 1023-5B1CS
**Location:** 1058 FNL 1948 FEL QTR NWNE SEC 05 TWNP 100S RNG 230E MER S
**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.
**Date Original Permit Issued:** 10/26/2011

**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:** Jennifer Thomas **Date:** 10/21/2015
**Title:** Regulatory Specialist **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

RECEIVED: Oct. 21, 2015

GARY R. HERBERT
*Governor*

SPENCER J. COX
*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*

November 1, 2016

Joel Malefyt
Kerr-McGee Oil & Gas Onshore, LP.
1099 18th Street, Suite 600
Denver, CO 80217

Re: APDs Rescinded for Kerr-McGee O&G Onshore, LP, Uintah County

Dear Mr. Malefyt:

Enclosed find the list of APDs that you asked to be rescinded. No drilling activity at these locations has been reported to the division. Therefore, approval to drill these wells is hereby rescinded as of November 1, 2016.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,

Diana Mason
Environmental Scientist

cc: Well File
Bureau of Land Management, Vernal

1594 West North Temple, Suite 1210, Salt Lake City, UT 84116
PO Box 145801, Salt Lake City, UT 84114-5801
telephone (801) 538-5340 • facsimile (801) 359-3940 • TTY (801) 538-7458 • *www.ogm.utah.gov*

UTAH DNR OIL, GAS & MINING

| | |
|---|---|
| 43-047-52086 | Bonanza 1023-5B1CS |
| 43-047-52087 | Bonanza 1023-5B4AS |
| 43-047-52088 | Bonanza 1023-5C1DS |
| 43-047-52097 | Bonanza 1023-5A1CS |
| 43-047-52098 | Bonanza 1023-5A4CS |
| 43-047-52099 | Bonanza 1023-5G1DS |
| 43-047-52100 | Bonanza 1023-5H1BS |
| 43-047-52101 | Bonanza 1023-5H4CS |
| 43-047-55455 | NBU 922-34H4BS-R |
| 43-047-55456 | NBU 922-34H1CS-R |
| 43-047-55457 | NBU 922-34H1BS-R |
| 43-047-55458 | NBU 922-34G4CS-R |
| 43-047-55459 | NBU 922-34G4BS-R |
| 43-047-55460 | NBU 922-34A4CS-R |
| 43-047-55461 | NBU 922-34A4BS-R |

Diana Mason <dianawhitney@utah.gov>

# RE: Expired APDs

**Malefyt, Joel** <Joel.Malefyt@anadarko.com>
To: Diana Mason <dianawhitney@utah.gov>

Tue, Nov 1, 2016 at 11:59 AM

Diana,

Thanks for the follow up. Those were associated with Federal APDs that were ultimately expiring. We won't be renewing those.

Thank you!

**Joel Malefyt** | UT/WY Regulatory Affairs

**Anadarko Petroleum Corporation**

**Office:** 720-929-6828

**E-mail:** joel.malefyt@anadarko.com

**From:** Diana Mason [mailto:dianawhitney@utah.gov]
**Sent:** Tuesday, November 01, 2016 11:31 AM
**To:** Malefyt, Joel <Joel.Malefyt@anadarko.com>
**Subject:** Expired APDs

Hi Joel,

There are 15 APDs that expired last month. I noticed all the one's coming in today haven't expired yet. Does Kerr McGee still want the one's that has already expired?

Thank you,

Diana

Click here for Anadarko's Electronic Mail Disclaimer