

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

FORM 3

AMENDED REPORT

<b>APPLICATION FOR PERMIT TO DRILL</b>		<b>1. WELL NAME and NUMBER</b> BONANZA 1023-502AS
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>		<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES
<b>4. TYPE OF WELL</b> Gas Well Coalbed Methane Well: NO		<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b>
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. OPERATOR PHONE</b> 720 929-6515
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217		<b>9. OPERATOR E-MAIL</b> julie.jacobson@anadarko.com
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UTU33433	<b>11. MINERAL OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>	
<b>12. SURFACE OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>
<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>		<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>
<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>		<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b>
<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	1951 FSL 2025 FWL	NESW	5	10.0 S	23.0 E	S
Top of Uppermost Producing Zone	1275 FSL 2125 FEL	SWSE	5	10.0 S	23.0 E	S
At Total Depth	1275 FSL 2125 FEL	SWSE	5	10.0 S	23.0 E	S

<b>21. COUNTY</b> UINTAH	<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 482	<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 1923
<b>24. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 588	<b>25. PROPOSED DEPTH</b> MD: 8620 TVD: 8424	
<b>26. ELEVATION - GROUND LEVEL</b> 5327	<b>27. BOND NUMBER</b> WYB000291	<b>28. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> 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 - 2320	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 - 8620	11.6	I-80 LT&C	12.5	Premium Lite High Strength	280	3.38	11.0
							50/50 Poz	1160	1.31	14.3

**ATTACHMENTS**

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

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

<b>NAME</b> Gina Becker	<b>TITLE</b> Regulatory Analyst II	<b>PHONE</b> 720 929-6086
<b>SIGNATURE</b>	<b>DATE</b> 10/17/2011	<b>EMAIL</b> gina.becker@anadarko.com
<b>API NUMBER ASSIGNED</b> 43047520700000	<b>APPROVAL</b>   Permit Manager	

**Kerr-McGee Oil & Gas Onshore. L.P.****BONANZA 1023-5O2AS**

Surface: 1951 FSL / 2025 FWL      NESW  
 BHL: 1275 FSL / 2125 FEL      SWSE

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:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1256	
Birds Nest	1506	Water
Mahogany	1867	Water
Wasatch	4218	Gas
Mesaverde	6260	Gas
MVU2	7254	Gas
MVL1	7790	Gas
TVD	8424	
TD	8620	

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

Please refer to the attached Drilling Program

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

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

7. **Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 8424' TVD, approximately equals  

$$\frac{5,391 \text{ psi}}{(0.64 \text{ psi/ft} = \text{actual bottomhole gradient})}$$

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

Maximum anticipated surface pressure equals approximately 3,526 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. **Variations:**

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

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

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

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

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

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

**Background**

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

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

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

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

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

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

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

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

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

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

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

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

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

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

**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.

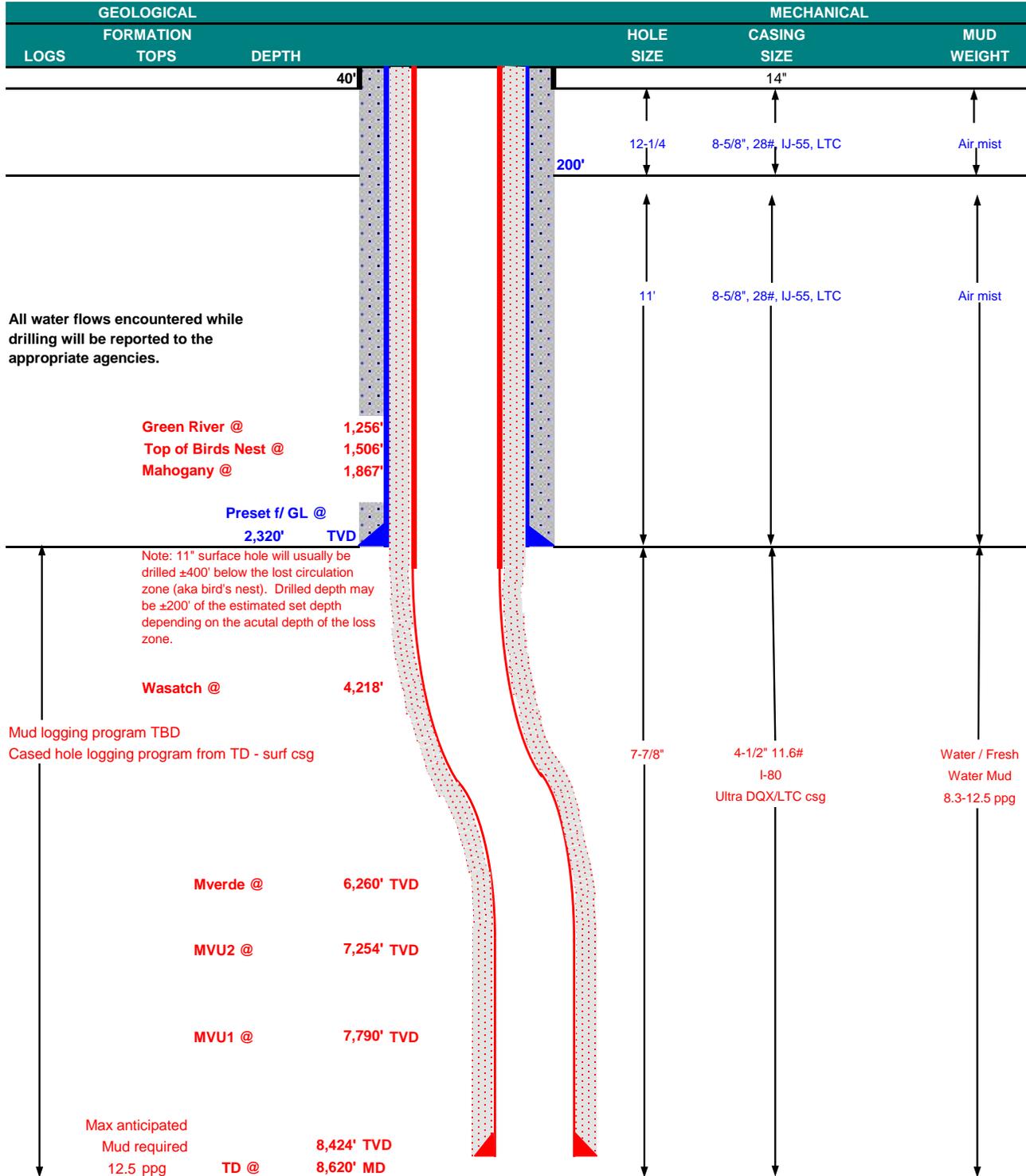
10. **Other Information:**

Please refer to the attached Drilling Program.



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	October 14, 2011	
WELL NAME	<b>BONANZA 1023-502AS</b>		TD	8,424'	8,620' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah
SURFACE LOCATION	NESW	1951 FSL	2025 FWL	Sec 5	T 10S R 23E
	Latitude: 39.976058	Longitude: -109.352898		NAD 83	
BTM HOLE LOCATION	SWSE	1275 FSL	2125 FEL	Sec 5	T 10S R 23E
	Latitude: 39.974210	Longitude: -109.348909		NAD 83	
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept.				





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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	LTC		DQX
							COLLAPSE	TENSION	
CONDUCTOR	14"	0-40'							
						3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,320	28.00	IJ-55	LTC	2.33	1.73	6.12	N/A
						7,780	6,350	223,000	267,035
PRODUCTION	4-1/2"	0 to 5,000	11.60	I-80	DQX	1.11	1.16		3.30
	4-1/2"	5,000 to 8,620'	11.60	I-80	LTC	1.11	1.16	6.56	

**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 + 0.25 pps flocele	180	60%	15.80	1.15
Option 1	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
NOTE: If well will circulate water to surface, option 2 will be utilized							
SURFACE	LEAD	1,820'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	170	35%	11.00	3.82
Option 2	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,710'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	280	20%	11.00	3.38
	TAIL	4,910'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,160	35%	14.30	1.31

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained  
 \*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

**FLOAT EQUIPMENT & CENTRALIZERS**

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

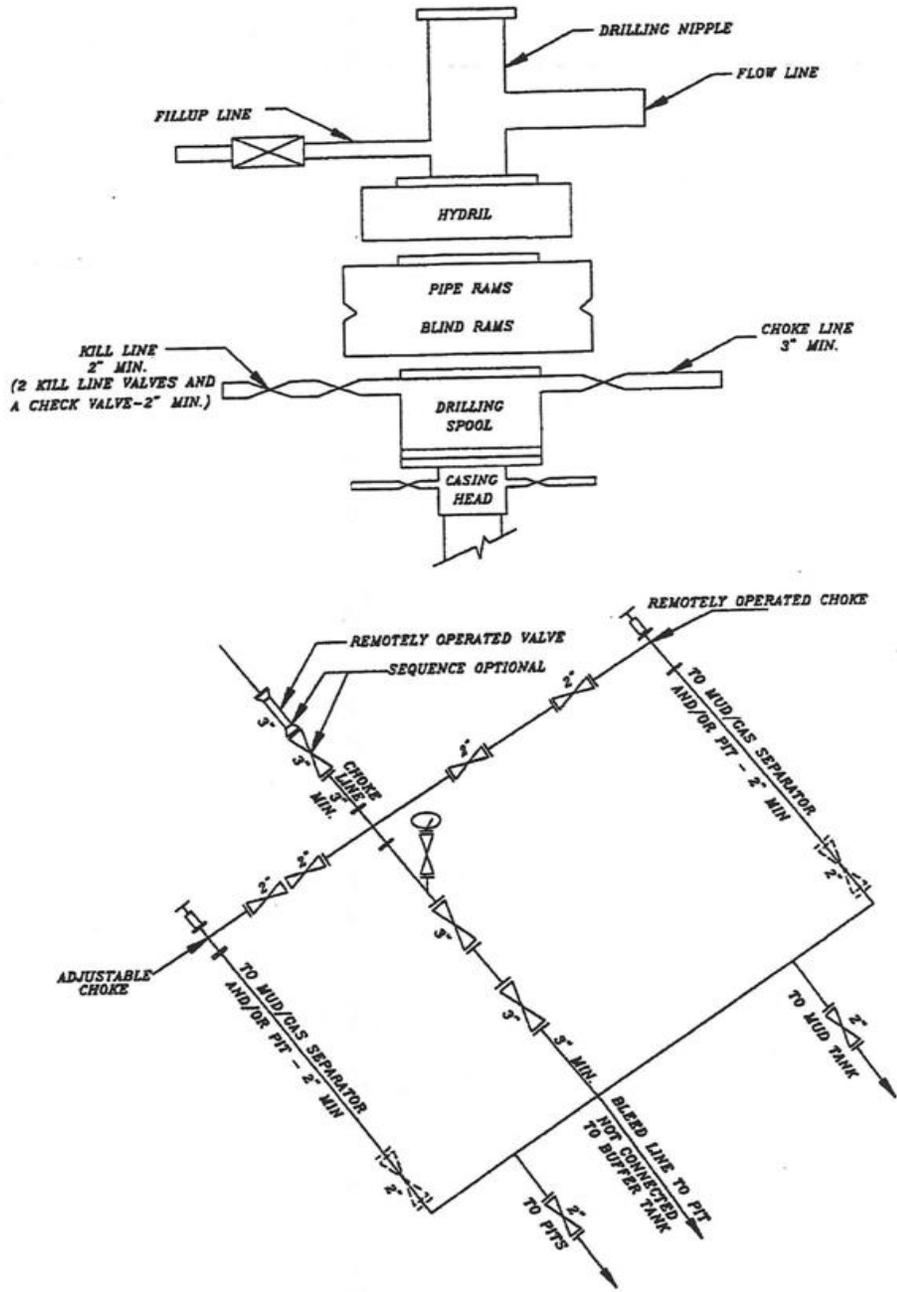
**ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.  
 BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.  
 Surveys will be taken at 1,000' minimum intervals.  
 Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:** \_\_\_\_\_  
 Nick Spence / Danny Showers / Chad Loesel  
**DRILLING SUPERINTENDENT:** \_\_\_\_\_  
 Kenny Gathings / Lovel Young

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

### EXHIBIT A BONANZA 1023-502AS



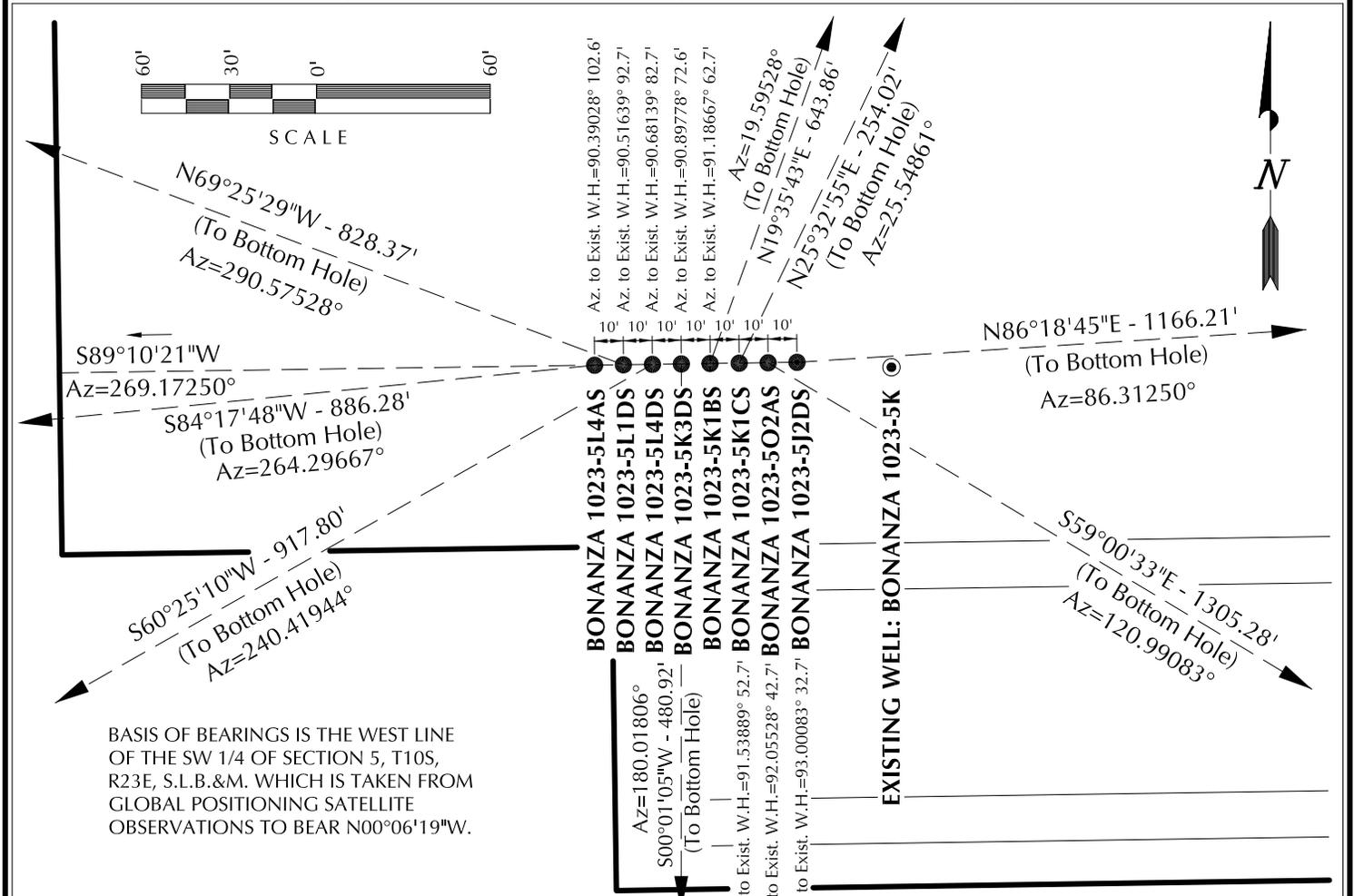
**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**



WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
BONANZA 1023-5L4AS	39°58'33.803"	109°21'11.202"	39°58'33.926"	109°21'08.758"	1951' FSL	39°58'32.943"	109°21'22.529"	39°58'33.066"	109°21'20.084"	1865' FSL
BONANZA 1023-5L1DS	39°58'33.804"	109°21'11.074"	39°58'33.927"	109°21'08.630"	1965' FWL	39°58'36.690"	109°21'21.029"	39°58'36.813"	109°21'18.585"	1083' FWL
BONANZA 1023-5L4DS	39°58'33.805"	109°21'10.946"	39°58'33.928"	109°21'08.502"	1975' FWL	39°58'39.7858°	109°21'21.203"	39°58'39.976892°	109°21'18.758"	2244' FSL
BONANZA 1023-5K3DS	39°58'33.807"	109°21'11.074"	39°58'33.930"	109°21'08.373"	1985' FWL	39°58'29.055"	109°21'10.827"	39°58'29.178"	109°21'08.383"	1200' FWL
BONANZA 1023-5K1BS	39°58'33.808"	109°21'10.690"	39°58'33.931"	109°21'08.246"	1995' FWL	39°58'29.339"	109°21'21.203"	39°58'29.462"	109°21'18.758"	1470' FSL
BONANZA 1023-5K1CS	39°58'33.809"	109°21'10.560"	39°58'33.932"	109°21'08.116"	2005' FWL	39°58'39.799"	109°21'07.907"	39°58'39.921"	109°21'05.463"	1994' FWL
BONANZA 1023-5O2AS	39°58'33.810"	109°21'10.432"	39°58'33.933"	109°21'07.988"	1951' FSL	39°58'36.072"	109°21'09.150"	39°58'36.195"	109°21'06.706"	2557' FSL
BONANZA 1023-5J2DS	39°58'33.812"	109°21'10.303"	39°58'33.935"	109°21'07.859"	2025' FWL	39°58'39.7722°	109°21'07.907"	39°58'39.921"	109°21'05.463"	2222' FWL
BONANZA 1023-5K	39°58'33.795"	109°21'09.884"	39°58'33.918"	109°21'07.440"	1950' FSL	39°58'36.072"	109°21'09.150"	39°58'36.195"	109°21'06.706"	2180' FSL
	39°58'33.795"	109°21'09.884"	39°58'33.918"	109°21'07.440"	2068' FWL	39°58'36.072"	109°21'09.150"	39°58'36.195"	109°21'06.706"	2125' FWL

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
BONANZA 1023-5L4AS	-88.1'	-881.9'	BONANZA 1023-5L1DS	291.1'	-775.5'	BONANZA 1023-5L4DS	-453.1'	-798.2'	BONANZA 1023-5K3DS	-480.9'	-0.2'
BONANZA 1023-5K1BS	606.6'	215.9'	BONANZA 1023-5K1CS	229.2'	109.6'	BONANZA 1023-5O2AS	-672.1'	1118.9'	BONANZA 1023-5J2DS	75.0'	1163.8'



BASIS OF BEARINGS IS THE WEST LINE OF THE SW 1/4 OF SECTION 5, T10S, R23E, S.L.B.&M. WHICH IS TAKEN FROM GLOBAL POSITIONING SATELLITE OBSERVATIONS TO BEAR N00°06'19"W.

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

**WELL PAD - BONANZA 1023-5K**

**WELL PAD INTERFERENCE PLAT**  
WELLS - BONANZA 1023-5L4AS, BONANZA 1023-5L1DS, BONANZA 1023-5L4DS, BONANZA 1023-5K3DS, BONANZA 1023-5K1BS, BONANZA 1023-5K1CS, BONANZA 1023-5O2AS & BONANZA 1023-5J2DS 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**

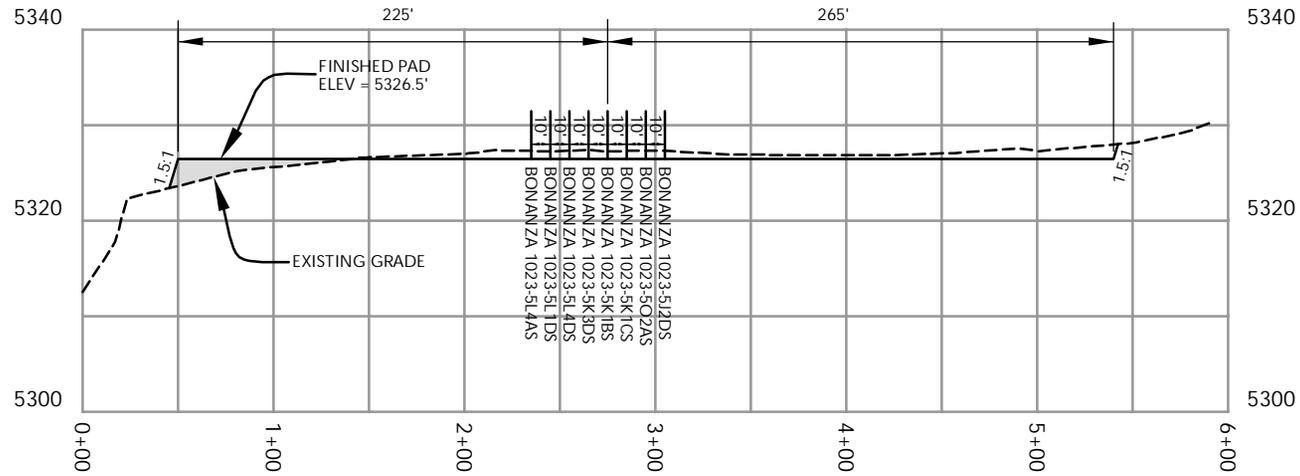
ENGINEERING & LAND SURVEYING, INC.

209 NORTH 300 WEST - VERNAL, UTAH 84078

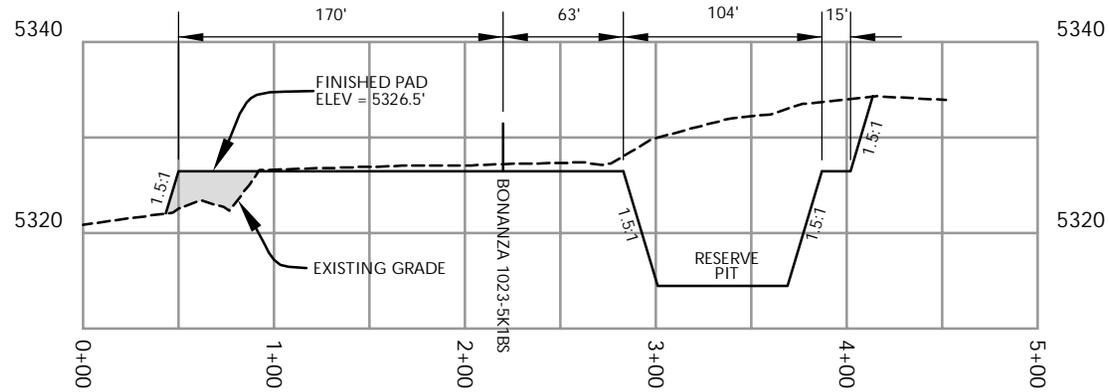
(435) 789-1365

DATE SURVEYED: 03-04-10	SURVEYED BY: M.S.B.	SHEET NO: <b>9</b>
DATE DRAWN: 03-05-10	DRAWN BY: E.M.S.	
SCALE: 1" = 60'	Date Last Revised:	9 OF 20





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 1023-5K

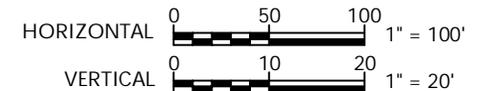
WELL PAD - CROSS SECTIONS  
BONANZA 1023-5L4AS, BONANZA 1023-5L1DS,  
BONANZA 1023-5L4DS, BONANZA 1023-5K3DS,  
BONANZA 1023-5K1BS, BONANZA 1023-5K1CS,  
BONANZA 1023-5O2AS & BONANZA 1023-5J2DS  
LOCATED IN SECTION 5, T10S, R23E,  
S.L.B.&M., Uintah County, Utah



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

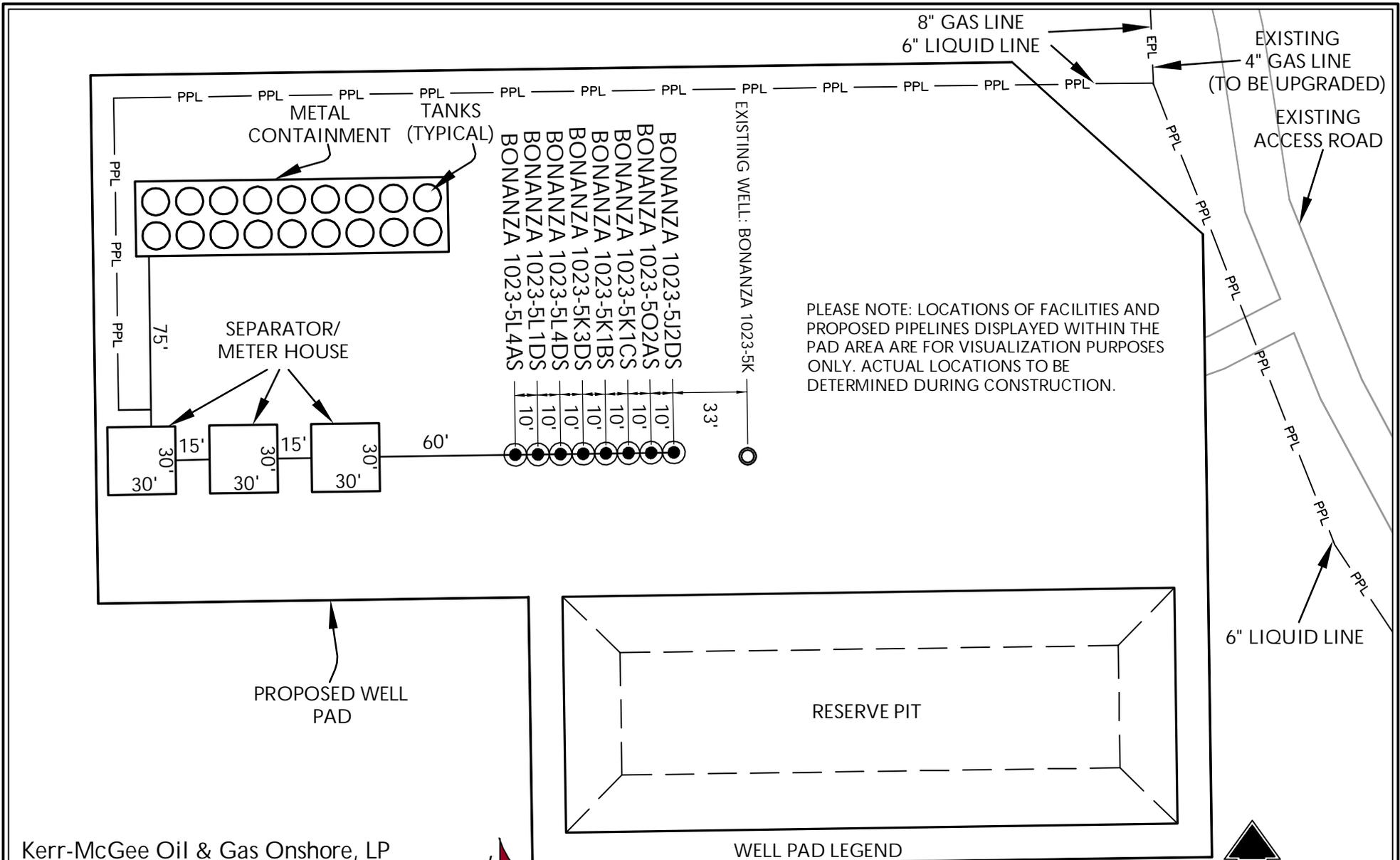
**TIMBERLINE**  
ENGINEERING & LAND SURVEYING, INC.  
209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365



Scale: 1"=100'	Date: 3/30/10	SHEET NO:
REVISED:	SEA 6/25/10	<b>11</b> 11 OF 20

RECEIVED: October 17, 2011



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

WELL PAD - BONANZA 1023-5K

WELL PAD - FACILITIES DIAGRAM  
BONANZA 1023-5L4AS, BONANZA 1023-5L1DS,  
BONANZA 1023-5L4DS, BONANZA 1023-5K3DS,  
BONANZA 1023-5K1BS, BONANZA 1023-5K1CS,  
BONANZA 1023-5O2AS & BONANZA 1023-5J2DS  
LOCATED IN SECTION 5, T10S, R23E,  
S.L.B.&M., UINTAH COUNTY, UTAH



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'

<b>TIMBERLINE</b> ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078	(435) 789-1365 SEA 6/25/10	Scale: 1"=60'	Date: 3/30/10	SHEET NO:
		REVISED:		<b>12</b> 12 OF 20

K:\MADARKO\2010\_11\_IBOL\_FOCUS\_SEC\_5-1023\DWG\S\BONANZA\_1023-5K\1023-5K\_20100601.dwg, 7/28/2010 10:11:47 AM

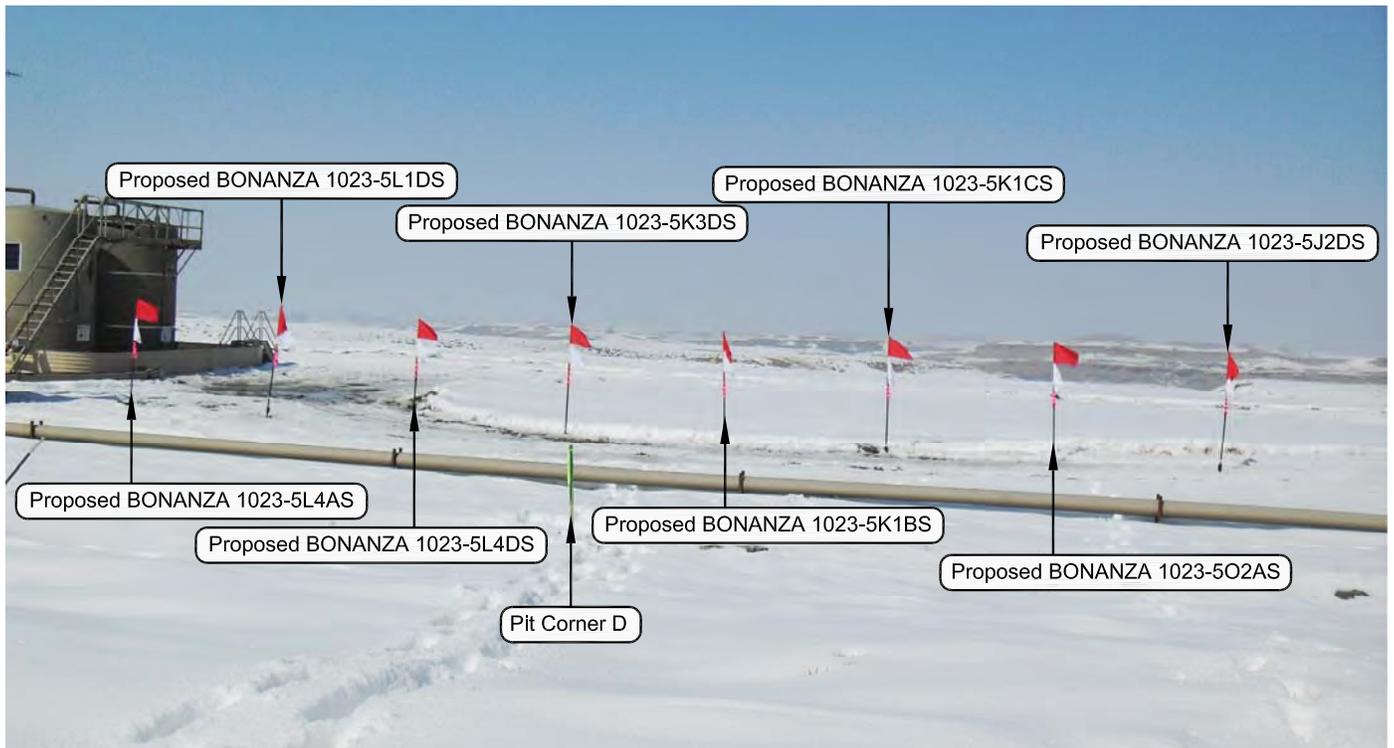


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKES

CAMERA ANGLE: NORTHWESTERLY



PHOTO VIEW: FROM EXISTING ROAD

CAMERA ANGLE: SOUTHWESTERLY

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

**Well Pad - BONANZA 1023-5K**

**LOCATION PHOTOS**  
 BONANZA 1023-5L4AS, BONANZA 1023-5L1DS,  
 BONANZA 1023-5L4DS, BONANZA 1023-5K3DS,  
 BONANZA 1023-5K1BS, BONANZA 1023-5K1CS,  
 BONANZA 1023-5O2AS & BONANZA 1023-5J2DS  
 LOCATED IN SECTION 5, T10S, R23E,  
 S.L.B.&M., UINTAH COUNTY, UTAH.



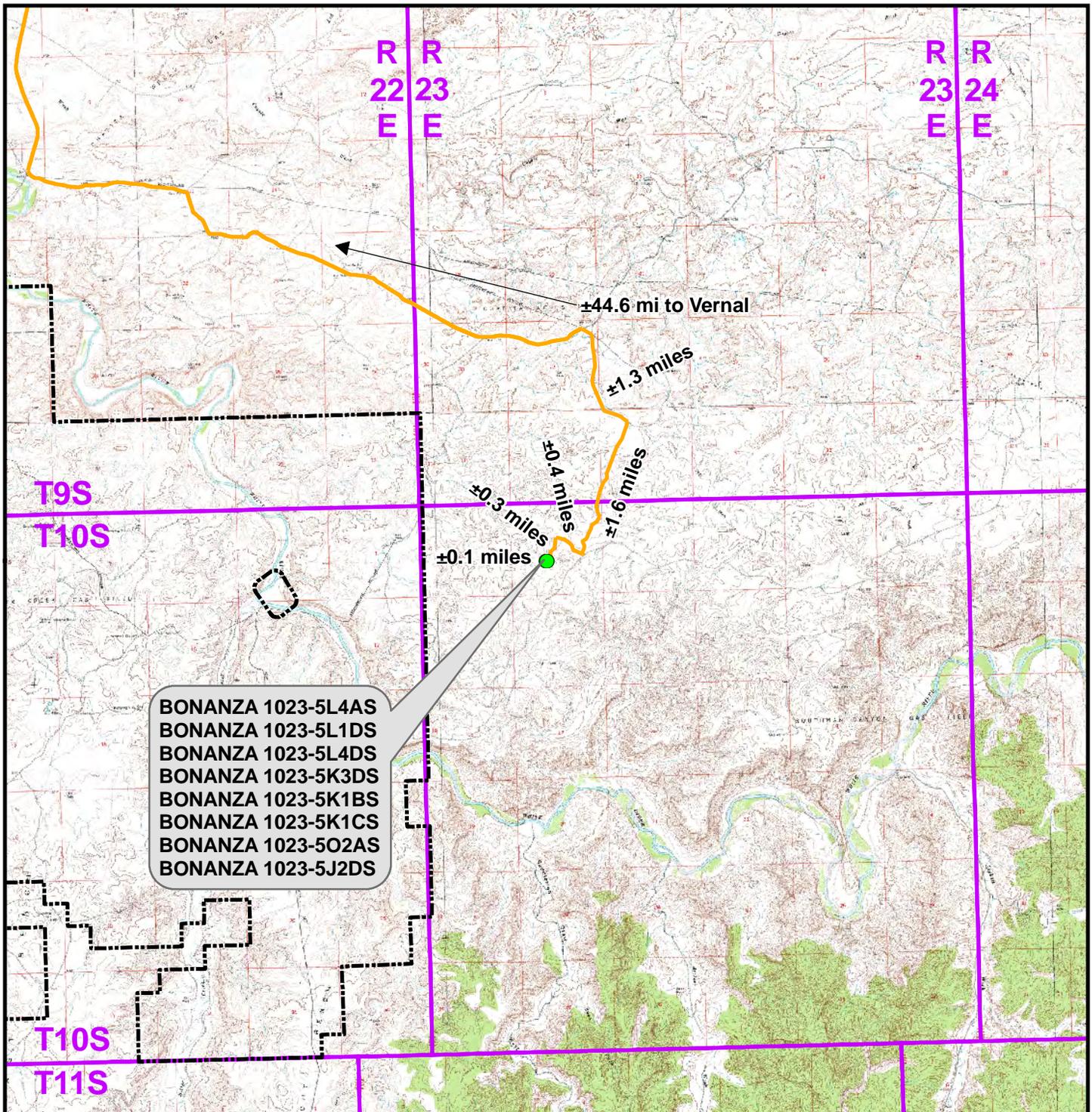
**CONSULTING, LLC**  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

**TIMBERLINE**

(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.  
 209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 03-04-10	PHOTOS TAKEN BY: M.S.B.	SHEET NO: <b>13</b>
DATE DRAWN: 03-05-10	DRAWN BY: E.M.S.	
Date Last Revised:		13 OF 20



**Legend**

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

Distance From Well Pad - BONANZA 1023-5K To Unit Boundary: ±7,305ft

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

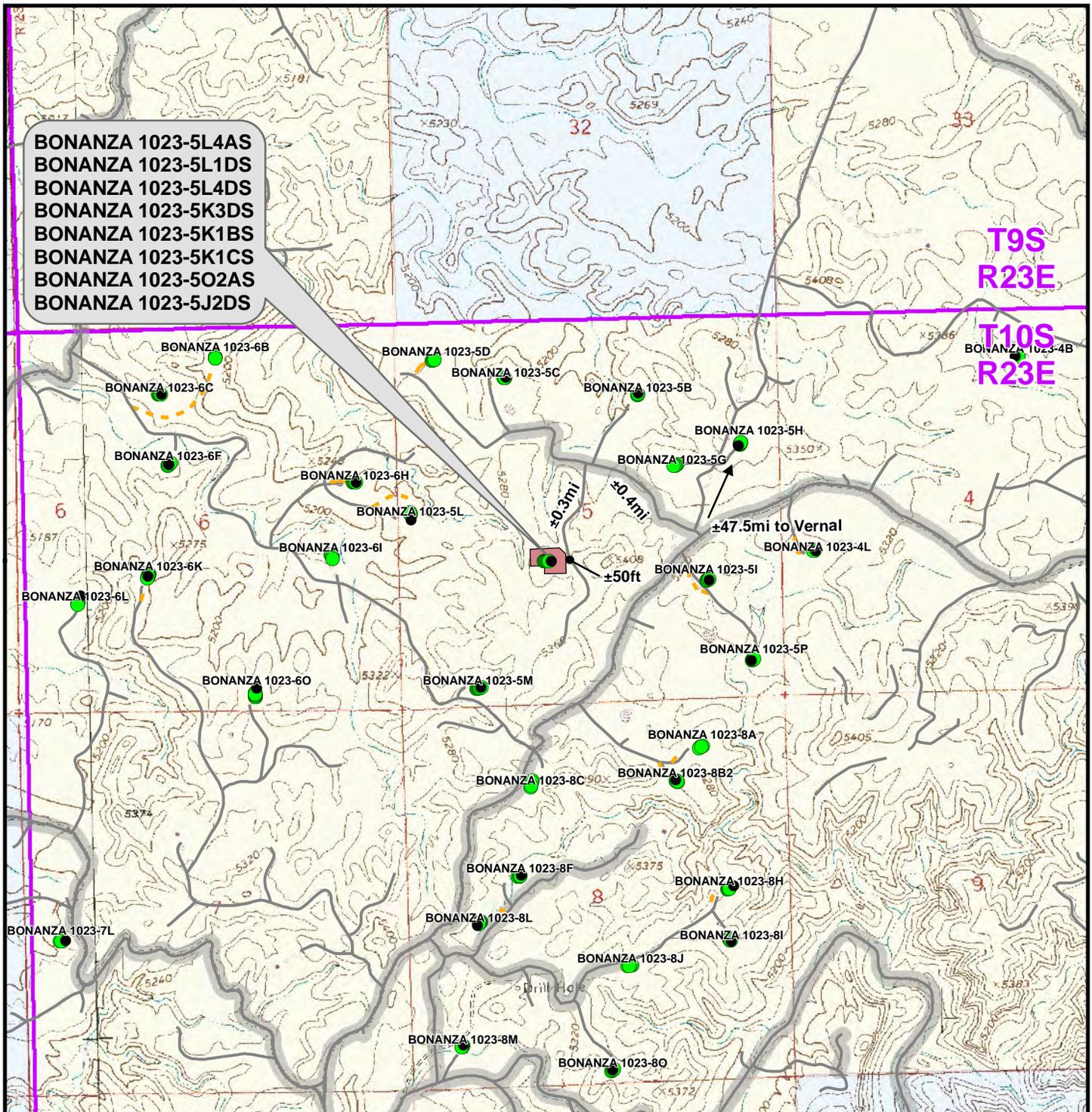
**WELL PAD - BONANZA 1023-5K**

TOPO A  
BONANZA 1023-5L4AS, BONANZA 1023-5L1DS,  
BONANZA 1023-5L4DS, BONANZA 1023-5K3DS,  
BONANZA 1023-5K1BS, BONANZA 1023-5K1CS,  
BONANZA 1023-5O2AS & BONANZA 1023-5J2DS  
LOCATED IN SECTION 5, T10S, R23E  
S.L.B.&M., UINTAH COUNTY, UTAH

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



Scale: 1:100,000	NAD83 USP Central	Sheet No:
Drawn: CPS	Date: 30 Mar 2010	<b>14</b>
Revised: CPS	Date: 25 June 2010	



**Legend**

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

Total Proposed Road Length: ±0ft

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

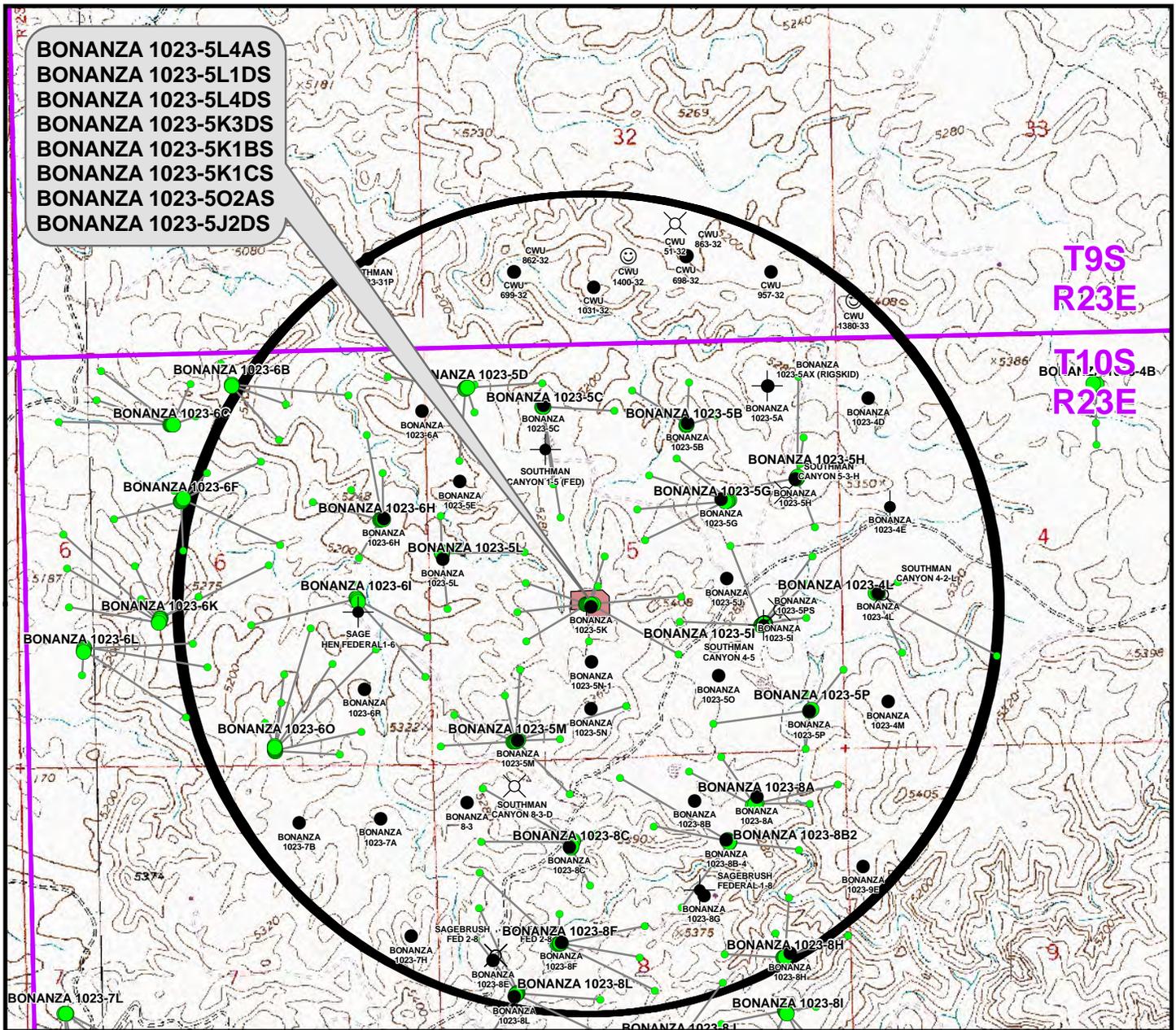
**WELL PAD - BONANZA 1023-5K**

TOPO B  
BONANZA 1023-5L4AS, BONANZA 1023-5L1DS,  
BONANZA 1023-5L4DS, BONANZA 1023-5K3DS,  
BONANZA 1023-5K1BS, BONANZA 1023-5K1CS,  
BONANZA 1023-5O2AS & BONANZA 1023-5J2DS  
LOCATED IN SECTION 5, T10S, R23E  
S.L.B.&M., UTAH COUNTY, UTAH

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



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No: <b>15</b> of 20
Drawn: CPS	Date: 30 Mar 2010	
Revised: CPS	Date: 25 June 2010	



Proposed Well	Nearest Well Bore	Footage
BONANZA 1023-5L4AS	BONANZA 1023-5K	988ft
BONANZA 1023-5L1DS	BONANZA 1023-5K	916ft
BONANZA 1023-5L4DS	BONANZA 1023-5N-1	886ft
BONANZA 1023-5K3DS	BONANZA 1023-5N-1	268ft

Proposed Well	Nearest Well Bore	Footage
BONANZA 1023-5K1BS	BONANZA 1023-5K	627ft
BONANZA 1023-5K1CS	BONANZA 1023-5K	237ft
BONANZA 1023-5O2AS	BONANZA 1023-5O	588ft
BONANZA 1023-5J2DS	BONANZA 1023-5J	625ft

**Legend**

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

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

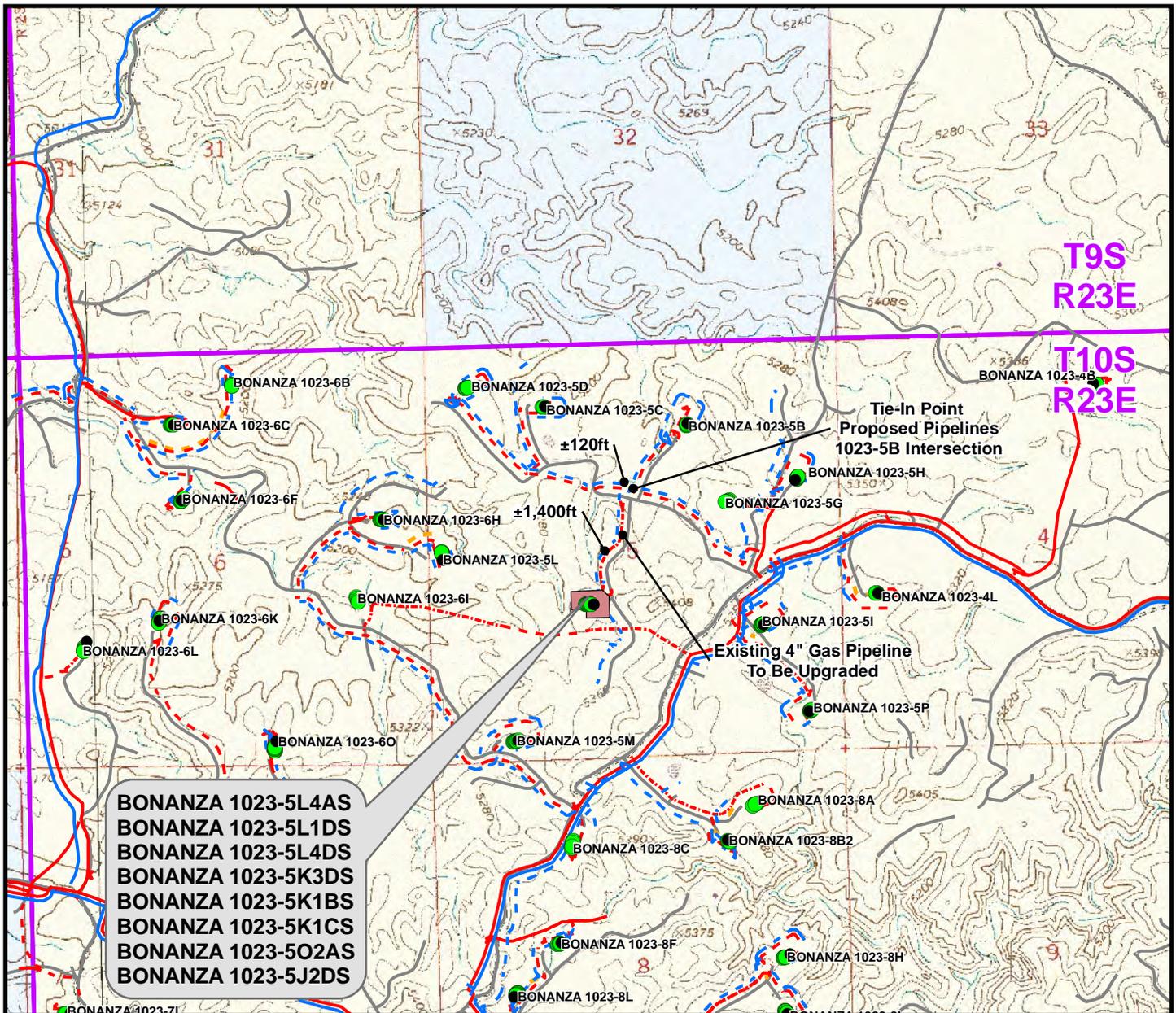
**WELL PAD - BONANZA 1023-5K**

TOPO C  
 BONANZA 1023-5L4AS, BONANZA 1023-5L1DS,  
 BONANZA 1023-5L4DS, BONANZA 1023-5K3DS,  
 BONANZA 1023-5K1BS, BONANZA 1023-5K1CS,  
 BONANZA 1023-5O2AS & BONANZA 1023-5J2DS  
 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



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: CPS	Date: 30 Mar 2010	16
Revised: CPS	Date: 25 June 2010	



- BONANZA 1023-5L4AS
- BONANZA 1023-5L1DS
- BONANZA 1023-5L4DS
- BONANZA 1023-5K3DS
- BONANZA 1023-5K1BS
- BONANZA 1023-5K1CS
- BONANZA 1023-5O2AS
- BONANZA 1023-5J2DS

Proposed Liquid Pipeline	Length
Proposed 6" (First Meter House to Edge of Pad)	±570ft
Proposed 6" (Edge of Pad to 1023-5B Intersection)	±1,520ft
<b>TOTAL PROPOSED LIQUID PIPELINE =</b>	<b>±2,090ft</b>

Proposed Gas Pipeline	Length
Proposed 8" (First Meter House to Edge of Pad)	±570ft
Proposed 8" (Edge of Pad to Main Road Intersection)	±1,400ft
Proposed 10" (Main Road Intersection to 1023-5B Intersection)	±120ft
<b>TOTAL PROPOSED GAS PIPELINE =</b>	<b>±2,090ft</b>

**Legend**

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

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

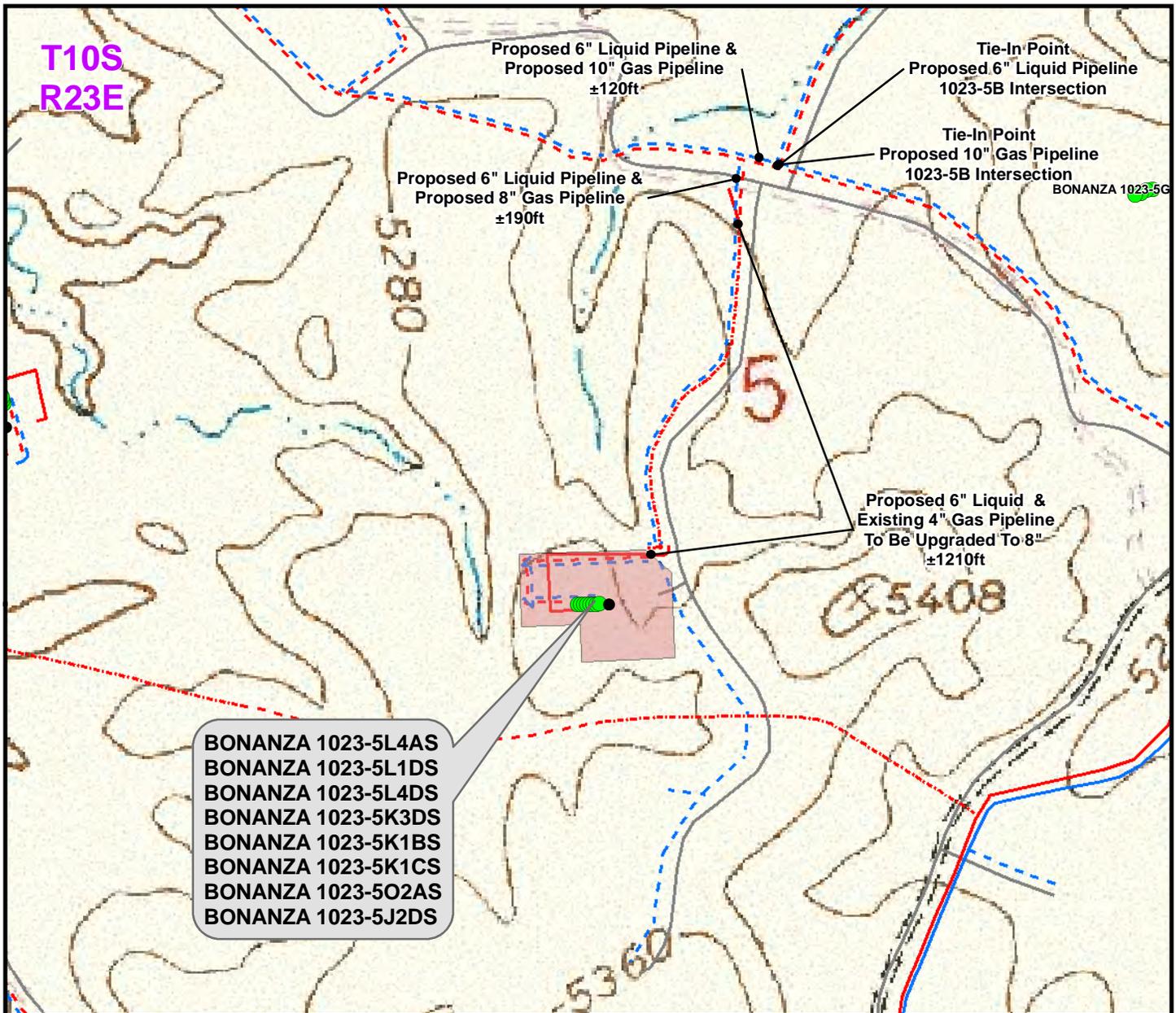
**WELL PAD - BONANZA 1023-5K**

TOPO D  
 BONANZA 1023-5L4AS, BONANZA 1023-5L1DS,  
 BONANZA 1023-5L4DS, BONANZA 1023-5K3DS,  
 BONANZA 1023-5K1BS, BONANZA 1023-5K1CS,  
 BONANZA 1023-5O2AS & BONANZA 1023-5J2DS  
 LOCATED IN SECTION 5, T10S, R23E  
 S.L.B.&M., UTAH COUNTY, UTAH

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

Scale: 1" = 2,000ft | NAD83 USP Central | Sheet No: **17** of 20

Drawn: CPS | Date: 30 Mar 2010  
 Revised: CPS | Date: 25 June 2010



**BONANZA 1023-5L4AS**  
**BONANZA 1023-5L1DS**  
**BONANZA 1023-5L4DS**  
**BONANZA 1023-5K3DS**  
**BONANZA 1023-5K1BS**  
**BONANZA 1023-5K1CS**  
**BONANZA 1023-5O2AS**  
**BONANZA 1023-5J2DS**

Proposed Liquid Pipeline	Length
Proposed 6" (First Meter House to Edge of Pad)	±570ft
Proposed 6" (Edge of Pad to 1023-5B Intersection)	±1,520ft
<b>TOTAL PROPOSED LIQUID PIPELINE =</b>	<b>±2,090ft</b>

Proposed Gas Pipeline	Length
Proposed 8" (First Meter House to Edge of Pad)	±570ft
Proposed 8" (Edge of Pad to Main Road Intersection)	±1,400ft
Proposed 10" (Main Road Intersection to 1023-5B Intersection)	±120ft
<b>TOTAL PROPOSED GAS PIPELINE =</b>	<b>±2,090ft</b>

**Legend**

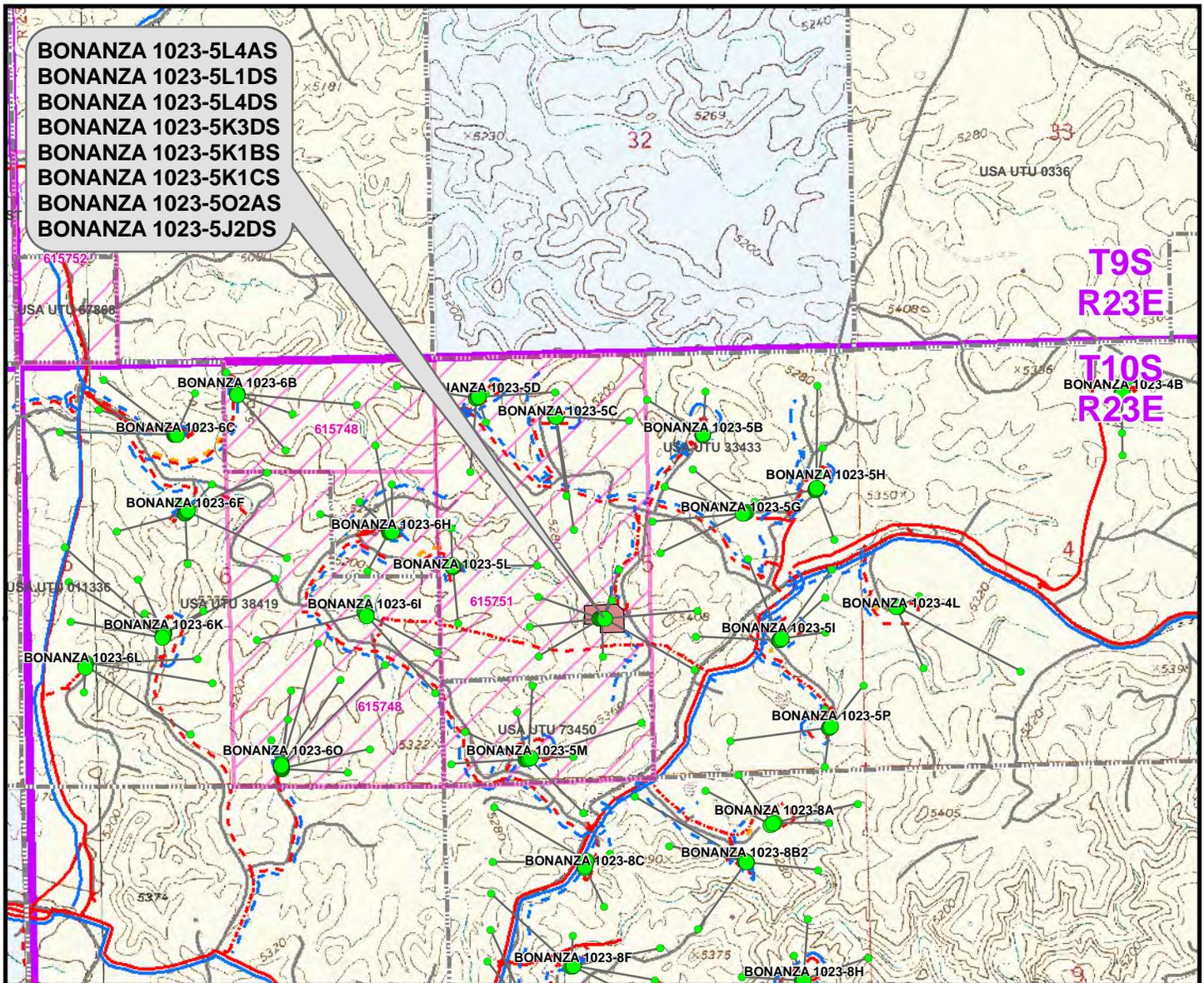
- Well - Proposed
- - - Gas Pipeline - Proposed
- - - Liquid Pipeline - Proposed
- - - Road - Proposed
- Bureau of Land Management
- Well - Existing
- - - Gas Pipeline - To Be Upgraded
- - - Liquid Pipeline - To Be Upgraded
- - - Road - Existing
- Indian Reservation
- Well Pad
- - - Gas Pipeline - Existing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

**Kerr-McGee Oil & Gas Onshore, LP**  
 1099 18th Street, Denver, Colorado 80202  
**WELL PAD - BONANZA 1023-5K**  
 TOPO D (PAD & PIPELINE DETAIL)  
 BONANZA 1023-5L4AS, BONANZA 1023-5L1DS,  
 BONANZA 1023-5L4DS, BONANZA 1023-5K3DS,  
 BONANZA 1023-5K1BS, BONANZA 1023-5K1CS,  
 BONANZA 1023-5O2AS & BONANZA 1023-5J2DS  
 LOCATED IN SECTION 5, T10S, R23E  
 S.L.B.&M., UTAH COUNTY, UTAH

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



Scale: 1" = 500ft	NAD83 USP Central	Sheet No:
Drawn: CPS	Date: 30 Mar 2010	<b>18</b>
Revised: CPS	Date: 25 June 2010	



Proposed Well	Distance to Nearest CA Boundary
BONANZA 1023-5L4AS	1,083ft
BONANZA 1023-5L1DS	1,200ft
BONANZA 1023-5L4DS	1,186ft
BONANZA 1023-5K3DS	666ft
BONANZA 1023-5K1BS	433ft
BONANZA 1023-5K1CS	531ft
BONANZA 1023-5O2AS	482ft
BONANZA 1023-5J2DS	541ft

Proposed Well	Distance To Nearest Lease Boundary
BONANZA 1023-5L4AS	554ft
BONANZA 1023-5L1DS	922ft
BONANZA 1023-5L4DS	178ft
BONANZA 1023-5K3DS	148ft
BONANZA 1023-5K1BS	1,235ft
BONANZA 1023-5K1CS	858ft
BONANZA 1023-5O2AS	482ft
BONANZA 1023-5J2DS	885ft

**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 1023-5K**

TOPO E  
BONANZA 1023-5L4AS, BONANZA 1023-5L1DS,  
BONANZA 1023-5L4DS, BONANZA 1023-5K3DS,  
BONANZA 1023-5K1BS, BONANZA 1023-5K1CS,  
BONANZA 1023-5O2AS & BONANZA 1023-5J2DS  
LOCATED IN SECTION 5, T10S, R23E  
S.L.B.&M., UTAH COUNTY, UTAH

**609**

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



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: CPS	Date: 30 Mar 2010	<b>19</b>
Revised: CPS	Date: 25 June 2010	

**Kerr-McGee Oil & Gas Onshore, LP  
WELL PAD – BONANZA 1023-5K  
WELLS – BONANZA 1023-5L4AS, BONANZA 1023-5L1DS,  
BONANZA 1023-5L4DS, BONANZA 1023-5K3DS,  
BONANZA 1023-5K1BS, BONANZA 1023-5K1CS,  
BONANZA 1023-5O2AS & BONANZA 1023-5J2DS  
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 0.4 miles to a fourth Class D County Road to the left. Exit left and proceed in a southerly direction along fourth Class D Road approximately 0.3 miles to a service road to the right. Exit right and proceed in a westerly direction approximately 50 feet to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 48.2 miles in a southerly direction.



# **ANADARKO PETROLEUM CORP.**

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

**BONANZA 1023-5K PAD**

**BONANZA 1023-5O2AS**

**BONANZA 1023-5O2AS**

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

## **Standard Planning Report**

**28 April, 2010**

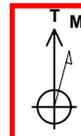




Project: UINTAH COUNTY, UTAH (nad 27)  
 Site: BONANZA 1023-5K PAD  
 Well: BONANZA 1023-5O2AS  
 Wellbore: BONANZA 1023-5O2AS  
 Section: SECTION 5 T10S R23E  
 SHL: 1951 FSL 2025 FWL  
 Design: PLAN #1 4-28-10 RHS  
 Latitude: 39° 58' 33.935 N  
 Longitude: 109° 21' 7.988 W  
 GL: 5327.00  
 KB: WELL @ 5341.00ft (Original Well Elev)



**Weatherford**



Azimuths to True North  
 Magnetic North: 11.17°  
 Magnetic Field  
 Strength: 52462.1snT  
 Dip Angle: 65.93°  
 Date: 4/28/2010  
 Model: BGGM2009

**LEGEND**

- BONANZA 1023-5J2DS, BONANZA 1023-5J2DS, PLAN #1 4-28-10 RHS V0
- Bonanza 1023-5K EXISTING, Bonanza 1023-5K EXISTING, Bonanza 1023-5K EXISTING V0
- BONANZA 1023-5K1BS, BONANZA 1023-5K1BS, PLAN #1 4-28-10 RHS V0
- BONANZA 1023-5K1CS, BONANZA 1023-5K1CS, PLAN #1 4-28-10 RHS V0
- BONANZA 1023-5K3DS, BONANZA 1023-5K3DS, PLAN #1 4-28-10 RHS V0
- BONANZA 1023-5L1DS, BONANZA 1023-5L1DS, PLAN #1 4-28-10 RHS V0
- BONANZA 1023-5L4AS, BONANZA 1023-5L4AS, PLAN #1 4-28-10 RHS V0
- BONANZA 1023-5L4DS, BONANZA 1023-5L4DS, PLAN #1 4-28-10 RHS V0
- PLAN #1 4-28-10 RHS

**FORMATION TOP DETAILS**

TVDPath	MDPath	Formation
1256.00	1257.17	GREEN RIVER
4218.00	4328.73	WASATCH
7254.00	7450.20	MESAVERDE

**CASING DETAILS**

TVD	MD	Name	Size
2020.00	2022.22	8 5/8"	8.62

**SECTION DETAILS**

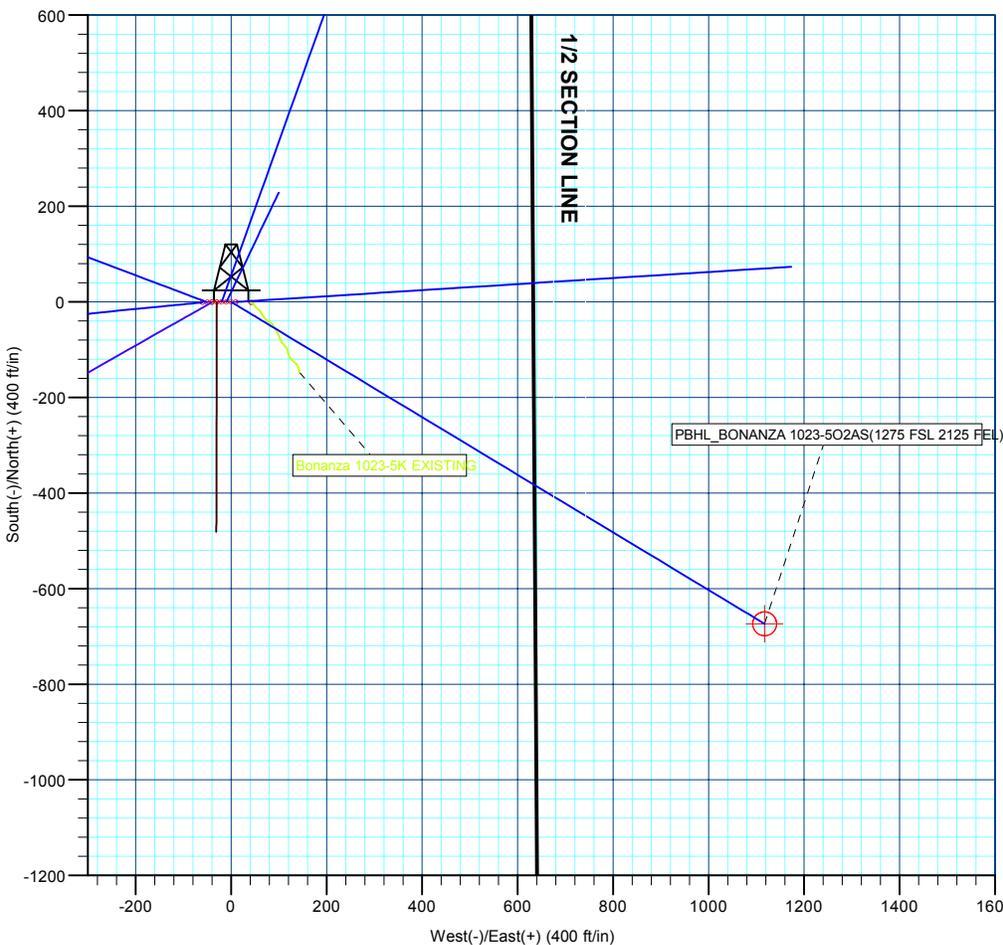
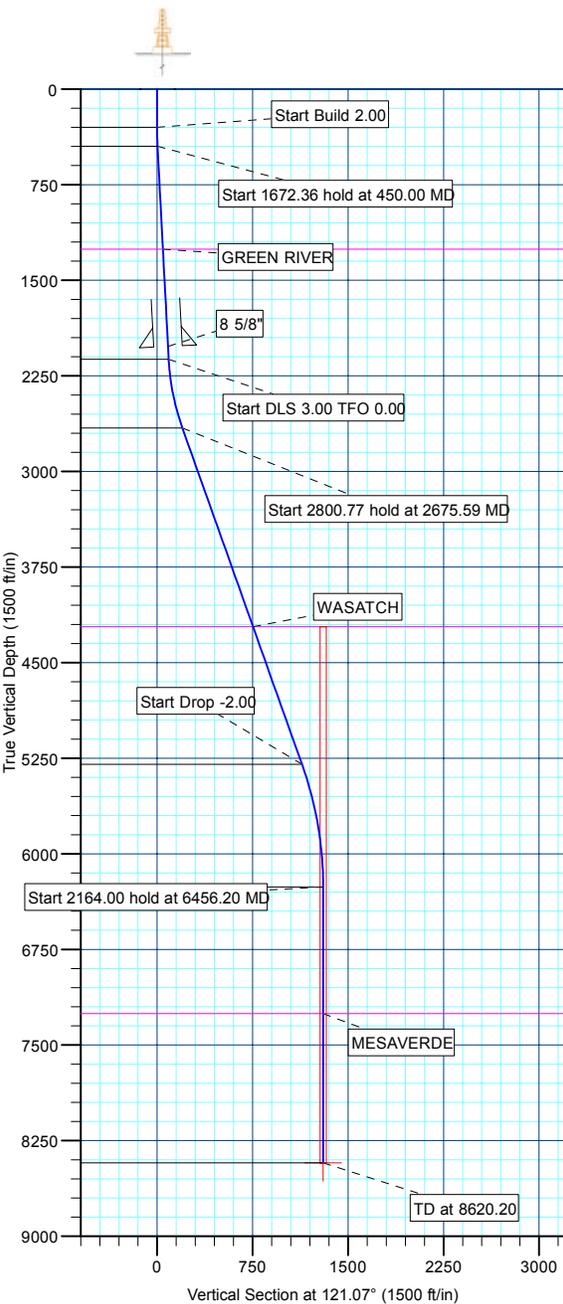
MD	Inc	Azi	TVD	+N-S	+E-W	DLeg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
450.00	3.00	121.07	449.93	-2.03	3.36	2.00	121.07	3.93	Start 1672.36 hold at 450.00 MD
2122.36	3.00	121.07	2120.00	-47.20	78.33	0.00	0.00	91.45	Start DLS 3.00 TFO 0.00
2675.59	19.60	121.07	2660.61	-102.94	170.84	3.00	0.00	199.46	Start 2800.77 hold at 2675.59 MD
5476.36	19.60	121.07	5299.15	-587.78	975.44	0.00	0.00	1138.84	Start Drop -2.00
6456.20	0.00	0.00	6260.00	-673.42	1117.57	2.00	180.00	1304.78	Start 2164.00 hold at 6456.20 MD
8620.20	0.00	0.00	8424.00	-673.42	1117.57	0.00	0.00	1304.78	TD at 8620.20

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

Name	TVD	+N-S	+E-W	Latitude	Longitude	Shape
PBHL	8424.00	-673.42	1117.57	39° 58' 27.278 N	109° 20' 53.632 W	Circle (Radius: 25.00)

**WELL DETAILS: BONANZA 1023-5O2AS**

+N-S	+E-W	Northing	Ground Level: Easting	5327.00 Latitude	Longitude	Slot
0.00	0.00	14521604.58	2102063.55	39° 58' 33.935 N	109° 21' 7.988 W	



Plan: PLAN #1 4-28-10 RHS (BONANZA 1023-5O2AS/BONANZA 1023-5O2AS)

Created By: Robert H. Scott Date: 15:29, April 28 2010



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site:</b>	BONANZA 1023-5K PAD	<b>North Reference:</b>	True
<b>Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BONANZA 1023-5O2AS		
<b>Design:</b>	PLAN #1 4-28-10 RHS		

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

<b>Site</b>	BONANZA 1023-5K PAD, SECTION 5 T10S R23E				
<b>Site Position:</b>		<b>Northing:</b>	14,521,604.77 ft	<b>Latitude:</b>	39° 58' 33.935 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,102,073.64 ft	<b>Longitude:</b>	109° 21' 7.859 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	in	<b>Grid Convergence:</b>	1.06 °

<b>Well</b>	BONANZA 1023-5O2AS					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,521,604.58 ft	<b>Latitude:</b>	39° 58' 33.935 N
	<b>+E/-W</b>	-10.09 ft	<b>Easting:</b>	2,102,063.55 ft	<b>Longitude:</b>	109° 21' 7.988 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,327.00 ft

<b>Wellbore</b>	BONANZA 1023-5O2AS				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	BGGM2009	4/28/2010	11.17	65.93	52,462

<b>Design</b>	PLAN #1 4-28-10 RHS			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	121.07

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
450.00	3.00	121.07	449.93	-2.03	3.36	2.00	2.00	0.00	121.07	
2,122.36	3.00	121.07	2,120.00	-47.20	78.33	0.00	0.00	0.00	0.00	
2,675.59	19.60	121.07	2,660.61	-102.94	170.84	3.00	3.00	0.00	0.00	
5,476.36	19.60	121.07	5,299.15	-587.78	975.44	0.00	0.00	0.00	0.00	
6,456.20	0.00	0.00	6,260.00	-673.42	1,117.57	2.00	-2.00	0.00	180.00	
8,620.20	0.00	0.00	8,424.00	-673.42	1,117.57	0.00	0.00	0.00	0.00	PBHL_BONANZA 1



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site:</b>	BONANZA 1023-5K PAD	<b>North Reference:</b>	True
<b>Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BONANZA 1023-5O2AS		
<b>Design:</b>	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)	
<b>Start Build 2.00</b>										
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	2.00	121.07	399.98	-0.90	1.49	1.75	2.00	2.00	2.00	0.00
<b>Start 1672.36 hold at 450.00 MD</b>										
450.00	3.00	121.07	449.93	-2.03	3.36	3.93	2.00	2.00	2.00	0.00
500.00	3.00	121.07	499.86	-3.38	5.60	6.54	0.00	0.00	0.00	0.00
600.00	3.00	121.07	599.73	-6.08	10.09	11.78	0.00	0.00	0.00	0.00
700.00	3.00	121.07	699.59	-8.78	14.57	17.01	0.00	0.00	0.00	0.00
800.00	3.00	121.07	799.45	-11.48	19.05	22.24	0.00	0.00	0.00	0.00
900.00	3.00	121.07	899.31	-14.18	23.54	27.48	0.00	0.00	0.00	0.00
1,000.00	3.00	121.07	999.18	-16.88	28.02	32.71	0.00	0.00	0.00	0.00
1,100.00	3.00	121.07	1,099.04	-19.58	32.50	37.94	0.00	0.00	0.00	0.00
1,200.00	3.00	121.07	1,198.90	-22.28	36.98	43.18	0.00	0.00	0.00	0.00
<b>GREEN RIVER</b>										
1,257.17	3.00	121.07	1,256.00	-23.83	39.55	46.17	0.00	0.00	0.00	0.00
1,300.00	3.00	121.07	1,298.77	-24.98	41.47	48.41	0.00	0.00	0.00	0.00
1,400.00	3.00	121.07	1,398.63	-27.69	45.95	53.65	0.00	0.00	0.00	0.00
1,500.00	3.00	121.07	1,498.49	-30.39	50.43	58.88	0.00	0.00	0.00	0.00
1,600.00	3.00	121.07	1,598.36	-33.09	54.91	64.11	0.00	0.00	0.00	0.00
1,700.00	3.00	121.07	1,698.22	-35.79	59.40	69.35	0.00	0.00	0.00	0.00
1,800.00	3.00	121.07	1,798.08	-38.49	63.88	74.58	0.00	0.00	0.00	0.00
1,900.00	3.00	121.07	1,897.94	-41.19	68.36	79.81	0.00	0.00	0.00	0.00
2,000.00	3.00	121.07	1,997.81	-43.89	72.85	85.05	0.00	0.00	0.00	0.00
<b>8 5/8"</b>										
2,022.22	3.00	121.07	2,020.00	-44.49	73.84	86.21	0.00	0.00	0.00	0.00
2,100.00	3.00	121.07	2,097.67	-46.59	77.33	90.28	0.00	0.00	0.00	0.00
<b>Start DLS 3.00 TFO 0.00</b>										
2,122.36	3.00	121.07	2,120.00	-47.20	78.33	91.45	0.00	0.00	0.00	0.00
2,200.00	5.33	121.07	2,197.43	-50.11	83.16	97.09	3.00	3.00	3.00	0.00
2,300.00	8.33	121.07	2,296.71	-56.24	93.34	108.98	3.00	3.00	3.00	0.00
2,400.00	11.33	121.07	2,395.23	-65.05	107.96	126.05	3.00	3.00	3.00	0.00
2,500.00	14.33	121.07	2,492.72	-76.51	126.98	148.25	3.00	3.00	3.00	0.00
2,600.00	17.33	121.07	2,588.92	-90.59	150.34	175.52	3.00	3.00	3.00	0.00
<b>Start 2800.77 hold at 2675.59 MD</b>										
2,675.59	19.60	121.07	2,660.61	-102.94	170.84	199.46	3.00	3.00	3.00	0.00
2,700.00	19.60	121.07	2,683.61	-107.17	177.86	207.65	0.00	0.00	0.00	0.00
2,800.00	19.60	121.07	2,777.82	-124.48	206.58	241.19	0.00	0.00	0.00	0.00
2,900.00	19.60	121.07	2,872.02	-141.79	235.31	274.73	0.00	0.00	0.00	0.00
3,000.00	19.60	121.07	2,966.23	-159.10	264.04	308.27	0.00	0.00	0.00	0.00
3,100.00	19.60	121.07	3,060.44	-176.41	292.77	341.81	0.00	0.00	0.00	0.00
3,200.00	19.60	121.07	3,154.65	-193.72	321.49	375.35	0.00	0.00	0.00	0.00
3,300.00	19.60	121.07	3,248.85	-211.03	350.22	408.89	0.00	0.00	0.00	0.00
3,400.00	19.60	121.07	3,343.06	-228.34	378.95	442.43	0.00	0.00	0.00	0.00
3,500.00	19.60	121.07	3,437.27	-245.65	407.68	475.97	0.00	0.00	0.00	0.00
3,600.00	19.60	121.07	3,531.48	-262.96	436.40	509.51	0.00	0.00	0.00	0.00
3,700.00	19.60	121.07	3,625.68	-280.28	465.13	543.05	0.00	0.00	0.00	0.00
3,800.00	19.60	121.07	3,719.89	-297.59	493.86	576.59	0.00	0.00	0.00	0.00
3,900.00	19.60	121.07	3,814.10	-314.90	522.59	610.13	0.00	0.00	0.00	0.00
4,000.00	19.60	121.07	3,908.31	-332.21	551.31	643.67	0.00	0.00	0.00	0.00
4,100.00	19.60	121.07	4,002.52	-349.52	580.04	677.21	0.00	0.00	0.00	0.00
4,200.00	19.60	121.07	4,096.72	-366.83	608.77	710.75	0.00	0.00	0.00	0.00
4,300.00	19.60	121.07	4,190.93	-384.14	637.50	744.29	0.00	0.00	0.00	0.00
<b>WASATCH</b>										



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site:</b>	BONANZA 1023-5K PAD	<b>North Reference:</b>	True
<b>Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BONANZA 1023-5O2AS		
<b>Design:</b>	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)
4,328.73	19.60	121.07	4,218.00	-389.11	645.75	753.93	0.00	0.00	0.00
4,400.00	19.60	121.07	4,285.14	-401.45	666.22	777.83	0.00	0.00	0.00
4,500.00	19.60	121.07	4,379.35	-418.76	694.95	811.37	0.00	0.00	0.00
4,600.00	19.60	121.07	4,473.55	-436.07	723.68	844.91	0.00	0.00	0.00
4,700.00	19.60	121.07	4,567.76	-453.38	752.41	878.45	0.00	0.00	0.00
4,800.00	19.60	121.07	4,661.97	-470.69	781.13	911.99	0.00	0.00	0.00
4,900.00	19.60	121.07	4,756.18	-488.01	809.86	945.53	0.00	0.00	0.00
5,000.00	19.60	121.07	4,850.38	-505.32	838.59	979.07	0.00	0.00	0.00
5,100.00	19.60	121.07	4,944.59	-522.63	867.32	1,012.61	0.00	0.00	0.00
5,200.00	19.60	121.07	5,038.80	-539.94	896.04	1,046.15	0.00	0.00	0.00
5,300.00	19.60	121.07	5,133.01	-557.25	924.77	1,079.69	0.00	0.00	0.00
5,400.00	19.60	121.07	5,227.21	-574.56	953.50	1,113.23	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,476.36	19.60	121.07	5,299.15	-587.78	975.44	1,138.84	0.00	0.00	0.00
5,500.00	19.12	121.07	5,321.45	-591.82	982.15	1,146.68	2.00	-2.00	0.00
5,600.00	17.12	121.07	5,416.49	-607.88	1,008.79	1,177.78	2.00	-2.00	0.00
5,700.00	15.12	121.07	5,512.55	-622.21	1,032.58	1,205.55	2.00	-2.00	0.00
5,800.00	13.12	121.07	5,609.52	-634.80	1,053.48	1,229.95	2.00	-2.00	0.00
5,900.00	11.12	121.07	5,707.29	-645.64	1,071.47	1,250.96	2.00	-2.00	0.00
6,000.00	9.12	121.07	5,805.72	-654.72	1,086.52	1,268.53	2.00	-2.00	0.00
6,100.00	7.12	121.07	5,904.71	-662.01	1,098.62	1,282.66	2.00	-2.00	0.00
6,200.00	5.12	121.07	6,004.14	-667.51	1,107.76	1,293.33	2.00	-2.00	0.00
6,300.00	3.12	121.07	6,103.87	-671.23	1,113.92	1,300.52	2.00	-2.00	0.00
6,400.00	1.12	121.07	6,203.80	-673.14	1,117.09	1,304.23	2.00	-2.00	0.00
<b>Start 2164.00 hold at 6456.20 MD</b>									
6,456.20	0.00	0.00	6,260.00	-673.42	1,117.57	1,304.78	2.00	-2.00	0.00
6,500.00	0.00	0.00	6,303.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
6,600.00	0.00	0.00	6,403.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
6,700.00	0.00	0.00	6,503.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
6,800.00	0.00	0.00	6,603.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
6,900.00	0.00	0.00	6,703.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
7,000.00	0.00	0.00	6,803.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
7,100.00	0.00	0.00	6,903.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
7,200.00	0.00	0.00	7,003.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
7,300.00	0.00	0.00	7,103.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
7,400.00	0.00	0.00	7,203.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
<b>MESAVERDE</b>									
7,450.20	0.00	0.00	7,254.00	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
7,500.00	0.00	0.00	7,303.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
7,600.00	0.00	0.00	7,403.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
7,700.00	0.00	0.00	7,503.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
7,800.00	0.00	0.00	7,603.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
7,900.00	0.00	0.00	7,703.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
8,000.00	0.00	0.00	7,803.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
8,100.00	0.00	0.00	7,903.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
8,200.00	0.00	0.00	8,003.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
8,300.00	0.00	0.00	8,103.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
8,400.00	0.00	0.00	8,203.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
8,500.00	0.00	0.00	8,303.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
8,600.00	0.00	0.00	8,403.80	-673.42	1,117.57	1,304.78	0.00	0.00	0.00
<b>TD at 8620.20 - PBHL BONANZA 1023-5O2AS(1275 FSL 2125 FEL)</b>									
8,620.20	0.00	0.00	8,424.00	-673.42	1,117.57	1,304.78	0.00	0.00	0.00



<b>Database:</b>	EDM 2003.21 Single User Db	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site:</b>	BONANZA 1023-5K PAD	<b>North Reference:</b>	True
<b>Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	BONANZA 1023-5O2AS		
<b>Design:</b>	PLAN #1 4-28-10 RHS		

**Design Targets**

**Target Name**

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
PBHL_BONANZA 1023-5K PAD	0.00	0.00	8,424.00	-673.42	1,117.57	14,520,951.93	2,103,193.37	39° 58' 27.278 N	109° 20' 53.632 W
- plan hits target center									
- Circle (radius 25.00)									

**Casing Points**

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,022.22	2,020.00	8 5/8"	8.62	11.00

**Formations**

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,257.17	1,256.00	GREEN RIVER			
4,328.73	4,218.00	WASATCH			
7,450.20	7,254.00	MESAVERDE			

**Plan Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 2.00
450.00	449.93	-2.03	3.36	Start 1672.36 hold at 450.00 MD
2,122.36	2,120.00	-47.20	78.33	Start DLS 3.00 TFO 0.00
2,675.59	2,660.61	-102.94	170.84	Start 2800.77 hold at 2675.59 MD
5,476.36	5,299.15	-587.78	975.44	Start Drop -2.00
6,456.20	6,260.00	-673.42	1,117.57	Start 2164.00 hold at 6456.20 MD
8,620.20	8,424.00	-673.42	1,117.57	TD at 8620.20



# **ANADARKO PETROLEUM CORP.**

**UINTAH COUNTY, UTAH (nad 27)  
BONANZA 1023-5K PAD  
BONANZA 1023-5O2AS**

**BONANZA 1023-5O2AS  
PLAN #1 4-28-10 RHS**

## **Anticollision Report**

**28 April, 2010**





<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PLAN #1 4-28-10 RHS		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	Stations	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	0.00 to 20,000.00ft	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.00ft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma		

<b>Survey Tool Program</b>	<b>Date</b>	4/28/2010		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.00	8,620.20	PLAN #1 4-28-10 RHS (BONANZA 1023-5K)	MWD	MWD - Standard

Site Name Offset Well - Wellbore - Design	Reference	Offset	Distance		Separation Factor	Warning
	Measured Depth (ft)	Measured Depth (ft)	Between Centres (ft)	Between Ellipses (ft)		
BONANZA 1023-5K PAD						
BONANZA 1023-5J2DS - BONANZA 1023-5J2DS - PLA	540.08	539.89	5.21	3.07	2.440	CC, ES, SF
Bonanza 1023-5K EXISTING - Bonanza 1023-5K EXIST	1,093.14	1,078.05	20.48	15.92	4.498	CC
Bonanza 1023-5K EXISTING - Bonanza 1023-5K EXIST	1,200.00	1,185.04	20.76	15.80	4.186	ES
Bonanza 1023-5K EXISTING - Bonanza 1023-5K EXIST	1,500.00	1,484.95	24.79	18.51	3.946	SF
BONANZA 1023-5K1BS - BONANZA 1023-5K1BS - PLA	300.00	300.00	19.90	18.81	18.217	CC, ES
BONANZA 1023-5K1BS - BONANZA 1023-5K1BS - PLA	450.00	450.11	22.46	20.72	12.862	SF
BONANZA 1023-5K1CS - BONANZA 1023-5K1CS - PLA	300.00	300.00	9.81	8.72	8.985	CC
BONANZA 1023-5K1CS - BONANZA 1023-5K1CS - PLA	308.50	308.52	9.82	8.69	8.694	ES
BONANZA 1023-5K1CS - BONANZA 1023-5K1CS - PLA	400.00	400.12	10.58	9.05	6.933	SF
BONANZA 1023-5K3DS - BONANZA 1023-5K3DS - PLA	300.00	300.00	29.99	28.89	27.451	CC, ES
BONANZA 1023-5K3DS - BONANZA 1023-5K3DS - PLA	600.00	598.17	43.86	41.46	18.328	SF
BONANZA 1023-5L1DS - BONANZA 1023-5L1DS - PLA	300.00	300.00	49.89	48.79	45.667	CC, ES
BONANZA 1023-5L1DS - BONANZA 1023-5L1DS - PLA	2,122.36	2,110.44	227.51	218.32	24.756	SF
BONANZA 1023-5L4AS - BONANZA 1023-5L4AS - PLA	300.00	300.00	59.98	58.89	54.907	CC, ES
BONANZA 1023-5L4AS - BONANZA 1023-5L4AS - PLA	2,122.36	2,114.27	203.68	194.48	22.150	SF
BONANZA 1023-5L4DS - BONANZA 1023-5L4DS - PLA	300.00	300.00	40.08	38.99	36.690	CC, ES
BONANZA 1023-5L4DS - BONANZA 1023-5L4DS - PLA	2,122.36	2,113.38	197.78	188.48	21.258	SF

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	90.00	0.00	10.09	10.09					
100.00	100.00	100.00	100.00	0.10	0.10	90.00	0.00	10.09	10.09	9.89	0.19	52.189		
200.00	200.00	200.00	200.00	0.32	0.32	90.00	0.00	10.09	10.09	9.45	0.64	15.693		
300.00	300.00	300.00	300.00	0.55	0.55	90.00	0.00	10.09	10.09	9.00	1.09	9.235		
400.00	399.98	399.98	399.98	0.75	0.77	-37.07	0.00	10.09	8.64	7.11	1.53	5.662		
450.00	449.93	449.93	449.93	0.86	0.88	-47.88	0.00	10.09	7.02	5.28	1.74	4.039		
500.00	499.86	499.86	499.86	0.96	1.00	-68.08	0.00	10.09	5.61	3.66	1.96	2.871		
540.08	539.89	539.89	539.89	1.05	1.09	-90.00	0.00	10.09	5.21	3.07	2.13	2.440	CC, ES, SF	
600.00	599.73	599.73	599.73	1.18	1.22	-121.03	0.00	10.09	6.08	3.68	2.40	2.534		
700.00	699.59	699.59	699.59	1.41	1.44	-148.08	0.00	10.09	9.86	7.02	2.83	3.478		
800.00	799.45	799.45	799.45	1.65	1.67	-159.03	0.00	10.09	14.57	11.29	3.27	4.450		

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



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 ft	
Survey Program: 0-MWD													Offset Well Error:		0.00 ft
Reference													Warning		
Reference				Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
900.00	899.31	899.31	899.31	1.89	1.89	-164.53	0.00	10.09	19.54	15.83	3.72	5.260			
1,000.00	999.18	999.18	999.18	2.13	2.12	-167.78	0.00	10.09	24.63	20.47	4.16	5.919			
1,100.00	1,099.04	1,099.74	1,099.72	2.37	2.33	-167.47	0.11	11.82	28.56	23.97	4.60	6.215			
1,200.00	1,198.90	1,200.03	1,199.89	2.61	2.54	-162.98	0.41	16.62	30.51	25.48	5.03	6.667			
1,300.00	1,298.77	1,299.98	1,299.71	2.85	2.75	-158.41	0.74	21.84	32.37	26.90	5.47	5.918			
1,400.00	1,398.63	1,399.93	1,399.52	3.10	2.97	-154.37	1.07	27.06	34.42	28.50	5.92	5.814			
1,500.00	1,498.49	1,499.88	1,499.34	3.34	3.19	-150.79	1.40	32.28	36.62	30.24	6.38	5.742			
1,600.00	1,598.36	1,599.84	1,599.15	3.58	3.42	-147.63	1.73	37.50	38.94	32.10	6.84	5.695			
1,700.00	1,698.22	1,699.79	1,698.97	3.83	3.64	-144.84	2.06	42.72	41.37	34.07	7.30	5.664			
1,800.00	1,798.08	1,799.74	1,798.78	4.07	3.87	-142.36	2.39	47.94	43.89	36.11	7.77	5.645			
1,900.00	1,897.94	1,899.69	1,898.59	4.32	4.10	-140.15	2.73	53.16	46.48	38.23	8.25	5.636			
2,000.00	1,997.81	1,999.64	1,998.41	4.56	4.34	-138.18	3.06	58.38	49.13	40.41	8.72	5.633			
2,100.00	2,097.67	2,099.59	2,098.22	4.81	4.57	-136.41	3.39	63.61	51.83	42.63	9.20	5.635			
2,122.36	2,120.00	2,121.94	2,120.54	4.86	4.62	-136.04	3.46	64.77	52.44	43.14	9.30	5.636			
2,200.00	2,197.43	2,199.87	2,198.28	5.06	4.81	-134.66	3.79	70.06	55.48	45.79	9.68	5.730			
2,300.00	2,296.71	2,300.09	2,297.84	5.36	5.08	-131.93	4.52	81.49	61.92	51.70	10.21	6.063			
2,400.00	2,395.23	2,399.95	2,396.30	5.69	5.38	-128.66	5.56	98.03	71.32	60.51	10.81	6.599			
2,500.00	2,492.72	2,499.29	2,493.26	6.08	5.72	-125.37	6.93	119.56	83.77	72.27	11.49	7.289			
2,600.00	2,588.92	2,598.00	2,588.35	6.54	6.12	-122.33	8.59	145.92	99.28	86.99	12.29	8.078			
2,675.59	2,660.61	2,672.12	2,658.80	6.93	6.46	-120.27	10.05	168.91	113.02	100.03	12.99	8.703			
2,700.00	2,683.61	2,695.96	2,681.27	7.06	6.58	-119.71	10.55	176.88	117.75	104.52	13.23	8.902			
2,800.00	2,777.82	2,793.91	2,773.31	7.63	7.10	-117.50	12.67	210.32	137.27	122.98	14.29	9.606			
2,900.00	2,872.02	2,891.87	2,865.36	8.22	7.65	-115.85	14.78	243.76	156.94	141.54	15.40	10.192			
3,000.00	2,966.23	2,989.83	2,957.41	8.83	8.22	-114.56	16.90	277.20	176.71	160.16	16.54	10.681			
3,100.00	3,060.44	3,087.79	3,049.46	9.46	8.81	-113.53	19.01	310.64	196.55	178.83	17.72	11.092			
3,200.00	3,154.65	3,185.74	3,141.50	10.09	9.42	-112.69	21.13	344.08	216.43	197.51	18.92	11.439			
3,300.00	3,248.85	3,283.70	3,233.55	10.74	10.04	-112.00	23.24	377.52	236.36	216.22	20.14	11.736			
3,400.00	3,343.06	3,381.66	3,325.60	11.39	10.68	-111.41	25.36	410.96	256.31	234.93	21.38	11.990			
3,500.00	3,437.27	3,479.62	3,417.65	12.06	11.32	-110.90	27.47	444.40	276.28	253.65	22.63	12.210			
3,600.00	3,531.48	3,577.58	3,509.70	12.72	11.97	-110.47	29.59	477.84	296.28	272.38	23.89	12.401			
3,700.00	3,625.68	3,675.53	3,601.75	13.39	12.62	-110.09	31.70	511.28	316.28	291.12	25.16	12.568			
3,800.00	3,719.89	3,773.49	3,693.80	14.07	13.28	-109.75	33.82	544.72	336.30	309.85	26.45	12.716			
3,900.00	3,814.10	3,871.45	3,785.85	14.75	13.94	-109.45	35.93	578.16	356.33	328.59	27.74	12.847			
4,000.00	3,908.31	3,969.41	3,877.90	15.43	14.61	-109.19	38.05	611.60	376.37	347.33	29.03	12.964			
4,100.00	4,002.52	4,067.37	3,969.95	16.12	15.28	-108.95	40.17	645.04	396.41	366.08	30.33	13.068			
4,200.00	4,096.72	4,165.32	4,061.99	16.80	15.96	-108.73	42.28	678.49	416.46	384.82	31.64	13.162			
4,300.00	4,190.93	4,263.28	4,154.04	17.49	16.64	-108.53	44.40	711.93	436.51	403.56	32.95	13.247			
4,400.00	4,285.14	4,361.24	4,246.09	18.18	17.32	-108.36	46.51	745.37	456.57	422.31	34.27	13.324			
4,500.00	4,379.35	4,459.20	4,338.14	18.88	18.00	-108.19	48.63	778.81	476.64	441.05	35.59	13.394			
4,600.00	4,473.55	4,557.16	4,430.19	19.57	18.68	-108.04	50.74	812.25	496.70	459.80	36.91	13.458			
4,700.00	4,567.76	4,655.11	4,522.24	20.27	19.37	-107.90	52.86	845.69	516.77	478.54	38.23	13.517			
4,800.00	4,661.97	4,753.07	4,614.29	20.96	20.05	-107.77	54.97	879.13	536.84	497.29	39.56	13.571			
4,900.00	4,756.18	4,851.03	4,706.34	21.66	20.74	-107.65	57.09	912.57	556.92	516.03	40.89	13.621			
5,000.00	4,850.38	4,948.99	4,798.39	22.36	21.43	-107.54	59.20	946.01	577.00	534.78	42.22	13.667			
5,100.00	4,944.59	5,046.95	4,890.43	23.06	22.12	-107.44	61.32	979.45	597.08	553.52	43.55	13.709			
5,200.00	5,038.80	5,147.00	4,984.54	23.76	22.79	-107.36	63.47	1,013.39	617.10	572.23	44.87	13.754			
5,300.00	5,133.01	5,251.15	5,083.45	24.46	23.37	-107.55	65.52	1,045.90	636.37	590.29	46.08	13.809			
5,400.00	5,227.21	5,355.42	5,183.60	25.17	23.86	-108.05	67.35	1,074.83	654.73	607.53	47.20	13.870			
5,476.36	5,299.15	5,434.94	5,260.65	25.70	24.20	-108.63	68.59	1,094.44	668.18	620.16	48.02	13.915			
5,500.00	5,321.45	5,459.53	5,284.59	25.85	24.30	-108.91	68.95	1,100.08	672.22	623.97	48.25	13.931			
5,600.00	5,416.49	5,563.66	5,386.45	26.36	24.68	-110.05	70.31	1,121.64	688.17	639.06	49.11	14.013			
5,700.00	5,512.55	5,667.88	5,489.10	26.82	25.01	-111.14	71.44	1,139.52	702.24	652.38	49.86	14.084			

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



**Weatherford International Ltd.**  
Anticollision Report



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 ft								
Survey Program: 0-MWD													Offset Well Error:		0.00 ft							
Reference													Offset		Semi Major Axis		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor										
5,800.00	5,609.52	5,772.10	5,592.36	27.23	25.29	-112.18	72.34	1,153.65	714.41	663.90	50.51	14.144										
5,900.00	5,707.29	5,876.27	5,696.00	27.60	25.52	-113.18	72.99	1,164.02	724.66	673.61	51.05	14.195										
6,000.00	5,805.72	5,980.30	5,799.81	27.91	25.70	-114.14	73.41	1,170.63	732.99	681.51	51.49	14.237										
6,100.00	5,904.71	6,084.13	5,903.60	28.18	25.83	-115.08	73.59	1,173.46	739.40	687.58	51.82	14.269										
6,200.00	6,004.14	6,184.67	6,004.14	28.40	25.93	-115.91	73.60	1,173.58	744.03	691.96	52.07	14.288										
6,300.00	6,103.87	6,284.41	6,103.87	28.57	26.04	-116.46	73.60	1,173.58	747.21	694.90	52.31	14.285										
6,400.00	6,203.80	6,384.33	6,203.80	28.70	26.15	-116.74	73.60	1,173.58	748.87	696.35	52.52	14.259										
6,456.20	6,260.00	6,440.53	6,260.00	28.76	26.21	4.29	73.60	1,173.58	749.12	696.48	52.64	14.232										
6,500.00	6,303.80	6,484.33	6,303.80	28.80	26.26	4.29	73.60	1,173.58	749.12	696.39	52.73	14.207										
6,600.00	6,403.80	6,584.33	6,403.80	28.90	26.37	4.29	73.60	1,173.58	749.12	696.17	52.95	14.149										
6,700.00	6,503.80	6,684.33	6,503.80	28.99	26.49	4.29	73.60	1,173.58	749.12	695.95	53.17	14.090										
6,800.00	6,603.80	6,784.33	6,603.80	29.09	26.60	4.29	73.60	1,173.58	749.12	695.73	53.39	14.031										
6,900.00	6,703.80	6,884.33	6,703.80	29.19	26.72	4.29	73.60	1,173.58	749.12	695.51	53.61	13.973										
7,000.00	6,803.80	6,984.33	6,803.80	29.29	26.84	4.29	73.60	1,173.58	749.12	695.28	53.84	13.913										
7,100.00	6,903.80	7,084.33	6,903.80	29.39	26.96	4.29	73.60	1,173.58	749.12	695.05	54.07	13.854										
7,200.00	7,003.80	7,184.33	7,003.80	29.49	27.08	4.29	73.60	1,173.58	749.12	694.81	54.31	13.794										
7,300.00	7,103.80	7,284.33	7,103.80	29.60	27.20	4.29	73.60	1,173.58	749.12	694.58	54.54	13.735										
7,400.00	7,203.80	7,384.33	7,203.80	29.70	27.33	4.29	73.60	1,173.58	749.12	694.34	54.78	13.675										
7,500.00	7,303.80	7,484.33	7,303.80	29.81	27.45	4.29	73.60	1,173.58	749.12	694.10	55.02	13.615										
7,600.00	7,403.80	7,584.33	7,403.80	29.92	27.58	4.29	73.60	1,173.58	749.12	693.85	55.27	13.554										
7,700.00	7,503.80	7,684.33	7,503.80	30.03	27.71	4.29	73.60	1,173.58	749.12	693.60	55.51	13.494										
7,800.00	7,603.80	7,784.33	7,603.80	30.14	27.84	4.29	73.60	1,173.58	749.12	693.36	55.76	13.434										
7,900.00	7,703.80	7,884.33	7,703.80	30.25	27.97	4.29	73.60	1,173.58	749.12	693.10	56.02	13.374										
8,000.00	7,803.80	7,984.33	7,803.80	30.36	28.10	4.29	73.60	1,173.58	749.12	692.85	56.27	13.313										
8,100.00	7,903.80	8,084.33	7,903.80	30.48	28.23	4.29	73.60	1,173.58	749.12	692.59	56.53	13.253										
8,200.00	8,003.80	8,184.33	8,003.80	30.59	28.36	4.29	73.60	1,173.58	749.12	692.33	56.79	13.192										
8,300.00	8,103.80	8,284.33	8,103.80	30.71	28.50	4.29	73.60	1,173.58	749.12	692.07	57.05	13.132										
8,400.00	8,203.80	8,384.33	8,203.80	30.83	28.64	4.29	73.60	1,173.58	749.12	691.81	57.31	13.071										
8,500.00	8,303.80	8,484.33	8,303.80	30.95	28.77	4.29	73.60	1,173.58	749.12	691.54	57.58	13.011										
8,600.00	8,403.80	8,584.33	8,403.80	31.07	28.91	4.29	73.60	1,173.58	749.12	691.27	57.84	12.951										
8,620.20	8,424.00	8,604.53	8,424.00	31.09	28.94	4.29	73.60	1,173.58	749.12	691.22	57.90	12.938										



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	92.45	-1.82	42.59	44.87					
100.00	100.00	85.93	85.93	0.10	0.11	92.64	-1.97	42.66	42.70	42.49	0.21	202.619		
200.00	200.00	185.86	185.86	0.32	0.36	93.10	-2.32	42.89	42.95	42.27	0.68	63.413		
300.00	300.00	286.01	286.00	0.55	0.60	93.53	-2.66	43.06	43.14	42.00	1.15	37.625		
400.00	399.98	385.84	385.84	0.75	0.84	-28.20	-2.99	43.15	41.71	40.12	1.59	26.246		
450.00	449.93	435.79	435.79	0.86	0.96	-29.56	-3.10	43.33	39.99	38.18	1.81	22.073		
500.00	499.86	485.75	485.74	0.96	1.08	-31.31	-3.24	43.50	37.90	35.86	2.04	18.584		
600.00	599.73	585.72	585.71	1.18	1.24	-35.60	-3.43	43.69	33.71	31.30	2.41	13.989		
700.00	699.59	685.53	685.52	1.41	1.39	-41.25	-3.55	43.81	29.71	26.92	2.78	10.670		
800.00	799.45	785.36	785.35	1.65	1.62	-48.22	-3.74	44.17	26.28	23.03	3.25	8.091		
900.00	899.31	885.28	885.28	1.89	1.87	-57.22	-3.88	44.55	23.41	19.67	3.74	6.264		
1,000.00	999.18	985.11	985.10	2.13	2.07	-68.65	-3.95	44.84	21.22	17.03	4.19	5.065		
1,093.14	1,092.19	1,078.05	1,078.04	2.35	2.20	-82.09	-3.48	45.07	20.48	15.92	4.55	4.498 CC		
1,100.00	1,099.04	1,084.90	1,084.89	2.37	2.21	-83.13	-3.43	45.09	20.48	15.90	4.58	4.474		
1,200.00	1,198.90	1,185.04	1,185.03	2.61	2.35	-97.90	-3.20	45.15	20.76	15.80	4.96	4.186 ES		
1,300.00	1,298.77	1,284.73	1,284.71	2.85	2.55	-109.97	-3.68	45.63	21.71	16.33	5.38	4.036		
1,400.00	1,398.63	1,384.95	1,384.92	3.10	2.78	-118.46	-4.18	47.02	23.53	17.70	5.83	4.033		
1,500.00	1,498.49	1,484.95	1,484.91	3.34	3.02	-127.27	-5.75	47.75	24.79	18.51	6.28	3.946 SF		
1,600.00	1,598.36	1,584.63	1,584.58	3.58	3.26	-134.67	-6.93	48.58	26.92	20.18	6.73	3.997		
1,700.00	1,698.22	1,684.75	1,684.69	3.83	3.50	-140.50	-7.79	49.52	29.69	22.50	7.19	4.131		
1,800.00	1,798.08	1,784.77	1,784.69	4.07	3.74	-145.86	-9.34	50.41	32.12	24.47	7.64	4.202		
1,900.00	1,897.94	1,885.13	1,885.01	4.32	4.00	-148.99	-11.07	52.41	34.10	25.98	8.12	4.199		
2,000.00	1,997.81	1,985.20	1,985.02	4.56	4.26	-151.96	-13.64	54.76	35.27	26.68	8.60	4.103		
2,100.00	2,097.67	2,084.96	2,084.73	4.81	4.52	-154.59	-15.98	57.05	36.74	27.66	9.08	4.048		
2,122.36	2,120.00	2,107.25	2,107.01	4.86	4.58	-154.95	-16.35	57.62	37.17	27.98	9.18	4.047		
2,200.00	2,197.43	2,184.46	2,184.20	5.06	4.78	-157.40	-17.48	59.13	40.53	30.99	9.54	4.247		
2,300.00	2,296.71	2,284.57	2,284.28	5.36	5.04	-162.15	-19.11	60.86	49.36	39.37	9.99	4.941		
2,400.00	2,395.23	2,383.33	2,382.99	5.69	5.29	-166.95	-21.57	62.86	62.68	52.28	10.40	6.027		
2,500.00	2,492.72	2,481.89	2,481.49	6.08	5.54	-171.38	-24.64	64.05	81.60	70.82	10.78	7.570		
2,600.00	2,588.92	2,577.83	2,577.37	6.54	5.78	-174.23	-27.52	65.49	105.75	94.61	11.14	9.495		
2,675.59	2,660.61	2,650.59	2,650.11	6.93	5.97	-175.53	-28.98	66.49	127.95	116.56	11.40	11.226		
2,700.00	2,683.61	2,674.28	2,673.80	7.06	6.03	-175.86	-29.48	66.98	135.45	123.93	11.52	11.757		
2,800.00	2,777.82	2,768.78	2,768.25	7.63	6.27	-176.93	-31.72	69.04	165.96	153.94	12.02	13.808		
2,900.00	2,872.02	2,865.14	2,864.55	8.22	6.52	-177.93	-34.46	70.34	196.92	184.39	12.53	15.720		
3,000.00	2,966.23	2,961.74	2,961.08	8.83	6.77	-178.40	-36.96	73.07	226.86	213.81	13.05	17.389		
3,100.00	3,060.44	3,056.91	3,056.18	9.46	7.02	-178.66	-39.14	76.07	256.71	243.14	13.57	18.919		
3,200.00	3,154.65	3,151.72	3,150.93	10.09	7.27	-178.86	-41.20	78.90	286.74	272.64	14.10	20.343		
3,300.00	3,248.85	3,246.10	3,245.25	10.74	7.52	-179.03	-43.14	81.54	317.00	302.37	14.62	21.677		
3,400.00	3,343.06	3,339.95	3,339.05	11.39	7.76	-179.15	-44.83	83.88	347.62	332.46	15.15	22.940		
3,500.00	3,437.27	3,434.32	3,433.39	12.06	8.01	-179.26	-46.34	85.96	378.59	362.91	15.69	24.135		
3,600.00	3,531.48	3,530.05	3,529.08	12.72	8.26	-179.44	-48.41	87.78	409.52	393.30	16.22	25.245		
3,700.00	3,625.68	3,625.26	3,624.24	13.39	8.51	-179.69	-51.18	89.31	440.32	423.56	16.76	26.274		
3,800.00	3,719.89	3,718.74	3,717.67	14.07	8.75	-179.92	-53.85	90.62	471.33	454.04	17.29	27.258		
3,900.00	3,814.10	3,812.58	3,811.47	14.75	8.99	-179.91	-56.19	91.76	502.66	484.84	17.83	28.197		
4,000.00	3,908.31	3,910.27	3,909.13	15.43	9.24	179.76	-58.61	93.18	533.82	515.44	18.38	29.049		
4,100.00	4,002.52	4,008.04	4,006.84	16.12	9.50	179.64	-61.22	95.07	564.49	545.56	18.93	29.824		
4,200.00	4,096.72	4,103.12	4,101.86	16.80	9.75	179.51	-64.06	96.96	594.96	575.49	19.47	30.552		
4,300.00	4,190.93	4,198.17	4,196.85	17.49	9.99	179.35	-67.28	98.59	625.47	605.45	20.02	31.240		
4,400.00	4,285.14	4,293.58	4,292.17	18.18	10.24	179.17	-70.83	100.04	655.98	635.41	20.57	31.895		
4,500.00	4,379.35	4,389.00	4,387.50	18.88	10.48	178.98	-74.64	101.38	686.47	665.35	21.11	32.512		
4,600.00	4,473.55	4,481.60	4,480.04	19.57	10.72	178.82	-78.17	102.62	717.10	695.44	21.66	33.111		
4,700.00	4,567.76	4,573.63	4,572.02	20.27	10.96	178.74	-80.84	103.89	748.13	725.93	22.20	33.700		

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



**Weatherford International Ltd.**  
Anticollision Report



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 100-NS-GYRO-MS													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Tooface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,800.00	4,661.97	4,670.10	4,668.45	20.96	11.21	178.70	-83.08	105.33	779.34	756.59	22.76	34.246		
4,900.00	4,756.18	4,768.67	4,766.97	21.66	11.47	178.66	-85.60	107.11	810.18	786.86	23.32	34.740		
5,000.00	4,850.38	4,865.26	4,863.50	22.36	11.73	178.62	-88.28	109.13	840.70	816.81	23.88	35.201		
5,100.00	4,944.59	4,960.87	4,959.05	23.06	11.98	178.59	-90.88	111.22	871.15	846.71	24.44	35.641		
5,200.00	5,038.80	5,056.22	5,054.35	23.76	12.24	178.56	-93.42	113.37	901.57	876.57	25.00	36.060		
5,300.00	5,133.01	5,151.38	5,149.45	24.46	12.49	178.54	-95.97	115.50	932.00	906.44	25.56	36.461		
5,400.00	5,227.21	5,242.74	5,240.75	25.17	12.72	178.52	-98.44	117.42	962.54	936.43	26.10	36.872		
5,476.36	5,299.15	5,309.24	5,307.23	25.70	12.89	178.48	-100.32	118.30	986.30	959.79	26.51	37.211		
5,500.00	5,321.45	5,329.81	5,327.78	25.85	12.94	178.47	-100.92	118.47	993.65	966.99	26.67	37.263		
5,600.00	5,416.49	5,418.90	5,416.83	26.36	13.16	178.40	-103.58	118.64	1,023.17	995.87	27.30	37.474		
5,700.00	5,512.55	5,516.27	5,514.18	26.82	13.40	178.34	-106.02	118.88	1,049.54	1,021.62	27.92	37.588		
5,800.00	5,609.52	5,614.46	5,612.34	27.23	13.64	178.33	-107.73	119.65	1,072.44	1,043.94	28.50	37.625		
5,900.00	5,707.29	5,712.74	5,710.61	27.60	13.89	178.31	-109.50	120.42	1,091.89	1,062.84	29.05	37.586		
6,000.00	5,805.72	5,812.83	5,810.66	27.91	14.15	178.25	-111.87	120.93	1,107.88	1,078.32	29.56	37.479		
6,100.00	5,904.71	5,922.57	5,920.36	28.18	14.43	178.19	-114.71	122.07	1,119.85	1,089.80	30.05	37.264		
6,200.00	6,004.14	6,029.61	6,027.34	28.40	14.71	178.14	-117.48	124.29	1,127.45	1,096.95	30.49	36.972		
6,300.00	6,103.87	6,129.17	6,126.84	28.57	14.97	178.10	-120.10	126.57	1,131.36	1,100.48	30.88	36.639		
6,400.00	6,203.80	6,228.57	6,226.19	28.70	15.23	178.04	-122.76	128.79	1,131.81	1,100.60	31.21	36.259		
6,456.20	6,260.00	6,284.13	6,281.71	28.76	15.38	-60.91	-124.10	130.06	1,130.57	1,099.19	31.39	36.021		
6,500.00	6,303.80	6,327.41	6,324.97	28.80	15.49	-60.93	-125.05	131.09	1,129.20	1,097.63	31.57	35.765		
6,600.00	6,403.80	6,427.47	6,424.98	28.90	15.76	-60.95	-126.92	133.58	1,126.12	1,094.13	31.99	35.198		
6,700.00	6,503.80	6,530.87	6,528.32	28.99	16.03	-60.99	-129.24	136.17	1,122.84	1,090.42	32.43	34.629		
6,800.00	6,603.80	6,630.20	6,627.58	29.09	16.29	-61.06	-132.11	138.57	1,119.32	1,086.47	32.85	34.077		
6,900.00	6,703.80	6,721.35	6,718.68	29.19	16.52	-61.15	-134.88	140.15	1,116.34	1,083.09	33.25	33.578		
7,000.00	6,803.80	6,814.34	6,811.61	29.29	16.76	-61.25	-137.69	140.94	1,114.13	1,080.48	33.65	33.108		
7,100.00	6,903.80	6,918.63	6,915.85	29.39	17.02	-61.39	-141.11	141.62	1,111.98	1,077.90	34.08	32.626		
7,200.00	7,003.80	7,020.93	7,018.07	29.49	17.28	-61.54	-144.86	142.51	1,109.47	1,074.96	34.51	32.147		
7,300.00	7,103.80	7,100.00	7,097.10	29.60	17.48	-61.64	-147.44	143.25	1,107.25	1,072.37	34.89	31.740		
7,307.30	7,111.10	7,100.00	7,097.10	29.61	17.48	-61.64	-147.44	143.25	1,107.23	1,072.33	34.90	31.728		
7,400.00	7,203.80	7,100.00	7,097.10	29.70	17.48	-61.64	-147.44	143.25	1,111.10	1,076.05	35.05	31.696		
7,500.00	7,303.80	7,100.00	7,097.10	29.81	17.48	-61.64	-147.44	143.25	1,123.87	1,088.65	35.23	31.905		
7,600.00	7,403.80	7,100.00	7,097.10	29.92	17.48	-61.64	-147.44	143.25	1,145.26	1,109.87	35.40	32.355		
7,700.00	7,503.80	7,100.00	7,097.10	30.03	17.48	-61.64	-147.44	143.25	1,174.81	1,139.24	35.57	33.028		
7,800.00	7,603.80	7,100.00	7,097.10	30.14	17.48	-61.64	-147.44	143.25	1,211.90	1,176.16	35.74	33.906		
7,900.00	7,703.80	7,100.00	7,097.10	30.25	17.48	-61.64	-147.44	143.25	1,255.89	1,219.97	35.92	34.965		
8,000.00	7,803.80	7,100.00	7,097.10	30.36	17.48	-61.64	-147.44	143.25	1,306.06	1,269.96	36.09	36.184		
8,100.00	7,903.80	7,100.00	7,097.10	30.48	17.48	-61.64	-147.44	143.25	1,361.74	1,325.47	36.27	37.543		
8,200.00	8,003.80	7,100.00	7,097.10	30.59	17.48	-61.64	-147.44	143.25	1,422.28	1,385.83	36.45	39.020		
8,300.00	8,103.80	7,100.00	7,097.10	30.71	17.48	-61.64	-147.44	143.25	1,487.08	1,450.45	36.63	40.598		
8,400.00	8,203.80	7,100.00	7,097.10	30.83	17.48	-61.64	-147.44	143.25	1,555.62	1,518.81	36.81	42.262		
8,500.00	8,303.80	7,100.00	7,097.10	30.95	17.48	-61.64	-147.44	143.25	1,627.42	1,590.43	36.99	43.996		
8,600.00	8,403.80	7,100.00	7,097.10	31.07	17.48	-61.64	-147.44	143.25	1,702.06	1,664.89	37.17	45.789		
8,620.20	8,424.00	7,100.00	7,097.10	31.09	17.48	-61.64	-147.44	143.25	1,717.46	1,680.25	37.21	46.157		

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



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 ft								
Survey Program: 0-MWD													Offset Well Error:		0.00 ft							
Reference													Offset		Semi Major Axis		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor										
0.00	0.00	0.00	0.00	0.00	0.00	-91.05	-0.36	-19.90	19.90													
100.00	100.00	100.00	100.00	0.10	0.10	-91.05	-0.36	-19.90	19.90	19.71	0.19	102.946										
200.00	200.00	200.00	200.00	0.32	0.32	-91.05	-0.36	-19.90	19.90	19.26	0.64	30.956										
300.00	300.00	300.00	300.00	0.55	0.55	-91.05	-0.36	-19.90	19.90	18.81	1.09	18.217 CC, ES										
400.00	399.98	400.24	400.19	0.75	0.78	157.28	2.11	-19.01	20.73	19.20	1.53	13.584										
450.00	449.93	450.11	449.96	0.86	0.90	167.65	5.19	-17.91	22.46	20.72	1.75	12.862 SF										
500.00	499.86	499.73	499.37	0.96	1.02	179.21	9.46	-16.38	25.47	23.50	1.97	12.934										
600.00	599.73	598.02	596.82	1.18	1.27	-159.77	21.49	-12.09	35.50	33.04	2.45	14.459										
700.00	699.59	694.64	691.84	1.41	1.59	-144.78	37.89	-6.22	51.68	48.71	2.97	17.425										
800.00	799.45	789.16	783.83	1.65	1.98	-135.02	58.30	1.07	73.74	70.25	3.48	21.172										
900.00	899.31	881.20	872.28	1.89	2.42	-128.58	82.27	9.64	101.13	97.13	4.00	25.275										
1,000.00	999.18	976.17	962.89	2.13	2.93	-124.32	109.05	19.21	131.35	126.84	4.51	29.100										
1,100.00	1,099.04	1,071.14	1,053.50	2.37	3.46	-121.66	135.83	28.78	161.99	156.98	5.02	32.297										
1,200.00	1,198.90	1,166.12	1,144.11	2.61	4.00	-119.84	162.62	38.35	192.85	187.33	5.52	34.925										
1,300.00	1,298.77	1,261.09	1,234.72	2.85	4.54	-118.52	189.40	47.92	223.84	217.80	6.03	37.103										
1,400.00	1,398.63	1,356.06	1,325.33	3.10	5.09	-117.53	216.18	57.50	254.90	248.36	6.55	38.943										
1,500.00	1,498.49	1,451.03	1,415.95	3.34	5.64	-116.75	242.96	67.07	286.02	278.96	7.06	40.504										
1,600.00	1,598.36	1,546.00	1,506.56	3.58	6.19	-116.12	269.74	76.64	317.18	309.60	7.58	41.846										
1,700.00	1,698.22	1,640.97	1,597.17	3.83	6.75	-115.61	296.52	86.21	348.37	340.27	8.10	43.009										
1,800.00	1,798.08	1,735.94	1,687.78	4.07	7.31	-115.18	323.30	95.78	379.57	370.95	8.62	44.026										
1,900.00	1,897.94	1,830.91	1,778.39	4.32	7.87	-114.81	350.08	105.35	410.80	401.65	9.14	44.922										
2,000.00	1,997.81	1,925.88	1,869.00	4.56	8.42	-114.50	376.86	114.93	442.04	432.37	9.67	45.718										
2,100.00	2,097.67	2,020.85	1,959.62	4.81	8.98	-114.22	403.65	124.50	473.28	463.09	10.19	46.428										
2,122.36	2,120.00	2,042.08	1,979.88	4.86	9.11	-114.17	409.63	126.64	480.27	469.96	10.31	46.576										
2,200.00	2,197.43	2,115.62	2,050.04	5.06	9.54	-113.44	430.37	134.05	505.15	494.46	10.69	47.258										
2,300.00	2,296.71	2,209.64	2,139.75	5.36	10.10	-112.92	456.89	143.53	538.94	527.73	11.21	48.088										
2,400.00	2,395.23	2,316.35	2,241.85	5.69	10.65	-112.97	486.08	153.96	573.92	562.14	11.78	48.724										
2,500.00	2,492.72	2,429.01	2,350.65	6.08	11.13	-113.62	513.59	163.79	608.07	595.70	12.38	49.129										
2,600.00	2,588.92	2,542.23	2,460.94	6.54	11.57	-114.76	537.66	172.39	641.53	628.51	13.02	49.280										
2,675.59	2,660.61	2,627.87	2,544.92	6.93	11.87	-115.88	553.47	178.05	666.57	653.04	13.53	49.264										
2,700.00	2,683.61	2,655.57	2,572.17	7.06	11.96	-116.50	558.15	179.72	674.59	660.86	13.73	49.148										
2,800.00	2,777.82	2,770.24	2,685.40	7.63	12.31	-118.98	575.17	185.80	706.04	691.50	14.53	48.582										
2,900.00	2,872.02	2,886.66	2,800.93	8.22	12.62	-121.37	588.63	190.61	735.23	719.89	15.34	47.920										
3,000.00	2,966.23	3,004.57	2,918.38	8.83	12.87	-123.71	598.31	194.07	762.14	745.99	16.14	47.210										
3,100.00	3,060.44	3,123.68	3,037.33	9.46	13.07	-126.02	604.03	196.12	786.75	769.82	16.92	46.493										
3,200.00	3,154.65	3,241.01	3,154.65	10.09	13.21	-128.27	605.70	196.71	809.10	791.44	17.67	45.795										
3,300.00	3,248.85	3,335.22	3,248.85	10.74	13.31	-130.03	605.70	196.71	831.04	812.67	18.36	45.260										
3,400.00	3,343.06	3,429.43	3,343.06	11.39	13.41	-131.69	605.70	196.71	853.72	834.68	19.05	44.825										
3,500.00	3,437.27	3,523.64	3,437.27	12.06	13.52	-133.28	605.70	196.71	877.10	857.39	19.72	44.487										
3,600.00	3,531.48	3,617.84	3,531.48	12.72	13.63	-134.79	605.70	196.71	901.13	880.76	20.37	44.234										
3,700.00	3,625.68	3,712.05	3,625.68	13.39	13.74	-136.22	605.70	196.71	925.75	904.73	21.01	44.054										
3,800.00	3,719.89	3,806.26	3,719.89	14.07	13.85	-137.58	605.70	196.71	950.91	929.27	21.64	43.939										
3,900.00	3,814.10	3,900.47	3,814.10	14.75	13.96	-138.88	605.70	196.71	976.57	954.32	22.26	43.879										
4,000.00	3,908.31	3,994.67	3,908.31	15.43	14.08	-140.11	605.70	196.71	1,002.70	979.85	22.86	43.867										
4,100.00	4,002.52	4,088.88	4,002.52	16.12	14.20	-141.28	605.70	196.71	1,029.27	1,005.82	23.45	43.895										
4,200.00	4,096.72	4,183.09	4,096.72	16.80	14.32	-142.40	605.70	196.71	1,056.22	1,032.20	24.03	43.959										
4,300.00	4,190.93	4,277.30	4,190.93	17.49	14.44	-143.46	605.70	196.71	1,083.55	1,058.95	24.60	44.053										
4,400.00	4,285.14	4,371.50	4,285.14	18.18	14.57	-144.47	605.70	196.71	1,111.21	1,086.06	25.16	44.172										
4,500.00	4,379.35	4,465.71	4,379.35	18.88	14.70	-145.43	605.70	196.71	1,139.20	1,113.49	25.71	44.314										
4,600.00	4,473.55	4,559.92	4,473.55	19.57	14.83	-146.35	605.70	196.71	1,167.47	1,141.22	26.25	44.473										
4,700.00	4,567.76	4,654.13	4,567.76	20.27	14.96	-147.22	605.70	196.71	1,196.02	1,169.23	26.79	44.649										
4,800.00	4,661.97	4,748.33	4,661.97	20.96	15.09	-148.06	605.70	196.71	1,224.82	1,197.50	27.32	44.837										

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



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 ft	
Survey Program: 0-MWD													Offset Well Error:		0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Tooface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
4,900.00	4,756.18	4,842.54	4,756.18	21.66	15.23	-148.86	605.70	196.71	1,253.85	1,226.01	27.84	45.036			
5,000.00	4,850.38	4,936.75	4,850.38	22.36	15.36	-149.62	605.70	196.71	1,283.11	1,254.75	28.36	45.243			
5,100.00	4,944.59	5,030.96	4,944.59	23.06	15.50	-150.35	605.70	196.71	1,312.57	1,283.69	28.87	45.458			
5,200.00	5,038.80	5,125.17	5,038.80	23.76	15.64	-151.05	605.70	196.71	1,342.22	1,312.84	29.38	45.678			
5,300.00	5,133.01	5,219.37	5,133.01	24.46	15.78	-151.72	605.70	196.71	1,372.05	1,342.16	29.89	45.902			
5,400.00	5,227.21	5,313.58	5,227.21	25.17	15.92	-152.36	605.70	196.71	1,402.05	1,371.66	30.39	46.129			
5,476.36	5,299.15	5,385.51	5,299.15	25.70	16.03	-152.83	605.70	196.71	1,425.06	1,394.29	30.78	46.304			
5,500.00	5,321.45	5,407.82	5,321.45	25.85	16.07	-153.04	605.70	196.71	1,432.12	1,401.20	30.92	46.315			
5,600.00	5,416.49	5,502.85	5,416.49	26.36	16.22	-153.85	605.70	196.71	1,460.22	1,428.73	31.49	46.372			
5,700.00	5,512.55	5,598.92	5,512.55	26.82	16.37	-154.54	605.70	196.71	1,485.41	1,453.38	32.03	46.380			
5,800.00	5,609.52	5,695.89	5,609.52	27.23	16.52	-155.13	605.70	196.71	1,507.61	1,475.08	32.53	46.341			
5,900.00	5,707.29	5,793.65	5,707.29	27.60	16.68	-155.62	605.70	196.71	1,526.78	1,493.77	33.01	46.259			
6,000.00	5,805.72	5,892.09	5,805.72	27.91	16.83	-156.02	605.70	196.71	1,542.86	1,509.42	33.44	46.135			
6,100.00	5,904.71	5,991.08	5,904.71	28.18	16.99	-156.34	605.70	196.71	1,555.81	1,521.96	33.84	45.971			
6,200.00	6,004.14	6,090.51	6,004.14	28.40	17.16	-156.57	605.70	196.71	1,565.59	1,531.39	34.21	45.767			
6,300.00	6,103.87	6,190.24	6,103.87	28.57	17.32	-156.73	605.70	196.71	1,572.20	1,537.66	34.54	45.524			
6,400.00	6,203.80	6,290.17	6,203.80	28.70	17.49	-156.81	605.70	196.71	1,575.61	1,540.78	34.83	45.241			
6,456.20	6,260.00	6,346.37	6,260.00	28.76	17.58	-35.75	605.70	196.71	1,576.11	1,541.13	34.98	45.060			
6,500.00	6,303.80	6,390.16	6,303.80	28.80	17.66	-35.75	605.70	196.71	1,576.11	1,540.99	35.12	44.878			
6,600.00	6,403.80	6,490.16	6,403.80	28.90	17.83	-35.75	605.70	196.71	1,576.11	1,540.67	35.44	44.470			
6,700.00	6,503.80	6,590.16	6,503.80	28.99	18.00	-35.75	605.70	196.71	1,576.11	1,540.35	35.77	44.066			
6,800.00	6,603.80	6,690.16	6,603.80	29.09	18.17	-35.75	605.70	196.71	1,576.11	1,540.02	36.09	43.666			
6,900.00	6,703.80	6,790.16	6,703.80	29.19	18.34	-35.75	605.70	196.71	1,576.11	1,539.69	36.42	43.271			
7,000.00	6,803.80	6,890.16	6,803.80	29.29	18.51	-35.75	605.70	196.71	1,576.11	1,539.36	36.76	42.879			
7,100.00	6,903.80	6,990.16	6,903.80	29.39	18.69	-35.75	605.70	196.71	1,576.11	1,539.02	37.09	42.492			
7,200.00	7,003.80	7,090.16	7,003.80	29.49	18.86	-35.75	605.70	196.71	1,576.11	1,538.68	37.43	42.109			
7,300.00	7,103.80	7,190.16	7,103.80	29.60	19.04	-35.75	605.70	196.71	1,576.11	1,538.34	37.77	41.731			
7,400.00	7,203.80	7,290.16	7,203.80	29.70	19.22	-35.75	605.70	196.71	1,576.11	1,538.00	38.11	41.357			
7,500.00	7,303.80	7,390.16	7,303.80	29.81	19.40	-35.75	605.70	196.71	1,576.11	1,537.66	38.45	40.987			
7,600.00	7,403.80	7,490.16	7,403.80	29.92	19.58	-35.75	605.70	196.71	1,576.11	1,537.31	38.80	40.621			
7,700.00	7,503.80	7,590.16	7,503.80	30.03	19.76	-35.75	605.70	196.71	1,576.11	1,536.96	39.15	40.260			
7,800.00	7,603.80	7,690.16	7,603.80	30.14	19.94	-35.75	605.70	196.71	1,576.11	1,536.61	39.50	39.903			
7,900.00	7,703.80	7,790.16	7,703.80	30.25	20.12	-35.75	605.70	196.71	1,576.11	1,536.26	39.85	39.551			
8,000.00	7,803.80	7,890.16	7,803.80	30.36	20.31	-35.75	605.70	196.71	1,576.11	1,535.91	40.20	39.202			
8,100.00	7,903.80	7,990.16	7,903.80	30.48	20.49	-35.75	605.70	196.71	1,576.11	1,535.55	40.56	38.859			
8,200.00	8,003.80	8,090.16	8,003.80	30.59	20.67	-35.75	605.70	196.71	1,576.11	1,535.20	40.92	38.519			
8,300.00	8,103.80	8,190.16	8,103.80	30.71	20.86	-35.75	605.70	196.71	1,576.11	1,534.84	41.28	38.184			
8,400.00	8,203.80	8,290.16	8,203.80	30.83	21.05	-35.75	605.70	196.71	1,576.11	1,534.47	41.64	37.853			
8,500.00	8,303.80	8,390.16	8,303.80	30.95	21.23	-35.75	605.70	196.71	1,576.11	1,534.11	42.00	37.526			
8,600.00	8,403.80	8,490.16	8,403.80	31.07	21.42	-35.75	605.70	196.71	1,576.11	1,533.75	42.37	37.203			
8,620.20	8,424.00	8,510.37	8,424.00	31.09	21.46	-35.75	605.70	196.71	1,576.11	1,533.67	42.44	37.138			



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 ft								
Survey Program: 0-MWD													Offset Well Error:		0.00 ft							
Reference													Offset		Semi Major Axis		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor										
0.00	0.00	0.00	0.00	0.00	0.00	-92.13	-0.36	-9.81	9.81													
100.00	100.00	100.00	100.00	0.10	0.10	-92.13	-0.36	-9.81	9.81	9.62	0.19	50.774										
200.00	200.00	200.00	200.00	0.32	0.32	-92.13	-0.36	-9.81	9.81	9.17	0.64	15.268										
300.00	300.00	300.00	300.00	0.55	0.55	-92.13	-0.36	-9.81	9.81	8.72	1.09	8.985 CC										
308.50	308.50	308.52	308.52	0.56	0.57	146.94	-0.35	-9.80	9.82	8.69	1.13	8.694 ES										
400.00	399.98	400.12	400.07	0.75	0.77	164.86	2.00	-8.68	10.58	9.05	1.53	6.933 SF										
450.00	449.93	449.95	449.80	0.86	0.90	-177.82	4.94	-7.27	12.71	10.96	1.75	7.270										
500.00	499.86	499.55	499.18	0.96	1.02	-162.36	9.03	-5.31	16.54	14.57	1.97	8.378										
600.00	599.73	598.36	597.24	1.18	1.27	-142.16	19.99	-0.07	28.09	25.63	2.46	11.433										
700.00	699.59	697.32	695.38	1.41	1.56	-133.60	31.50	5.43	41.51	38.59	2.93	14.183										
800.00	799.45	796.29	793.52	1.65	1.86	-129.26	43.00	10.93	55.40	52.00	3.40	16.294										
900.00	899.31	895.25	891.66	1.89	2.16	-126.67	54.50	16.43	69.47	65.59	3.88	17.921										
1,000.00	999.18	994.22	989.80	2.13	2.47	-124.95	66.00	21.93	83.64	79.28	4.36	19.199										
1,100.00	1,099.04	1,093.19	1,087.95	2.37	2.78	-123.74	77.51	27.43	97.85	93.01	4.84	20.225										
1,200.00	1,198.90	1,192.15	1,186.09	2.61	3.09	-122.83	89.01	32.94	112.10	106.78	5.32	21.065										
1,300.00	1,298.77	1,291.12	1,284.23	2.85	3.41	-122.12	100.51	38.44	126.37	120.57	5.81	21.763										
1,400.00	1,398.63	1,390.08	1,382.37	3.10	3.72	-121.56	112.01	43.94	140.66	134.36	6.29	22.353										
1,500.00	1,498.49	1,489.05	1,480.51	3.34	4.04	-121.10	123.52	49.44	154.95	148.17	6.78	22.856										
1,600.00	1,598.36	1,588.01	1,578.65	3.58	4.35	-120.72	135.02	54.94	169.26	161.99	7.27	23.292										
1,700.00	1,698.22	1,686.98	1,676.79	3.83	4.67	-120.40	146.52	60.44	183.57	175.81	7.75	23.671										
1,800.00	1,798.08	1,785.95	1,774.93	4.07	4.99	-120.13	158.02	65.94	197.88	189.64	8.24	24.005										
1,900.00	1,897.94	1,884.91	1,873.07	4.32	5.31	-119.89	169.53	71.44	212.20	203.47	8.73	24.301										
2,000.00	1,997.81	1,983.88	1,971.22	4.56	5.62	-119.68	181.03	76.95	226.52	217.30	9.22	24.565										
2,100.00	2,097.67	2,082.84	2,069.36	4.81	5.94	-119.50	192.53	82.45	240.85	231.14	9.71	24.802										
2,122.36	2,120.00	2,104.97	2,091.30	4.86	6.01	-119.46	195.10	83.68	244.05	234.23	9.82	24.852										
2,200.00	2,197.43	2,181.69	2,167.38	5.06	6.26	-119.34	204.02	87.94	255.94	245.75	10.20	25.100										
2,300.00	2,296.71	2,287.92	2,272.92	5.36	6.52	-120.22	214.85	93.12	272.13	261.46	10.67	25.507										
2,400.00	2,395.23	2,394.11	2,378.76	5.69	6.75	-122.23	222.58	96.82	288.32	277.16	11.16	25.838										
2,500.00	2,492.72	2,499.73	2,484.26	6.08	6.95	-125.15	227.19	99.02	305.10	293.44	11.66	26.164										
2,600.00	2,588.92	2,604.32	2,588.82	6.54	7.12	-128.76	228.73	99.76	323.30	311.14	12.16	26.589										
2,675.59	2,660.61	2,676.11	2,660.61	6.93	7.23	-131.47	228.73	99.76	339.21	326.68	12.53	27.075										
2,700.00	2,683.61	2,699.10	2,683.61	7.06	7.27	-132.46	228.73	99.76	344.86	332.19	12.67	27.225										
2,800.00	2,777.82	2,793.31	2,777.82	7.63	7.43	-136.20	228.73	99.76	369.01	355.77	13.24	27.866										
2,900.00	2,872.02	2,887.52	2,872.02	8.22	7.59	-139.49	228.73	99.76	394.54	380.74	13.80	28.590										
3,000.00	2,966.23	2,981.73	2,966.23	8.83	7.76	-142.39	228.73	99.76	421.19	406.85	14.34	29.370										
3,100.00	3,060.44	3,075.93	3,060.44	9.46	7.93	-144.96	228.73	99.76	448.77	433.90	14.87	30.184										
3,200.00	3,154.65	3,170.14	3,154.65	10.09	8.10	-147.23	228.73	99.76	477.11	461.73	15.38	31.016										
3,300.00	3,248.85	3,264.35	3,248.85	10.74	8.27	-149.26	228.73	99.76	506.09	490.20	15.89	31.853										
3,400.00	3,343.06	3,358.56	3,343.06	11.39	8.44	-151.07	228.73	99.76	535.60	519.21	16.39	32.684										
3,500.00	3,437.27	3,452.76	3,437.27	12.06	8.62	-152.69	228.73	99.76	565.56	548.68	16.88	33.505										
3,600.00	3,531.48	3,546.97	3,531.48	12.72	8.80	-154.15	228.73	99.76	595.90	578.53	17.37	34.308										
3,700.00	3,625.68	3,641.18	3,625.68	13.39	8.97	-155.48	228.73	99.76	626.57	608.71	17.86	35.091										
3,800.00	3,719.89	3,735.39	3,719.89	14.07	9.15	-156.68	228.73	99.76	657.51	639.17	18.34	35.852										
3,900.00	3,814.10	3,829.59	3,814.10	14.75	9.34	-157.78	228.73	99.76	688.71	669.88	18.82	36.589										
4,000.00	3,908.31	3,923.80	3,908.31	15.43	9.52	-158.78	228.73	99.76	720.11	700.80	19.31	37.301										
4,100.00	4,002.52	4,018.01	4,002.52	16.12	9.70	-159.70	228.73	99.76	751.69	731.91	19.79	37.988										
4,200.00	4,096.72	4,112.22	4,096.72	16.80	9.89	-160.54	228.73	99.76	783.44	763.17	20.27	38.650										
4,300.00	4,190.93	4,206.42	4,190.93	17.49	10.07	-161.32	228.73	99.76	815.34	794.58	20.75	39.286										
4,400.00	4,285.14	4,300.63	4,285.14	18.18	10.26	-162.05	228.73	99.76	847.36	826.12	21.24	39.899										
4,500.00	4,379.35	4,394.84	4,379.35	18.88	10.45	-162.72	228.73	99.76	879.49	857.77	21.72	40.488										
4,600.00	4,473.55	4,489.05	4,473.55	19.57	10.64	-163.34	228.73	99.76	911.72	889.52	22.21	41.054										
4,700.00	4,567.76	4,583.25	4,567.76	20.27	10.83	-163.92	228.73	99.76	944.05	921.35	22.69	41.598										

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



**Weatherford International Ltd.**  
Anticollision Report



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft	
Survey Program: 0-MWD												Offset Well Error:		0.00 ft
Reference												Warning		
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Tooface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,800.00	4,661.97	4,677.46	4,661.97	20.96	11.02	-164.46	228.73	99.76	976.46	953.27	23.18	42.120		
4,900.00	4,756.18	4,771.67	4,756.18	21.66	11.21	-164.97	228.73	99.76	1,008.94	985.27	23.67	42.622		
5,000.00	4,850.38	4,865.88	4,850.38	22.36	11.40	-165.45	228.73	99.76	1,041.49	1,017.33	24.16	43.104		
5,100.00	4,944.59	4,960.08	4,944.59	23.06	11.59	-165.90	228.73	99.76	1,074.10	1,049.44	24.65	43.568		
5,200.00	5,038.80	5,054.29	5,038.80	23.76	11.79	-166.32	228.73	99.76	1,106.76	1,081.62	25.15	44.013		
5,300.00	5,133.01	5,148.50	5,133.01	24.46	11.98	-166.72	228.73	99.76	1,139.48	1,113.84	25.64	44.441		
5,400.00	5,227.21	5,242.71	5,227.21	25.17	12.18	-167.09	228.73	99.76	1,172.24	1,146.11	26.13	44.853		
5,476.36	5,299.15	5,314.64	5,299.15	25.70	12.33	-167.36	228.73	99.76	1,197.29	1,170.77	26.51	45.157		
5,500.00	5,321.45	5,336.95	5,321.45	25.85	12.37	-167.48	228.73	99.76	1,204.96	1,178.30	26.66	45.199		
5,600.00	5,416.49	5,431.98	5,416.49	26.36	12.57	-167.93	228.73	99.76	1,235.42	1,208.18	27.24	45.358		
5,700.00	5,512.55	5,528.04	5,512.55	26.82	12.77	-168.31	228.73	99.76	1,262.64	1,234.85	27.79	45.441		
5,800.00	5,609.52	5,625.01	5,609.52	27.23	12.97	-168.62	228.73	99.76	1,286.57	1,258.27	28.30	45.455		
5,900.00	5,707.29	5,722.78	5,707.29	27.60	13.18	-168.89	228.73	99.76	1,307.19	1,278.40	28.79	45.405		
6,000.00	5,805.72	5,821.22	5,805.72	27.91	13.38	-169.10	228.73	99.76	1,324.45	1,295.21	29.24	45.297		
6,100.00	5,904.71	5,920.21	5,904.71	28.18	13.59	-169.27	228.73	99.76	1,338.34	1,308.68	29.65	45.133		
6,200.00	6,004.14	6,019.63	6,004.14	28.40	13.80	-169.39	228.73	99.76	1,348.82	1,318.79	30.03	44.917		
6,300.00	6,103.87	6,119.37	6,103.87	28.57	14.01	-169.47	228.73	99.76	1,355.89	1,325.53	30.37	44.650		
6,400.00	6,203.80	6,219.30	6,203.80	28.70	14.22	-169.51	228.73	99.76	1,359.54	1,328.87	30.67	44.333		
6,456.20	6,260.00	6,275.49	6,260.00	28.76	14.34	-48.45	228.73	99.76	1,360.08	1,329.26	30.82	44.126		
6,500.00	6,303.80	6,319.29	6,303.80	28.80	14.43	-48.45	228.73	99.76	1,360.08	1,329.09	30.99	43.893		
6,600.00	6,403.80	6,419.29	6,403.80	28.90	14.65	-48.45	228.73	99.76	1,360.08	1,328.72	31.36	43.376		
6,700.00	6,503.80	6,519.29	6,503.80	28.99	14.86	-48.45	228.73	99.76	1,360.08	1,328.35	31.73	42.869		
6,800.00	6,603.80	6,619.29	6,603.80	29.09	15.07	-48.45	228.73	99.76	1,360.08	1,327.98	32.10	42.372		
6,900.00	6,703.80	6,719.29	6,703.80	29.19	15.29	-48.45	228.73	99.76	1,360.08	1,327.61	32.47	41.883		
7,000.00	6,803.80	6,819.29	6,803.80	29.29	15.50	-48.45	228.73	99.76	1,360.08	1,327.23	32.85	41.404		
7,100.00	6,903.80	6,919.29	6,903.80	29.39	15.71	-48.45	228.73	99.76	1,360.08	1,326.85	33.23	40.933		
7,200.00	7,003.80	7,019.29	7,003.80	29.49	15.93	-48.45	228.73	99.76	1,360.08	1,326.47	33.61	40.471		
7,300.00	7,103.80	7,119.29	7,103.80	29.60	16.14	-48.45	228.73	99.76	1,360.08	1,326.09	33.99	40.017		
7,400.00	7,203.80	7,219.29	7,203.80	29.70	16.36	-48.45	228.73	99.76	1,360.08	1,325.71	34.37	39.572		
7,500.00	7,303.80	7,319.29	7,303.80	29.81	16.57	-48.45	228.73	99.76	1,360.08	1,325.32	34.75	39.134		
7,600.00	7,403.80	7,419.29	7,403.80	29.92	16.79	-48.45	228.73	99.76	1,360.08	1,324.94	35.14	38.705		
7,700.00	7,503.80	7,519.29	7,503.80	30.03	17.00	-48.45	228.73	99.76	1,360.08	1,324.55	35.53	38.283		
7,800.00	7,603.80	7,619.29	7,603.80	30.14	17.22	-48.45	228.73	99.76	1,360.08	1,324.16	35.91	37.870		
7,900.00	7,703.80	7,719.29	7,703.80	30.25	17.44	-48.45	228.73	99.76	1,360.08	1,323.77	36.30	37.463		
8,000.00	7,803.80	7,819.29	7,803.80	30.36	17.65	-48.45	228.73	99.76	1,360.08	1,323.38	36.70	37.064		
8,100.00	7,903.80	7,919.29	7,903.80	30.48	17.87	-48.45	228.73	99.76	1,360.08	1,322.99	37.09	36.672		
8,200.00	8,003.80	8,019.29	8,003.80	30.59	18.09	-48.45	228.73	99.76	1,360.08	1,322.60	37.48	36.287		
8,300.00	8,103.80	8,119.29	8,103.80	30.71	18.30	-48.45	228.73	99.76	1,360.08	1,322.20	37.88	35.909		
8,400.00	8,203.80	8,219.29	8,203.80	30.83	18.52	-48.45	228.73	99.76	1,360.08	1,321.81	38.27	35.538		
8,500.00	8,303.80	8,319.29	8,303.80	30.95	18.74	-48.45	228.73	99.76	1,360.08	1,321.41	38.67	35.174		
8,600.00	8,403.80	8,419.29	8,403.80	31.07	18.95	-48.45	228.73	99.76	1,360.08	1,321.01	39.07	34.815		
8,620.20	8,424.00	8,439.49	8,424.00	31.09	19.00	-48.45	228.73	99.76	1,360.08	1,320.93	39.15	34.744		

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



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 ft								
Survey Program: 0-MWD													Offset Well Error:		0.00 ft							
Reference													Offset		Semi Major Axis		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor										
0.00	0.00	0.00	0.00	0.00	0.00	-90.70	-0.36	-29.98	29.99													
100.00	100.00	100.00	100.00	0.10	0.10	-90.70	-0.36	-29.98	29.99	29.79	0.19	155.129										
200.00	200.00	200.00	200.00	0.32	0.32	-90.70	-0.36	-29.98	29.99	29.34	0.64	46.647										
300.00	300.00	300.00	300.00	0.55	0.55	-90.70	-0.36	-29.98	29.99	28.89	1.09	27.451 CC, ES										
400.00	399.98	399.91	399.87	0.75	0.75	145.14	-2.98	-29.99	31.55	30.05	1.50	21.018										
450.00	449.93	449.75	449.60	0.86	0.86	141.69	-6.23	-29.99	33.62	31.92	1.71	19.698										
500.00	499.86	499.44	499.08	0.96	0.96	137.12	-10.77	-30.00	36.37	34.46	1.91	19.000										
600.00	599.73	598.17	596.96	1.18	1.21	125.15	-23.59	-30.02	43.86	41.46	2.39	18.328 SF										
700.00	699.59	695.58	692.76	1.41	1.54	112.57	-41.19	-30.06	55.57	52.65	2.92	19.031										
800.00	799.45	792.28	786.94	1.65	1.94	102.01	-63.08	-30.09	72.35	68.88	3.46	20.891										
900.00	899.31	889.98	881.90	1.89	2.38	95.09	-86.05	-30.13	91.38	87.40	3.98	22.953										
1,000.00	999.18	987.67	976.85	2.13	2.84	90.59	-109.03	-30.17	111.25	106.76	4.49	24.771										
1,100.00	1,099.04	1,085.37	1,071.81	2.37	3.30	87.45	-132.01	-30.21	131.59	126.59	5.00	26.318										
1,200.00	1,198.90	1,183.06	1,166.76	2.61	3.78	85.16	-154.99	-30.25	152.20	146.69	5.51	27.627										
1,300.00	1,298.77	1,280.76	1,261.71	2.85	4.25	83.41	-177.97	-30.29	172.99	166.97	6.02	28.739										
1,400.00	1,398.63	1,378.45	1,356.67	3.10	4.73	82.04	-200.95	-30.34	193.91	187.38	6.53	29.689										
1,500.00	1,498.49	1,476.15	1,451.62	3.34	5.21	80.94	-223.93	-30.38	214.91	207.86	7.04	30.507										
1,600.00	1,598.36	1,573.84	1,546.58	3.58	5.69	80.03	-246.91	-30.42	235.97	228.41	7.56	31.219										
1,700.00	1,698.22	1,671.53	1,641.53	3.83	6.17	79.28	-269.88	-30.46	257.08	249.00	8.07	31.842										
1,800.00	1,798.08	1,769.23	1,736.48	4.07	6.66	78.63	-292.86	-30.50	278.22	269.63	8.59	32.391										
1,900.00	1,897.94	1,866.92	1,831.44	4.32	7.14	78.08	-315.84	-30.54	299.40	290.29	9.11	32.878										
2,000.00	1,997.81	1,964.62	1,926.39	4.56	7.63	77.60	-338.82	-30.58	320.59	310.97	9.62	33.313										
2,100.00	2,097.67	2,062.31	2,021.34	4.81	8.11	77.18	-361.80	-30.62	341.81	331.67	10.14	33.704										
2,122.36	2,120.00	2,084.16	2,042.58	4.86	8.22	77.09	-366.94	-30.63	346.55	336.30	10.26	33.786										
2,200.00	2,197.43	2,160.10	2,116.39	5.06	8.60	76.57	-384.80	-30.66	362.69	352.02	10.67	34.000										
2,300.00	2,296.71	2,267.81	2,221.35	5.36	9.01	76.79	-408.97	-30.70	381.42	370.17	11.25	33.898										
2,400.00	2,395.23	2,378.57	2,330.04	5.69	9.36	78.08	-430.26	-30.74	396.06	384.14	11.91	33.243										
2,500.00	2,492.72	2,489.27	2,439.32	6.08	9.68	80.34	-447.85	-30.77	406.98	394.30	12.67	32.117										
2,600.00	2,588.92	2,599.03	2,548.21	6.54	9.96	83.50	-461.64	-30.79	414.90	401.37	13.54	30.651										
2,675.59	2,660.61	2,680.85	2,629.64	6.93	10.13	86.45	-469.54	-30.81	419.54	405.28	14.26	29.418										
2,700.00	2,683.61	2,707.04	2,655.75	7.06	10.19	87.52	-471.64	-30.81	420.90	406.39	14.51	29.012										
2,800.00	2,777.82	2,813.87	2,762.38	7.63	10.38	91.95	-478.03	-30.82	426.14	410.62	15.52	27.457										
2,900.00	2,872.02	2,919.74	2,868.21	8.22	10.53	96.48	-480.93	-30.83	431.11	414.59	16.52	26.090										
3,000.00	2,966.23	3,017.76	2,966.23	8.83	10.65	100.76	-481.14	-30.83	436.64	419.16	17.48	24.983										
3,100.00	3,060.44	3,111.97	3,060.44	9.46	10.75	104.78	-481.14	-30.83	444.49	426.11	18.38	24.186										
3,200.00	3,154.65	3,206.18	3,154.65	10.09	10.86	108.66	-481.14	-30.83	454.68	435.44	19.24	23.635										
3,300.00	3,248.85	3,300.39	3,248.85	10.74	10.97	112.37	-481.14	-30.83	467.07	447.02	20.05	23.296										
3,400.00	3,343.06	3,394.59	3,343.06	11.39	11.09	115.89	-481.14	-30.83	481.48	460.67	20.81	23.137										
3,500.00	3,437.27	3,488.80	3,437.27	12.06	11.21	119.21	-481.14	-30.83	497.73	476.21	21.52	23.130										
3,600.00	3,531.48	3,583.01	3,531.48	12.72	11.33	122.33	-481.14	-30.83	515.66	493.48	22.18	23.248										
3,700.00	3,625.68	3,677.22	3,625.68	13.39	11.45	125.25	-481.14	-30.83	535.09	512.29	22.80	23.471										
3,800.00	3,719.89	3,771.42	3,719.89	14.07	11.58	127.98	-481.14	-30.83	555.86	532.49	23.38	23.780										
3,900.00	3,814.10	3,865.63	3,814.10	14.75	11.71	130.51	-481.14	-30.83	577.84	553.92	23.92	24.158										
4,000.00	3,908.31	3,959.84	3,908.31	15.43	11.84	132.87	-481.14	-30.83	600.89	576.45	24.43	24.592										
4,100.00	4,002.52	4,054.05	4,002.52	16.12	11.97	135.06	-481.14	-30.83	624.89	599.96	24.93	25.070										
4,200.00	4,096.72	4,148.25	4,096.72	16.80	12.10	137.09	-481.14	-30.83	649.73	624.33	25.40	25.584										
4,300.00	4,190.93	4,242.46	4,190.93	17.49	12.24	138.98	-481.14	-30.83	675.32	649.47	25.85	26.123										
4,400.00	4,285.14	4,336.67	4,285.14	18.18	12.38	140.74	-481.14	-30.83	701.59	675.30	26.29	26.683										
4,500.00	4,379.35	4,430.88	4,379.35	18.88	12.52	142.38	-481.14	-30.83	728.45	701.73	26.73	27.256										
4,600.00	4,473.55	4,525.08	4,473.55	19.57	12.67	143.90	-481.14	-30.83	755.85	728.70	27.15	27.839										
4,700.00	4,567.76	4,619.29	4,567.76	20.27	12.81	145.32	-481.14	-30.83	783.72	756.15	27.57	28.427										
4,800.00	4,661.97	4,713.50	4,661.97	20.96	12.96	146.64	-481.14	-30.83	812.03	784.04	27.99	29.016										

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



**Weatherford International Ltd.**  
Anticollision Report



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-502AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-502AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-502AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 ft	
Survey Program: 0-MWD													Offset Well Error:		0.00 ft
Reference													Warning		
Reference				Offset			Semi Major Axis			Distance					
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Tooface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
4,900.00	4,756.18	4,807.71	4,756.18	21.66	13.11	147.88	-481.14	-30.83	840.72	812.32	28.40	29.605			
5,000.00	4,850.38	4,901.91	4,850.38	22.36	13.26	149.03	-481.14	-30.83	869.75	840.94	28.81	30.190			
5,100.00	4,944.59	4,996.12	4,944.59	23.06	13.41	150.12	-481.14	-30.83	899.10	869.88	29.22	30.769			
5,200.00	5,038.80	5,090.33	5,038.80	23.76	13.56	151.14	-481.14	-30.83	928.73	899.10	29.63	31.342			
5,300.00	5,133.01	5,184.54	5,133.01	24.46	13.72	152.09	-481.14	-30.83	958.62	928.58	30.04	31.907			
5,400.00	5,227.21	5,278.74	5,227.21	25.17	13.88	152.99	-481.14	-30.83	988.75	958.29	30.46	32.463			
5,476.36	5,299.15	5,350.68	5,299.15	25.70	14.00	153.64	-481.14	-30.83	1,011.90	981.12	30.77	32.881			
5,500.00	5,321.45	5,372.98	5,321.45	25.85	14.03	153.90	-481.14	-30.83	1,019.00	988.12	30.88	32.997			
5,600.00	5,416.49	5,468.02	5,416.49	26.36	14.20	154.89	-481.14	-30.83	1,047.31	1,016.03	31.28	33.478			
5,700.00	5,512.55	5,564.08	5,512.55	26.82	14.36	155.74	-481.14	-30.83	1,072.72	1,041.04	31.68	33.865			
5,800.00	5,609.52	5,661.05	5,609.52	27.23	14.53	156.44	-481.14	-30.83	1,095.14	1,063.08	32.06	34.164			
5,900.00	5,707.29	5,758.82	5,707.29	27.60	14.70	157.03	-481.14	-30.83	1,114.50	1,082.08	32.42	34.380			
6,000.00	5,805.72	5,857.25	5,805.72	27.91	14.87	157.50	-481.14	-30.83	1,130.75	1,097.99	32.76	34.518			
6,100.00	5,904.71	5,956.25	5,904.71	28.18	15.04	157.87	-481.14	-30.83	1,143.84	1,110.76	33.08	34.581			
6,200.00	6,004.14	6,055.67	6,004.14	28.40	15.22	158.14	-481.14	-30.83	1,153.74	1,120.37	33.37	34.572			
6,300.00	6,103.87	6,155.41	6,103.87	28.57	15.40	158.33	-481.14	-30.83	1,160.42	1,126.78	33.64	34.493			
6,400.00	6,203.80	6,255.33	6,203.80	28.70	15.58	158.42	-481.14	-30.83	1,163.87	1,129.98	33.89	34.346			
6,456.20	6,260.00	6,311.53	6,260.00	28.76	15.68	-80.49	-481.14	-30.83	1,164.38	1,130.36	34.02	34.226			
6,500.00	6,303.80	6,355.33	6,303.80	28.80	15.76	-80.49	-481.14	-30.83	1,164.38	1,130.22	34.16	34.083			
6,600.00	6,403.80	6,455.33	6,403.80	28.90	15.94	-80.49	-481.14	-30.83	1,164.38	1,129.89	34.48	33.766			
6,700.00	6,503.80	6,555.33	6,503.80	28.99	16.13	-80.49	-481.14	-30.83	1,164.38	1,129.57	34.81	33.452			
6,800.00	6,603.80	6,655.33	6,603.80	29.09	16.31	-80.49	-481.14	-30.83	1,164.38	1,129.25	35.13	33.142			
6,900.00	6,703.80	6,755.33	6,703.80	29.19	16.50	-80.49	-481.14	-30.83	1,164.38	1,128.92	35.46	32.835			
7,000.00	6,803.80	6,855.33	6,803.80	29.29	16.68	-80.49	-481.14	-30.83	1,164.38	1,128.59	35.79	32.531			
7,100.00	6,903.80	6,955.33	6,903.80	29.39	16.87	-80.49	-481.14	-30.83	1,164.38	1,128.25	36.13	32.231			
7,200.00	7,003.80	7,055.33	7,003.80	29.49	17.06	-80.49	-481.14	-30.83	1,164.38	1,127.92	36.46	31.934			
7,300.00	7,103.80	7,155.33	7,103.80	29.60	17.25	-80.49	-481.14	-30.83	1,164.38	1,127.58	36.80	31.640			
7,400.00	7,203.80	7,255.33	7,203.80	29.70	17.44	-80.49	-481.14	-30.83	1,164.38	1,127.24	37.14	31.350			
7,500.00	7,303.80	7,355.33	7,303.80	29.81	17.63	-80.49	-481.14	-30.83	1,164.38	1,126.89	37.48	31.063			
7,600.00	7,403.80	7,455.33	7,403.80	29.92	17.82	-80.49	-481.14	-30.83	1,164.38	1,126.55	37.83	30.780			
7,700.00	7,503.80	7,555.33	7,503.80	30.03	18.01	-80.49	-481.14	-30.83	1,164.38	1,126.20	38.18	30.500			
7,800.00	7,603.80	7,655.33	7,603.80	30.14	18.21	-80.49	-481.14	-30.83	1,164.38	1,125.85	38.53	30.224			
7,900.00	7,703.80	7,755.33	7,703.80	30.25	18.40	-80.49	-481.14	-30.83	1,164.38	1,125.50	38.88	29.951			
8,000.00	7,803.80	7,855.33	7,803.80	30.36	18.59	-80.49	-481.14	-30.83	1,164.38	1,125.15	39.23	29.681			
8,100.00	7,903.80	7,955.33	7,903.80	30.48	18.79	-80.49	-481.14	-30.83	1,164.38	1,124.79	39.58	29.415			
8,200.00	8,003.80	8,055.33	8,003.80	30.59	18.99	-80.49	-481.14	-30.83	1,164.38	1,124.44	39.94	29.152			
8,300.00	8,103.80	8,155.33	8,103.80	30.71	19.18	-80.49	-481.14	-30.83	1,164.38	1,124.08	40.30	28.893			
8,400.00	8,203.80	8,255.33	8,203.80	30.83	19.38	-80.49	-481.14	-30.83	1,164.38	1,123.72	40.66	28.637			
8,500.00	8,303.80	8,355.33	8,303.80	30.95	19.58	-80.49	-481.14	-30.83	1,164.38	1,123.36	41.02	28.384			
8,600.00	8,403.80	8,455.33	8,403.80	31.07	19.78	-80.49	-481.14	-30.83	1,164.38	1,122.99	41.39	28.135			
8,620.20	8,424.00	8,475.53	8,424.00	31.09	19.82	-80.49	-481.14	-30.83	1,164.38	1,122.92	41.46	28.085			

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



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 ft								
Survey Program: 0-MWD													Offset Well Error:		0.00 ft							
Reference													Offset		Semi Major Axis		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor										
0.00	0.00	0.00	0.00	0.00	0.00	-90.84	-0.73	-49.88	49.89													
100.00	100.00	100.00	100.00	0.10	0.10	-90.84	-0.73	-49.88	49.89	49.69	0.19	258.073										
200.00	200.00	200.00	200.00	0.32	0.32	-90.84	-0.73	-49.88	49.89	49.24	0.64	77.603										
300.00	300.00	300.00	300.00	0.55	0.55	-90.84	-0.73	-49.88	49.89	48.79	1.09	45.667 CC, ES										
400.00	399.98	398.29	398.27	0.75	0.76	149.71	-0.13	-51.46	52.99	51.47	1.52	34.865										
450.00	449.93	447.22	447.15	0.86	0.87	151.48	0.60	-53.42	56.91	55.17	1.74	32.730										
500.00	499.86	496.89	496.76	0.96	0.98	153.39	1.52	-55.85	61.73	59.78	1.95	31.647										
600.00	599.73	596.35	596.08	1.18	1.21	156.43	3.35	-60.72	71.53	69.15	2.38	30.111										
700.00	699.59	695.80	695.40	1.41	1.44	158.73	5.19	-65.59	81.48	78.67	2.81	29.005										
800.00	799.45	795.26	794.72	1.65	1.68	160.53	7.02	-70.47	91.53	88.28	3.25	28.179										
900.00	899.31	894.72	894.04	1.89	1.92	161.97	8.86	-75.34	101.66	97.97	3.69	27.543										
1,000.00	999.18	994.17	993.36	2.13	2.16	163.16	10.69	-80.21	111.83	107.70	4.14	27.041										
1,100.00	1,099.04	1,093.63	1,092.68	2.37	2.40	164.14	12.52	-85.08	122.05	117.47	4.58	26.634										
1,200.00	1,198.90	1,193.09	1,192.00	2.61	2.64	164.97	14.36	-89.95	132.30	127.27	5.03	26.299										
1,300.00	1,298.77	1,292.54	1,291.32	2.85	2.88	165.68	16.19	-94.82	142.57	137.09	5.48	26.019										
1,400.00	1,398.63	1,392.00	1,390.64	3.10	3.12	166.30	18.03	-99.69	152.86	146.93	5.93	25.781										
1,500.00	1,498.49	1,491.46	1,489.96	3.34	3.36	166.84	19.86	-104.56	163.16	156.78	6.38	25.577										
1,600.00	1,598.36	1,590.92	1,589.28	3.58	3.61	167.31	21.69	-109.44	173.48	166.65	6.83	25.399										
1,700.00	1,698.22	1,690.37	1,688.60	3.83	3.85	167.73	23.53	-114.31	183.80	176.52	7.28	25.244										
1,800.00	1,798.08	1,789.83	1,787.92	4.07	4.09	168.11	25.36	-119.18	194.14	186.41	7.73	25.106										
1,900.00	1,897.94	1,889.29	1,887.24	4.32	4.33	168.45	27.19	-124.05	204.48	196.30	8.18	24.984										
2,000.00	1,997.81	1,988.74	1,986.56	4.56	4.58	168.75	29.03	-128.92	214.83	206.20	8.64	24.875										
2,100.00	2,097.67	2,088.20	2,085.89	4.81	4.82	169.03	30.86	-133.79	225.19	216.10	9.09	24.777										
2,122.36	2,120.00	2,110.44	2,108.09	4.86	4.87	169.09	31.27	-134.88	227.51	218.32	9.19	24.756 SF										
2,200.00	2,197.43	2,185.81	2,183.36	5.06	5.06	169.29	32.68	-138.62	237.14	227.62	9.52	24.909										
2,300.00	2,296.71	2,272.58	2,269.83	5.36	5.29	169.63	35.19	-145.28	256.94	247.03	9.91	25.915										
2,400.00	2,395.23	2,356.30	2,352.87	5.69	5.54	170.00	38.91	-155.18	286.09	275.80	10.29	27.800										
2,500.00	2,492.72	2,435.99	2,431.41	6.08	5.80	170.36	43.65	-167.76	324.14	313.50	10.64	30.458										
2,600.00	2,588.92	2,510.87	2,504.65	6.54	6.07	170.64	49.15	-182.36	370.57	359.60	10.96	33.799										
2,675.59	2,660.61	2,563.94	2,556.15	6.93	6.29	170.81	53.66	-194.33	410.84	399.65	11.19	36.726										
2,700.00	2,683.61	2,580.46	2,572.10	7.06	6.36	170.92	55.16	-198.33	424.62	413.33	11.29	37.605										
2,800.00	2,777.82	2,646.12	2,635.15	7.63	6.66	171.33	61.63	-215.50	482.85	471.13	11.72	41.194										
2,900.00	2,872.02	2,708.60	2,694.52	8.22	6.96	171.63	68.49	-233.71	543.79	531.64	12.15	44.756										
3,000.00	2,966.23	2,777.20	2,759.06	8.83	7.34	171.89	76.67	-255.45	606.94	594.35	12.60	48.183										
3,100.00	3,060.44	2,854.45	2,831.65	9.46	7.78	172.13	85.98	-280.18	670.42	657.36	13.05	51.359										
3,200.00	3,154.65	2,931.69	2,904.24	10.09	8.23	172.32	95.29	-304.90	733.90	720.38	13.51	54.308										
3,300.00	3,248.85	3,008.94	2,976.83	10.74	8.70	172.49	104.60	-329.62	797.38	783.40	13.98	57.041										
3,400.00	3,343.06	3,086.19	3,049.42	11.39	9.17	172.63	113.91	-354.35	860.86	846.41	14.45	59.572										
3,500.00	3,437.27	3,163.43	3,122.01	12.06	9.66	172.75	123.22	-379.07	924.35	909.42	14.93	61.922										
3,600.00	3,531.48	3,240.68	3,194.60	12.72	10.15	172.86	132.53	-403.79	987.84	972.43	15.41	64.111										
3,700.00	3,625.68	3,317.93	3,267.18	13.39	10.65	172.95	141.84	-428.51	1,051.34	1,035.44	15.89	66.152										
3,800.00	3,719.89	3,395.17	3,339.77	14.07	11.16	173.03	151.15	-453.24	1,114.83	1,098.45	16.38	68.058										
3,900.00	3,814.10	3,472.42	3,412.36	14.75	11.67	173.11	160.46	-477.96	1,178.33	1,161.45	16.87	69.836										
4,000.00	3,908.31	3,549.67	3,484.95	15.43	12.18	173.17	169.77	-502.68	1,241.82	1,224.45	17.37	71.502										
4,100.00	4,002.52	3,626.91	3,557.54	16.12	12.70	173.23	179.08	-527.41	1,305.32	1,287.45	17.86	73.066										
4,200.00	4,096.72	3,704.16	3,630.13	16.80	13.22	173.29	188.39	-552.13	1,368.82	1,350.45	18.36	74.535										
4,300.00	4,190.93	3,781.41	3,702.72	17.49	13.75	173.34	197.70	-576.85	1,432.32	1,413.45	18.87	75.914										
4,400.00	4,285.14	3,858.65	3,775.31	18.18	14.28	173.38	207.01	-601.57	1,495.81	1,476.44	19.37	77.212										
4,500.00	4,379.35	3,935.90	3,847.90	18.88	14.80	173.42	216.32	-626.30	1,559.31	1,539.43	19.88	78.437										
4,600.00	4,473.55	4,013.15	3,920.49	19.57	15.34	173.46	225.63	-651.02	1,622.81	1,602.43	20.39	79.595										
4,700.00	4,567.76	4,146.68	4,046.50	20.27	16.13	173.53	241.19	-692.34	1,685.65	1,664.65	21.00	80.260										
4,800.00	4,661.97	4,348.43	4,240.34	20.96	17.06	173.65	260.85	-744.56	1,743.76	1,722.04	21.72	80.291										

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



**Weatherford International Ltd.**  
Anticollision Report



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft	
Survey Program: 0-MWD												Offset Well Error:		0.00 ft
Reference												Warning		
Reference				Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Tooface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.00	4,756.18	4,570.75	4,457.89	21.66	17.88	173.81	276.90	-787.17	1,795.71	1,773.25	22.46	79.950		
5,000.00	4,850.38	4,813.85	4,699.01	22.36	18.52	174.03	287.58	-815.54	1,840.58	1,817.37	23.21	79.291		
5,100.00	4,944.59	5,059.69	4,944.59	23.06	18.90	174.28	291.03	-824.69	1,877.48	1,853.55	23.93	78.455		
5,200.00	5,038.80	5,153.90	5,038.80	23.76	19.01	174.38	291.03	-824.69	1,910.87	1,886.45	24.42	78.255		
5,300.00	5,133.01	5,248.11	5,133.01	24.46	19.13	174.48	291.03	-824.69	1,944.27	1,919.36	24.91	78.049		
5,400.00	5,227.21	5,342.32	5,227.21	25.17	19.24	174.57	291.03	-824.69	1,977.68	1,952.27	25.41	77.846		
5,476.36	5,299.15	5,414.25	5,299.15	25.70	19.33	174.64	291.03	-824.69	2,003.19	1,977.40	25.78	77.693		
5,500.00	5,321.45	5,436.56	5,321.45	25.85	19.36	174.68	291.03	-824.69	2,010.99	1,985.05	25.95	77.504		
5,600.00	5,416.49	5,531.59	5,416.49	26.36	19.49	174.82	291.03	-824.69	2,041.98	2,015.38	26.60	76.777		
5,700.00	5,512.55	5,627.65	5,512.55	26.82	19.61	174.94	291.03	-824.69	2,069.65	2,042.44	27.21	76.055		
5,800.00	5,609.52	5,724.62	5,609.52	27.23	19.74	175.04	291.03	-824.69	2,093.96	2,066.17	27.79	75.341		
5,900.00	5,707.29	5,822.39	5,707.29	27.60	19.87	175.12	291.03	-824.69	2,114.89	2,086.55	28.34	74.634		
6,000.00	5,805.72	5,920.83	5,805.72	27.91	20.00	175.19	291.03	-824.69	2,132.41	2,103.56	28.84	73.934		
6,100.00	5,904.71	6,019.82	5,904.71	28.18	20.14	175.25	291.03	-824.69	2,146.49	2,117.18	29.31	73.240		
6,200.00	6,004.14	6,119.24	6,004.14	28.40	20.27	175.29	291.03	-824.69	2,157.12	2,127.39	29.73	72.552		
6,300.00	6,103.87	6,218.98	6,103.87	28.57	20.41	175.32	291.03	-824.69	2,164.29	2,134.17	30.12	71.866		
6,400.00	6,203.80	6,318.90	6,203.80	28.70	20.56	175.33	291.03	-824.69	2,167.98	2,137.53	30.46	71.183		
6,456.20	6,260.00	6,375.10	6,260.00	28.76	20.64	-63.59	291.03	-824.69	2,168.53	2,137.90	30.64	70.783		
6,500.00	6,303.80	6,418.90	6,303.80	28.80	20.70	-63.59	291.03	-824.69	2,168.53	2,137.74	30.79	70.421		
6,600.00	6,403.80	6,518.90	6,403.80	28.90	20.84	-63.59	291.03	-824.69	2,168.53	2,137.38	31.15	69.620		
6,700.00	6,503.80	6,618.90	6,503.80	28.99	20.99	-63.59	291.03	-824.69	2,168.53	2,137.03	31.50	68.833		
6,800.00	6,603.80	6,718.90	6,603.80	29.09	21.13	-63.59	291.03	-824.69	2,168.53	2,136.67	31.86	68.058		
6,900.00	6,703.80	6,818.90	6,703.80	29.19	21.28	-63.59	291.03	-824.69	2,168.53	2,136.31	32.22	67.296		
7,000.00	6,803.80	6,918.90	6,803.80	29.29	21.43	-63.59	291.03	-824.69	2,168.53	2,135.95	32.59	66.547		
7,100.00	6,903.80	7,018.90	6,903.80	29.39	21.58	-63.59	291.03	-824.69	2,168.53	2,135.58	32.95	65.810		
7,200.00	7,003.80	7,118.90	7,003.80	29.49	21.74	-63.59	291.03	-824.69	2,168.53	2,135.21	33.32	65.085		
7,300.00	7,103.80	7,218.90	7,103.80	29.60	21.89	-63.59	291.03	-824.69	2,168.53	2,134.84	33.69	64.372		
7,400.00	7,203.80	7,318.90	7,203.80	29.70	22.04	-63.59	291.03	-824.69	2,168.53	2,134.47	34.06	63.671		
7,500.00	7,303.80	7,418.90	7,303.80	29.81	22.20	-63.59	291.03	-824.69	2,168.53	2,134.10	34.43	62.982		
7,600.00	7,403.80	7,518.90	7,403.80	29.92	22.36	-63.59	291.03	-824.69	2,168.53	2,133.73	34.81	62.305		
7,700.00	7,503.80	7,618.90	7,503.80	30.03	22.52	-63.59	291.03	-824.69	2,168.53	2,133.35	35.18	61.639		
7,800.00	7,603.80	7,718.90	7,603.80	30.14	22.68	-63.59	291.03	-824.69	2,168.53	2,132.97	35.56	60.984		
7,900.00	7,703.80	7,818.90	7,703.80	30.25	22.84	-63.59	291.03	-824.69	2,168.53	2,132.59	35.94	60.341		
8,000.00	7,803.80	7,918.90	7,803.80	30.36	23.00	-63.59	291.03	-824.69	2,168.53	2,132.21	36.32	59.708		
8,100.00	7,903.80	8,018.90	7,903.80	30.48	23.16	-63.59	291.03	-824.69	2,168.53	2,131.83	36.70	59.086		
8,200.00	8,003.80	8,118.90	8,003.80	30.59	23.32	-63.59	291.03	-824.69	2,168.53	2,131.45	37.09	58.474		
8,300.00	8,103.80	8,218.90	8,103.80	30.71	23.49	-63.59	291.03	-824.69	2,168.53	2,131.06	37.47	57.873		
8,400.00	8,203.80	8,318.90	8,203.80	30.83	23.65	-63.59	291.03	-824.69	2,168.53	2,130.67	37.86	57.282		
8,500.00	8,303.80	8,418.90	8,303.80	30.95	23.82	-63.59	291.03	-824.69	2,168.53	2,130.29	38.25	56.701		
8,600.00	8,403.80	8,518.90	8,403.80	31.07	23.99	-63.59	291.03	-824.69	2,168.53	2,129.90	38.63	56.129		
8,620.20	8,424.00	8,539.10	8,424.00	31.09	24.02	-63.59	291.03	-824.69	2,168.53	2,129.82	38.71	56.015		

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



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 ft								
Survey Program: 0-MWD													Offset Well Error:		0.00 ft							
Reference													Offset		Semi Major Axis		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor										
0.00	0.00	0.00	0.00	0.00	0.00	-91.04	-1.09	-59.97	59.98													
100.00	100.00	100.00	100.00	0.10	0.10	-91.04	-1.09	-59.97	59.98	59.78	0.19	310.286										
200.00	200.00	200.00	200.00	0.32	0.32	-91.04	-1.09	-59.97	59.98	59.34	0.64	93.303										
300.00	300.00	300.00	300.00	0.55	0.55	-91.04	-1.09	-59.97	59.98	58.89	1.09	54.907 CC, ES										
400.00	399.98	397.85	397.83	0.75	0.75	148.56	-1.26	-61.63	63.16	61.65	1.51	41.733										
450.00	449.93	447.66	447.61	0.86	0.86	149.36	-1.43	-63.36	66.77	65.04	1.72	38.755										
500.00	499.86	497.49	497.41	0.96	0.96	150.29	-1.60	-65.09	70.76	68.83	1.93	36.657										
600.00	599.73	597.15	597.01	1.18	1.18	151.86	-1.94	-68.55	78.80	76.44	2.35	33.494										
700.00	699.59	696.80	696.60	1.41	1.41	153.15	-2.28	-72.01	86.88	84.09	2.79	31.188										
800.00	799.45	796.46	796.20	1.65	1.64	154.21	-2.62	-75.47	95.00	91.77	3.23	29.454										
900.00	899.31	896.11	895.79	1.89	1.86	155.11	-2.96	-78.94	103.14	99.48	3.67	28.111										
1,000.00	999.18	995.77	995.39	2.13	2.09	155.87	-3.30	-82.40	111.31	107.20	4.12	27.045										
1,100.00	1,099.04	1,095.43	1,094.98	2.37	2.32	156.53	-3.64	-85.86	119.50	114.93	4.56	26.180										
1,200.00	1,198.90	1,195.08	1,194.58	2.61	2.56	157.11	-3.98	-89.32	127.70	122.68	5.01	25.466										
1,300.00	1,298.77	1,294.74	1,294.17	2.85	2.79	157.62	-4.32	-92.78	135.91	130.44	5.47	24.866										
1,400.00	1,398.63	1,394.39	1,393.77	3.10	3.02	158.06	-4.66	-96.24	144.13	138.21	5.92	24.356										
1,500.00	1,498.49	1,494.05	1,493.36	3.34	3.25	158.47	-5.00	-99.70	152.35	145.98	6.37	23.917										
1,600.00	1,598.36	1,593.70	1,592.96	3.58	3.48	158.82	-5.34	-103.17	160.59	153.76	6.82	23.536										
1,700.00	1,698.22	1,693.36	1,692.55	3.83	3.72	159.15	-5.68	-106.63	168.83	161.55	7.28	23.202										
1,800.00	1,798.08	1,793.02	1,792.15	4.07	3.95	159.44	-6.02	-110.09	177.07	169.34	7.73	22.966										
1,900.00	1,897.94	1,892.67	1,891.74	4.32	4.18	159.71	-6.36	-113.55	185.32	177.14	8.18	22.643										
2,000.00	1,997.81	1,992.33	1,991.34	4.56	4.42	159.96	-6.70	-117.01	193.57	184.93	8.64	22.407										
2,100.00	2,097.67	2,091.98	2,090.93	4.81	4.65	160.18	-7.04	-120.47	201.83	192.74	9.09	22.195										
2,122.36	2,120.00	2,114.27	2,113.20	4.86	4.70	160.23	-7.11	-121.25	203.68	194.48	9.20	22.150 SF										
2,200.00	2,197.43	2,187.62	2,186.50	5.06	4.88	160.40	-7.40	-124.14	211.94	202.41	9.53	22.144										
2,300.00	2,296.71	2,276.10	2,274.71	5.36	5.10	160.60	-8.06	-130.93	230.44	220.50	9.94	23.282										
2,400.00	2,395.23	2,361.78	2,359.74	5.69	5.35	160.71	-9.09	-141.38	257.99	247.65	10.34	24.944										
2,500.00	2,492.72	2,443.73	2,440.54	6.08	5.60	160.72	-10.42	-154.90	294.19	283.46	10.73	27.418										
2,600.00	2,588.92	2,521.18	2,516.31	6.54	5.87	160.61	-11.99	-170.85	338.55	327.45	11.10	30.502										
2,675.59	2,660.61	2,576.37	2,569.87	6.93	6.08	160.45	-13.29	-184.07	377.14	365.78	11.37	33.177										
2,700.00	2,683.61	2,600.00	2,592.69	7.06	6.17	160.56	-13.89	-190.21	390.43	378.93	11.50	33.954										
2,800.00	2,777.82	2,662.29	2,652.44	7.63	6.45	160.74	-15.61	-207.71	446.33	434.36	11.96	37.305										
2,900.00	2,872.02	2,727.88	2,714.70	8.22	6.76	160.80	-17.63	-228.22	505.01	492.55	12.45	40.556										
3,000.00	2,966.23	2,801.41	2,783.85	8.83	7.14	160.77	-20.08	-253.12	565.73	552.76	12.97	43.629										
3,100.00	3,060.44	2,880.74	2,858.39	9.46	7.59	160.73	-22.73	-280.12	626.61	613.12	13.49	46.437										
3,200.00	3,154.65	2,960.06	2,932.93	10.09	8.05	160.70	-25.39	-307.13	687.50	673.47	14.03	49.000										
3,300.00	3,248.85	3,039.39	3,007.47	10.74	8.52	160.67	-28.04	-334.13	748.39	733.81	14.58	51.343										
3,400.00	3,343.06	3,118.72	3,082.01	11.39	9.00	160.65	-30.70	-361.13	809.28	794.15	15.13	53.490										
3,500.00	3,437.27	3,198.04	3,156.56	12.06	9.50	160.63	-33.35	-388.13	870.16	854.47	15.69	55.459										
3,600.00	3,531.48	3,277.37	3,231.10	12.72	10.00	160.62	-36.00	-415.14	931.05	914.79	16.26	57.266										
3,700.00	3,625.68	3,356.70	3,305.64	13.39	10.52	160.60	-38.66	-442.14	991.94	975.11	16.83	58.932										
3,800.00	3,719.89	3,436.02	3,380.18	14.07	11.03	160.59	-41.31	-469.14	1,052.83	1,035.42	17.41	60.470										
3,900.00	3,814.10	3,515.35	3,454.72	14.75	11.56	160.58	-43.97	-496.14	1,113.71	1,095.72	17.99	61.892										
4,000.00	3,908.31	3,594.67	3,529.27	15.43	12.09	160.57	-46.62	-523.14	1,174.60	1,156.02	18.58	63.210										
4,100.00	4,002.52	3,674.00	3,603.81	16.12	12.62	160.56	-49.28	-550.15	1,235.49	1,216.31	19.18	64.432										
4,200.00	4,096.72	3,753.33	3,678.35	16.80	13.16	160.55	-51.93	-577.15	1,296.38	1,276.61	19.77	65.569										
4,300.00	4,190.93	3,832.65	3,752.89	17.49	13.70	160.55	-54.59	-604.15	1,357.27	1,336.89	20.37	66.629										
4,400.00	4,285.14	3,911.98	3,827.43	18.18	14.24	160.54	-57.24	-631.15	1,418.15	1,397.18	20.97	67.618										
4,500.00	4,379.35	3,991.31	3,901.98	18.88	14.79	160.53	-59.90	-658.15	1,479.04	1,457.46	21.58	68.542										
4,600.00	4,473.55	4,070.63	3,976.52	19.57	15.34	160.53	-62.55	-685.16	1,539.93	1,517.74	22.19	69.407										
4,700.00	4,567.76	4,149.96	4,051.06	20.27	15.89	160.52	-65.21	-712.16	1,600.82	1,578.02	22.80	70.218										
4,800.00	4,661.97	4,229.29	4,125.60	20.96	16.44	160.52	-67.86	-739.16	1,661.70	1,638.29	23.41	70.981										

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



**Weatherford International Ltd.**  
Anticollision Report



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design												Offset Site Error:	0.00 ft								
Survey Program: 0-MWD												Offset Well Error:		0.00 ft							
Reference												Offset		Semi Major Axis		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Tooface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor									
4,900.00	4,756.18	4,308.61	4,200.14	21.66	16.99	160.51	-70.52	-766.16	1,722.59	1,698.57	24.03	71.698									
5,000.00	4,850.38	4,486.34	4,368.74	22.36	17.97	160.57	-76.01	-822.04	1,781.57	1,756.73	24.84	71.720									
5,100.00	4,944.59	4,695.09	4,570.74	23.06	18.86	160.79	-81.14	-874.26	1,835.15	1,809.49	25.66	71.513									
5,200.00	5,038.80	4,921.67	4,793.68	23.76	19.59	161.20	-85.07	-914.21	1,882.56	1,856.09	26.47	71.119									
5,300.00	5,133.01	5,165.27	5,036.07	24.46	20.12	161.79	-87.36	-937.47	1,923.05	1,895.81	27.24	70.591									
5,400.00	5,227.21	5,356.48	5,227.21	25.17	20.37	162.37	-87.76	-941.56	1,956.58	1,928.70	27.88	70.177									
5,476.36	5,299.15	5,428.41	5,299.15	25.70	20.45	162.59	-87.76	-941.56	1,981.13	1,952.86	28.27	70.080									
5,500.00	5,321.45	5,450.72	5,321.45	25.85	20.48	162.71	-87.76	-941.56	1,988.65	1,960.21	28.43	69.938									
5,600.00	5,416.49	5,545.75	5,416.49	26.36	20.59	163.15	-87.76	-941.56	2,018.51	1,989.43	29.08	69.420									
5,700.00	5,512.55	5,641.81	5,512.55	26.82	20.70	163.53	-87.76	-941.56	2,045.20	2,015.52	29.68	68.899									
5,800.00	5,609.52	5,738.79	5,609.52	27.23	20.82	163.86	-87.76	-941.56	2,068.68	2,038.42	30.25	68.379									
5,900.00	5,707.29	5,836.55	5,707.29	27.60	20.94	164.13	-87.76	-941.56	2,088.90	2,058.11	30.78	67.858									
6,000.00	5,805.72	5,934.99	5,805.72	27.91	21.06	164.36	-87.76	-941.56	2,105.83	2,074.56	31.27	67.338									
6,100.00	5,904.71	6,033.98	5,904.71	28.18	21.19	164.53	-87.76	-941.56	2,119.46	2,087.74	31.72	66.818									
6,200.00	6,004.14	6,133.40	6,004.14	28.40	21.31	164.67	-87.76	-941.56	2,129.75	2,097.62	32.12	66.297									
6,300.00	6,103.87	6,233.14	6,103.87	28.57	21.44	164.75	-87.76	-941.56	2,136.68	2,104.20	32.49	65.773									
6,400.00	6,203.80	6,333.07	6,203.80	28.70	21.57	164.80	-87.76	-941.56	2,140.26	2,107.46	32.80	65.244									
6,456.20	6,260.00	6,389.26	6,260.00	28.76	21.65	-74.12	-87.76	-941.56	2,140.79	2,107.82	32.97	64.930									
6,500.00	6,303.80	6,433.06	6,303.80	28.80	21.70	-74.12	-87.76	-941.56	2,140.79	2,107.68	33.11	64.649									
6,600.00	6,403.80	6,533.06	6,403.80	28.90	21.84	-74.12	-87.76	-941.56	2,140.79	2,107.36	33.44	64.026									
6,700.00	6,503.80	6,633.06	6,503.80	28.99	21.97	-74.12	-87.76	-941.56	2,140.79	2,107.03	33.76	63.410									
6,800.00	6,603.80	6,733.06	6,603.80	29.09	22.11	-74.12	-87.76	-941.56	2,140.79	2,106.70	34.09	62.800									
6,900.00	6,703.80	6,833.06	6,703.80	29.19	22.25	-74.12	-87.76	-941.56	2,140.79	2,106.37	34.42	62.198									
7,000.00	6,803.80	6,933.06	6,803.80	29.29	22.39	-74.12	-87.76	-941.56	2,140.79	2,106.04	34.75	61.602									
7,100.00	6,903.80	7,033.06	6,903.80	29.39	22.53	-74.12	-87.76	-941.56	2,140.79	2,105.71	35.09	61.013									
7,200.00	7,003.80	7,133.06	7,003.80	29.49	22.67	-74.12	-87.76	-941.56	2,140.79	2,105.37	35.43	60.430									
7,300.00	7,103.80	7,233.06	7,103.80	29.60	22.81	-74.12	-87.76	-941.56	2,140.79	2,105.03	35.77	59.855									
7,400.00	7,203.80	7,333.06	7,203.80	29.70	22.96	-74.12	-87.76	-941.56	2,140.79	2,104.68	36.11	59.287									
7,500.00	7,303.80	7,433.06	7,303.80	29.81	23.10	-74.12	-87.76	-941.56	2,140.79	2,104.34	36.45	58.726									
7,600.00	7,403.80	7,533.06	7,403.80	29.92	23.25	-74.12	-87.76	-941.56	2,140.79	2,103.99	36.80	58.171									
7,700.00	7,503.80	7,633.06	7,503.80	30.03	23.40	-74.12	-87.76	-941.56	2,140.79	2,103.64	37.15	57.624									
7,800.00	7,603.80	7,733.06	7,603.80	30.14	23.55	-74.12	-87.76	-941.56	2,140.79	2,103.29	37.50	57.084									
7,900.00	7,703.80	7,833.06	7,703.80	30.25	23.70	-74.12	-87.76	-941.56	2,140.79	2,102.94	37.86	56.551									
8,000.00	7,803.80	7,933.06	7,803.80	30.36	23.85	-74.12	-87.76	-941.56	2,140.79	2,102.58	38.21	56.024									
8,100.00	7,903.80	8,033.06	7,903.80	30.48	24.00	-74.12	-87.76	-941.56	2,140.79	2,102.22	38.57	55.505									
8,200.00	8,003.80	8,133.06	8,003.80	30.59	24.16	-74.12	-87.76	-941.56	2,140.79	2,101.86	38.93	54.992									
8,300.00	8,103.80	8,233.06	8,103.80	30.71	24.31	-74.12	-87.76	-941.56	2,140.79	2,101.50	39.29	54.487									
8,400.00	8,203.80	8,333.06	8,203.80	30.83	24.47	-74.12	-87.76	-941.56	2,140.79	2,101.14	39.65	53.988									
8,500.00	8,303.80	8,433.06	8,303.80	30.95	24.63	-74.12	-87.76	-941.56	2,140.79	2,100.77	40.02	53.496									
8,600.00	8,403.80	8,533.06	8,403.80	31.07	24.79	-74.12	-87.76	-941.56	2,140.79	2,100.41	40.38	53.010									
8,620.20	8,424.00	8,553.26	8,424.00	31.09	24.82	-74.12	-87.76	-941.56	2,140.79	2,100.33	40.46	52.913									

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



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Offset Design													Offset Site Error:	0.00 ft								
Survey Program: 0-MWD													Offset Well Error:		0.00 ft							
Reference													Offset		Semi Major Axis		Distance				Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor										
0.00	0.00	0.00	0.00	0.00	0.00	-91.04	-0.73	-40.07	40.08													
100.00	100.00	100.00	100.00	0.10	0.10	-91.04	-0.73	-40.07	40.08	39.89	0.19	207.341										
200.00	200.00	200.00	200.00	0.32	0.32	-91.04	-0.73	-40.07	40.08	39.44	0.64	62.347										
300.00	300.00	300.00	300.00	0.55	0.55	-91.04	-0.73	-40.07	40.08	38.99	1.09	36.690 CC, ES										
400.00	399.98	398.70	398.68	0.75	0.75	148.00	-1.57	-41.55	43.07	41.56	1.51	28.535										
450.00	449.93	447.88	447.81	0.86	0.85	148.11	-2.61	-43.39	46.81	45.09	1.72	27.215										
500.00	499.86	497.65	497.51	0.96	0.96	148.25	-3.89	-45.66	51.32	49.39	1.93	26.647										
600.00	599.73	597.24	596.97	1.18	1.18	148.46	-6.46	-50.19	60.35	58.00	2.35	25.714										
700.00	699.59	696.83	696.42	1.41	1.41	148.62	-9.03	-54.73	69.37	66.59	2.78	24.936										
800.00	799.45	796.42	795.88	1.65	1.64	148.74	-11.60	-59.27	78.40	75.17	3.23	24.303										
900.00	899.31	896.01	895.33	1.89	1.88	148.84	-14.16	-63.80	87.43	83.75	3.68	23.788										
1,000.00	999.18	995.60	994.79	2.13	2.12	148.91	-16.73	-68.34	96.45	92.33	4.13	23.363										
1,100.00	1,099.04	1,095.20	1,094.24	2.37	2.36	148.98	-19.30	-72.87	105.48	100.90	4.58	23.010										
1,200.00	1,198.90	1,194.79	1,193.70	2.61	2.60	149.03	-21.87	-77.41	114.51	109.47	5.04	22.711										
1,300.00	1,298.77	1,294.38	1,293.15	2.85	2.85	149.08	-24.44	-81.94	123.54	118.04	5.50	22.457										
1,400.00	1,398.63	1,393.97	1,392.61	3.10	3.09	149.12	-27.01	-86.48	132.57	126.61	5.96	22.237										
1,500.00	1,498.49	1,493.56	1,492.06	3.34	3.33	149.15	-29.57	-91.01	141.59	135.17	6.42	22.046										
1,600.00	1,598.36	1,593.15	1,591.52	3.58	3.58	149.19	-32.14	-95.55	150.62	143.74	6.88	21.879										
1,700.00	1,698.22	1,692.74	1,690.97	3.83	3.82	149.21	-34.71	-100.09	159.65	152.30	7.35	21.731										
1,800.00	1,798.08	1,792.34	1,790.43	4.07	4.07	149.24	-37.28	-104.62	168.68	160.87	7.81	21.599										
1,900.00	1,897.94	1,891.93	1,889.88	4.32	4.31	149.26	-39.85	-109.16	177.71	169.43	8.27	21.481										
2,000.00	1,997.81	1,991.52	1,989.34	4.56	4.56	149.28	-42.41	-113.69	186.74	178.00	8.74	21.374										
2,100.00	2,097.67	2,091.11	2,088.79	4.81	4.80	149.30	-44.98	-118.23	195.76	186.56	9.20	21.278										
2,122.36	2,120.00	2,113.38	2,111.03	4.86	4.86	149.30	-45.56	-119.24	197.78	188.48	9.30	21.258 SF										
2,200.00	2,197.43	2,186.44	2,183.96	5.06	5.04	149.31	-47.69	-123.01	206.62	196.98	9.65	21.419										
2,300.00	2,296.71	2,275.93	2,273.00	5.36	5.30	149.29	-52.04	-130.70	225.33	215.24	10.09	22.335										
2,400.00	2,395.23	2,362.85	2,359.01	5.69	5.57	149.16	-58.23	-141.63	252.30	241.76	10.53	23.949										
2,500.00	2,492.72	2,446.42	2,441.07	6.08	5.87	148.92	-65.99	-155.34	287.20	276.21	10.98	26.147										
2,600.00	2,588.92	2,525.97	2,518.48	6.54	6.19	148.56	-75.02	-171.28	329.61	318.17	11.44	28.821										
2,675.59	2,660.61	2,583.13	2,573.59	6.93	6.44	148.20	-82.48	-184.46	366.37	354.59	11.78	31.094										
2,700.00	2,683.61	2,600.00	2,589.77	7.06	6.52	148.28	-84.84	-188.62	378.96	367.04	11.92	31.798										
2,800.00	2,777.82	2,672.78	2,659.05	7.63	6.89	148.46	-95.81	-208.00	432.21	419.71	12.50	34.566										
2,900.00	2,872.02	2,748.74	2,730.55	8.22	7.30	148.42	-108.45	-230.33	487.80	474.68	13.12	37.183										
3,000.00	2,966.23	2,831.64	2,808.45	8.83	7.78	148.36	-122.41	-254.99	543.72	529.95	13.77	39.489										
3,100.00	3,060.44	2,914.54	2,886.35	9.46	8.28	148.31	-136.38	-279.66	599.65	585.22	14.43	41.559										
3,200.00	3,154.65	2,997.43	2,964.25	10.09	8.79	148.27	-150.34	-304.33	655.58	640.48	15.10	43.409										
3,300.00	3,248.85	3,080.33	3,042.15	10.74	9.30	148.23	-164.30	-329.00	711.51	695.72	15.79	45.062										
3,400.00	3,343.06	3,163.23	3,120.05	11.39	9.83	148.20	-178.27	-353.66	767.44	750.95	16.49	46.549										
3,500.00	3,437.27	3,246.12	3,197.95	12.06	10.36	148.18	-192.23	-378.33	823.37	806.18	17.19	47.890										
3,600.00	3,531.48	3,329.02	3,275.85	12.72	10.90	148.15	-206.20	-403.00	879.30	861.39	17.91	49.103										
3,700.00	3,625.68	3,411.91	3,353.75	13.39	11.45	148.13	-220.16	-427.67	935.23	916.60	18.63	50.204										
3,800.00	3,719.89	3,494.81	3,431.65	14.07	12.00	148.12	-234.13	-452.33	991.16	971.80	19.36	51.204										
3,900.00	3,814.10	3,577.71	3,509.55	14.75	12.55	148.10	-248.09	-477.00	1,047.09	1,027.00	20.09	52.116										
4,000.00	3,908.31	3,660.60	3,587.45	15.43	13.11	148.09	-262.06	-501.67	1,103.02	1,082.19	20.83	52.951										
4,100.00	4,002.52	3,743.50	3,665.34	16.12	13.67	148.07	-276.02	-526.34	1,158.95	1,137.37	21.58	53.717										
4,200.00	4,096.72	3,826.40	3,743.24	16.80	14.24	148.06	-289.99	-551.01	1,214.88	1,192.55	22.32	54.422										
4,300.00	4,190.93	3,909.29	3,821.14	17.49	14.80	148.05	-303.95	-575.67	1,270.81	1,247.73	23.08	55.071										
4,400.00	4,285.14	3,992.19	3,899.04	18.18	15.37	148.04	-317.92	-600.34	1,326.74	1,302.91	23.83	55.672										
4,500.00	4,379.35	4,075.09	3,976.94	18.88	15.94	148.03	-331.88	-625.01	1,382.67	1,358.08	24.59	56.227										
4,600.00	4,473.55	4,157.98	4,054.84	19.57	16.51	148.02	-345.85	-649.68	1,438.60	1,413.24	25.35	56.743										
4,700.00	4,567.76	4,240.88	4,132.74	20.27	17.08	148.02	-359.81	-674.34	1,494.53	1,468.41	26.12	57.223										
4,800.00	4,661.97	4,354.90	4,240.15	20.96	17.75	148.02	-378.65	-707.62	1,550.09	1,523.15	26.94	57.534										

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



**Weatherford International Ltd.**  
Anticollision Report



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

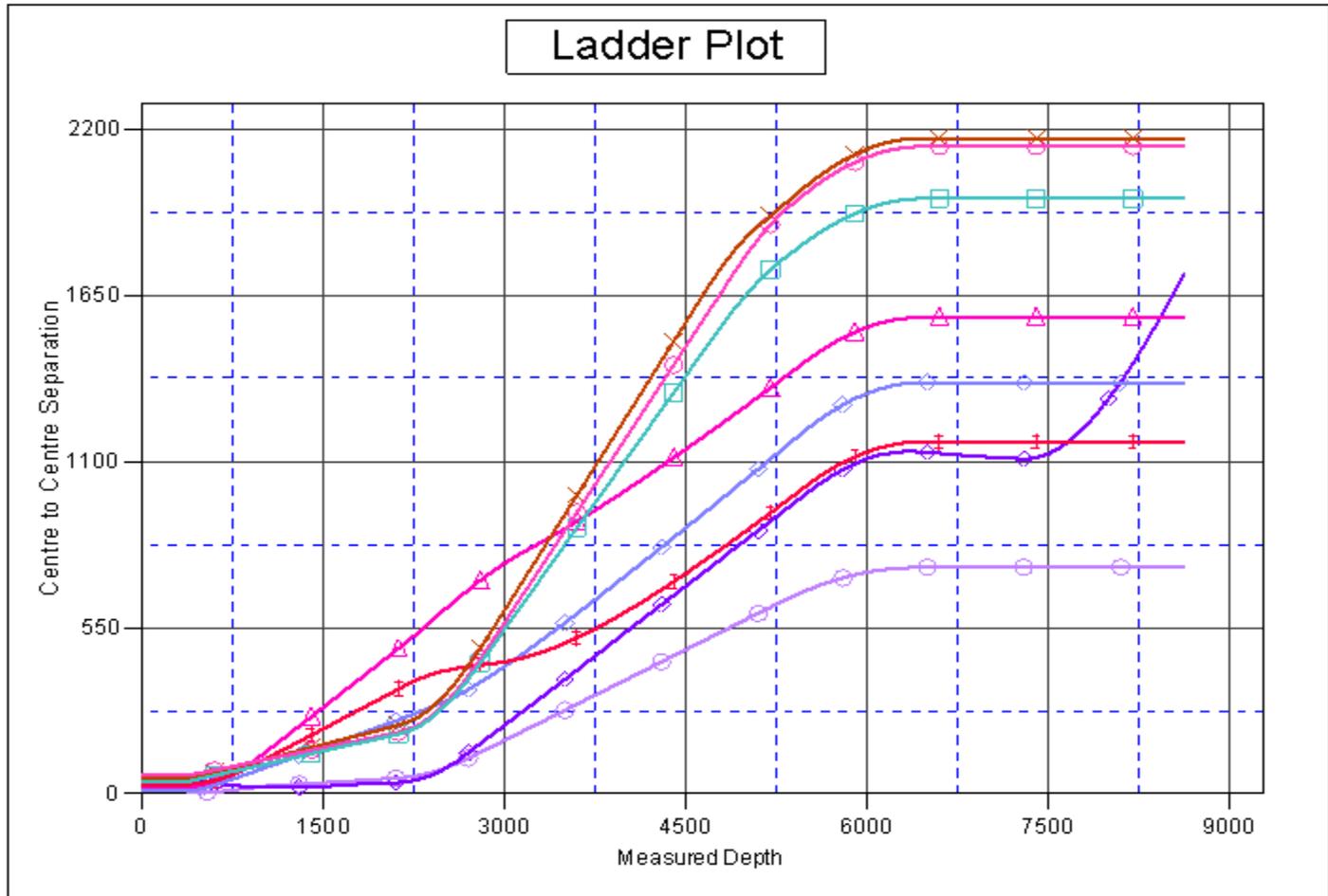
Offset Design												Offset Site Error:	0.00 ft	
Survey Program: 0-MWD												Offset Well Error:		0.00 ft
Reference												Warning		
Reference				Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Tooface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.00	4,756.18	4,515.19	4,393.39	21.66	18.50	148.19	-401.79	-748.49	1,602.35	1,574.52	27.82	57.589		
5,000.00	4,850.38	4,684.46	4,557.78	22.36	19.17	148.55	-421.60	-783.49	1,650.38	1,621.70	28.68	57.539		
5,100.00	4,944.59	4,862.19	4,732.63	23.06	19.74	149.09	-437.22	-811.07	1,693.88	1,664.37	29.50	57.413		
5,200.00	5,038.80	5,047.56	4,916.73	23.76	20.19	149.83	-447.78	-829.74	1,732.55	1,702.28	30.27	57.238		
5,300.00	5,133.01	5,239.44	5,108.34	24.46	20.50	150.76	-452.52	-838.10	1,766.15	1,735.19	30.97	57.035		
5,400.00	5,227.21	5,358.32	5,227.21	25.17	20.64	151.40	-452.71	-838.45	1,796.08	1,764.55	31.54	56.953		
5,476.36	5,299.15	5,430.26	5,299.15	25.70	20.71	151.79	-452.71	-838.45	1,818.90	1,786.96	31.95	56.937		
5,500.00	5,321.45	5,452.56	5,321.45	25.85	20.74	151.97	-452.71	-838.45	1,825.90	1,793.79	32.11	56.862		
5,600.00	5,416.49	5,547.60	5,416.49	26.36	20.84	152.68	-452.71	-838.45	1,853.74	1,821.00	32.74	56.620		
5,700.00	5,512.55	5,643.66	5,512.55	26.82	20.95	153.30	-452.71	-838.45	1,878.69	1,845.36	33.33	56.365		
5,800.00	5,609.52	5,740.63	5,609.52	27.23	21.06	153.83	-452.71	-838.45	1,900.67	1,866.79	33.88	56.100		
5,900.00	5,707.29	5,838.39	5,707.29	27.60	21.17	154.27	-452.71	-838.45	1,919.63	1,885.24	34.39	55.824		
6,000.00	5,805.72	5,936.83	5,805.72	27.91	21.29	154.64	-452.71	-838.45	1,935.54	1,900.69	34.85	55.537		
6,100.00	5,904.71	6,035.82	5,904.71	28.18	21.41	154.92	-452.71	-838.45	1,948.34	1,913.07	35.27	55.239		
6,200.00	6,004.14	6,135.25	6,004.14	28.40	21.53	155.14	-452.71	-838.45	1,958.03	1,922.38	35.65	54.928		
6,300.00	6,103.87	6,234.98	6,103.87	28.57	21.65	155.28	-452.71	-838.45	1,964.56	1,928.58	35.98	54.604		
6,400.00	6,203.80	6,334.91	6,203.80	28.70	21.77	155.35	-452.71	-838.45	1,967.93	1,931.66	36.27	54.264		
6,456.20	6,260.00	6,391.11	6,260.00	28.76	21.84	-83.56	-452.71	-838.45	1,968.43	1,932.01	36.41	54.056		
6,500.00	6,303.80	6,434.91	6,303.80	28.80	21.90	-83.56	-452.71	-838.45	1,968.43	1,931.88	36.54	53.866		
6,600.00	6,403.80	6,534.91	6,403.80	28.90	22.02	-83.56	-452.71	-838.45	1,968.43	1,931.60	36.83	53.446		
6,700.00	6,503.80	6,634.91	6,503.80	28.99	22.15	-83.56	-452.71	-838.45	1,968.43	1,931.31	37.12	53.028		
6,800.00	6,603.80	6,734.91	6,603.80	29.09	22.28	-83.56	-452.71	-838.45	1,968.43	1,931.01	37.41	52.613		
6,900.00	6,703.80	6,834.91	6,703.80	29.19	22.41	-83.56	-452.71	-838.45	1,968.43	1,930.72	37.71	52.199		
7,000.00	6,803.80	6,934.91	6,803.80	29.29	22.55	-83.56	-452.71	-838.45	1,968.43	1,930.42	38.01	51.788		
7,100.00	6,903.80	7,034.91	6,903.80	29.39	22.68	-83.56	-452.71	-838.45	1,968.43	1,930.11	38.31	51.379		
7,200.00	7,003.80	7,134.91	7,003.80	29.49	22.82	-83.56	-452.71	-838.45	1,968.43	1,929.81	38.62	50.973		
7,300.00	7,103.80	7,234.91	7,103.80	29.60	22.96	-83.56	-452.71	-838.45	1,968.43	1,929.50	38.92	50.570		
7,400.00	7,203.80	7,334.91	7,203.80	29.70	23.09	-83.56	-452.71	-838.45	1,968.43	1,929.19	39.24	50.170		
7,500.00	7,303.80	7,434.91	7,303.80	29.81	23.23	-83.56	-452.71	-838.45	1,968.43	1,928.88	39.55	49.772		
7,600.00	7,403.80	7,534.91	7,403.80	29.92	23.37	-83.56	-452.71	-838.45	1,968.43	1,928.56	39.86	49.378		
7,700.00	7,503.80	7,634.91	7,503.80	30.03	23.52	-83.56	-452.71	-838.45	1,968.43	1,928.24	40.18	48.987		
7,800.00	7,603.80	7,734.91	7,603.80	30.14	23.66	-83.56	-452.71	-838.45	1,968.43	1,927.92	40.50	48.598		
7,900.00	7,703.80	7,834.91	7,703.80	30.25	23.81	-83.56	-452.71	-838.45	1,968.43	1,927.60	40.83	48.214		
8,000.00	7,803.80	7,934.91	7,803.80	30.36	23.95	-83.56	-452.71	-838.45	1,968.43	1,927.27	41.15	47.832		
8,100.00	7,903.80	8,034.91	7,903.80	30.48	24.10	-83.56	-452.71	-838.45	1,968.43	1,926.95	41.48	47.454		
8,200.00	8,003.80	8,134.91	8,003.80	30.59	24.25	-83.56	-452.71	-838.45	1,968.43	1,926.62	41.81	47.079		
8,300.00	8,103.80	8,234.91	8,103.80	30.71	24.40	-83.56	-452.71	-838.45	1,968.43	1,926.28	42.14	46.708		
8,400.00	8,203.80	8,334.91	8,203.80	30.83	24.55	-83.56	-452.71	-838.45	1,968.43	1,925.95	42.48	46.340		
8,500.00	8,303.80	8,434.91	8,303.80	30.95	24.70	-83.56	-452.71	-838.45	1,968.43	1,925.61	42.81	45.976		
8,600.00	8,403.80	8,534.91	8,403.80	31.07	24.86	-83.56	-452.71	-838.45	1,968.43	1,925.27	43.15	45.615		
8,620.20	8,424.00	8,555.11	8,424.00	31.09	24.89	-83.56	-452.71	-838.45	1,968.43	1,925.20	43.22	45.542		

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



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 5341.00ft (Original Well Elev) Coordinates are relative to: BONANZA 1023-5O2AS  
 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°



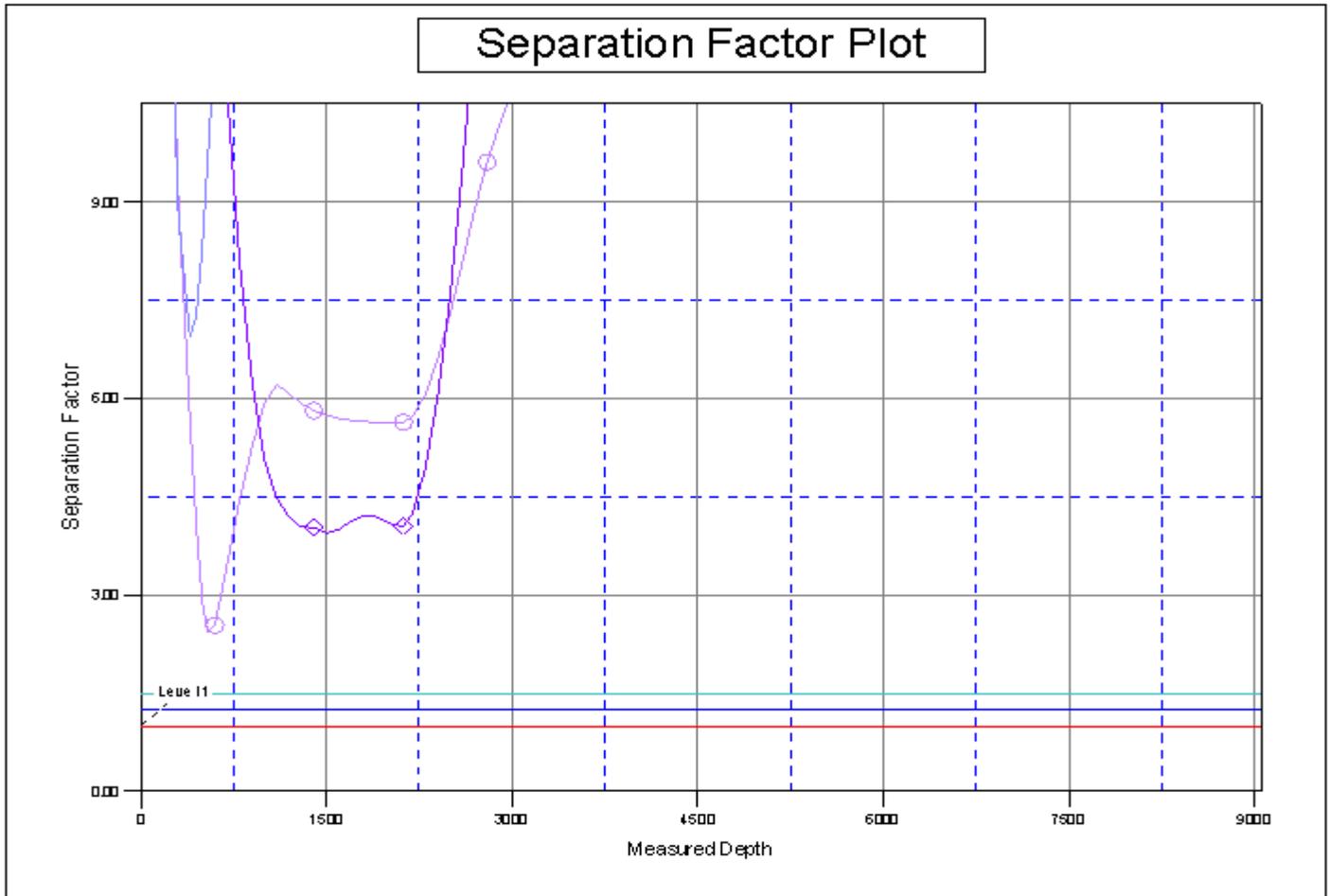
LEGEND

- IS, PLAN #1 428-10 RHS \0
- EXISTING, Bonanza 1023-5K EXISTING \0
- IS, PLAN #1 428-10 RHS \0
- BONANZA 1023-5K1CS, BONANZA1023-5K1CS, PLAN#1 4-28-10 RHS \0
- BONANZA 1023-5K3DS, BONANZA1023-5K3DS, PLAN#1 4-28-10 RHS \0
- BONANZA 1023-5L1DS, BONANZA1023-5L1DS, PLAN#1 4-28-10 RHS \0
- BONANZA1023-5L4AS, BONANZA
- BONANZA1023-5L4DS, BONANZA



<b>Company:</b>	ANADARKO PETROLEUM CORP.	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UINTAH COUNTY, UTAH (nad 27)	<b>TVD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Reference Site:</b>	BONANZA 1023-5K PAD	<b>MD Reference:</b>	WELL @ 5341.00ft (Original Well Elev)
<b>Site Error:</b>	0.00ft	<b>North Reference:</b>	True
<b>Reference Well:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.00ft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	BONANZA 1023-5O2AS	<b>Database:</b>	EDM 2003.21 Single User Db
<b>Reference Design:</b>	PLAN #1 4-28-10 RHS	<b>Offset TVD Reference:</b>	Offset Datum

Reference Depths are relative to WELL @ 5341.00ft (Original Well Elev) Coordinates are relative to: BONANZA 1023-5O2AS  
 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°



LEGEND

- IS PLAN #1 428-10 RHS VD ◆ BONANZA 1023-5K1CS, BONANZA10236K1CS, PLAN#1 4-28-10 RHS VD ⊕ BONANZA1023-5L4AS, BONANZA
- EXISTING, Bonanza 1023-5K EXISTING VD + BONANZA 1023-5K3DS, BONANZA10236K3DS, PLAN#1 4-28-10 RHS VD ⊖ BONANZA1023-5L4DS, BONANZA
- IS PLAN #1 428-10 RHS VD ✖ BONANZA 1023-5L1DS, BONANZA10236L1DS, PLAN#1 4-28-10 RHS VD

Bonanza 1023-5J2DS/ 1023-5K1BS/ 1023-5K1CS/ 1023-5K3DS  
 Bonanza 1023-5L1DS/ 1023-5L4AS/ 1023-5L4DS/ 1023-5O2AS  
 Kerr-McGee Oil Gas Onshore, L.P.

Bonanza 1023-5K Pad  
 Surface Use Plan of Operations  
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## Kerr-McGee Oil & Gas Onshore. L.P.

### Bonanza 1023-5K Pad

<u>API #</u>	<u>BONANZA 1023-5J2DS</u>		
	Surface: 1951 FSL / 2035 FWL	NESW	Lot
	BHL: 2022 FSL / 2070 FEL	NWSE	Lot
<u>API #</u>	<u>BONANZA 1023-5K1BS</u>		
	Surface: 1951 FSL / 2005 FWL	NESW	Lot
	BHL: 2557 FSL / 2222 FWL	NESW	Lot
<u>API #</u>	<u>BONANZA 1023-5K1CS</u>		
	Surface: 1951 FSL / 2015 FWL	NESW	Lot
	BHL: 2180 FSL / 2125 FWL	NESW	Lot
<u>API #</u>	<u>BONANZA 1023-5K3DS</u>		
	Surface: 1951 FSL / 1995 FWL	NESW	Lot
	BHL: 1470 FSL / 1994 FWL	NESW	Lot
<u>API #</u>	<u>BONANZA 1023-5L1DS</u>		
	Surface: 1951 FSL / 1975 FWL	NESW	Lot
	BHL: 2244 FSL / 1200 FWL	NWSW	Lot
<u>API #</u>	<u>BONANZA 1023-5L4AS</u>		
	Surface: 1951 FSL / 1965 FWL	NESW	Lot
	BHL: 1865 FSL / 1083 FWL	NWSW	Lot
<u>API #</u>	<u>BONANZA 1023-5L4DS</u>		
	Surface: 1951 FSL / 1985 FWL	NESW	Lot
	BHL: 1500 FSL / 1186 FWL	NWSW	Lot
<u>API #</u>	<u>BONANZA 1023-5O2AS</u>		
	Surface: 1951 FSL / 2025 FWL	NESW	Lot
	BHL: 1275 FSL / 2125 FEL	SWSE	Lot

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 Slauch, 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

Bonanza 1023-5J2DS/ 1023-5K1BS/ 1023-5K1CS/ 1023-5K3DS  
Bonanza 1023-5L1DS/ 1023-5L4AS/ 1023-5L4DS/ 1023-5O2AS  
Kerr-McGee Oil Gas Onshore, L.P.

Bonanza 1023-5K Pad  
Surface Use Plan of Operations  
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**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.

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

\*\* Please refer to Topo B

(0.3 miles) – Section 5 T10S R23E (NE/4 SW/4) – On-lease UTU33433, from existing pad traveling southeast 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.

Bonanza 1023-5J2DS/ 1023-5K1BS/ 1023-5K1CS/ 1023-5K3DS  
 Bonanza 1023-5L1DS/ 1023-5L4AS/ 1023-5L4DS/ 1023-5O2AS  
 Kerr-McGee Oil Gas Onshore, L.P.

Bonanza 1023-5K Pad  
 Surface Use Plan of Operations  
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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 approved area and to existing roadways and/or access routes.

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.

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

\*\* Please refer to Topo B2

**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 1023-5K, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on May 25, 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 accommodate 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  $\pm 4,300'$  and the individual segments are broken up as follows:

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**RECEIVED: October 17, 2011**

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

- ±570' (0.12 miles) – Section 5 T10S R23E (NE/4 SW/4) – On-lease UTU33433, BLM surface, New 8" buried gas gathering pipeline from the first meter house to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
- ±1,400' (0.27 miles) – Section 5 T10S R23E (NE/4 SW/4) – On-lease UTU33433, BLM surface, New 8" buried gas gathering pipeline from the edge of the pad to tie-in to the proposed 10" gas pipeline at the main road. Please refer to Topo D and Exhibit A, Line 4. From the edge of the pad, ±1,210' of existing 4" gas pipeline will be upgraded.
- ±120' (0.02 miles) – Section 5 T10S R23E (SE/4 NW/4) – On-lease UTU33433, BLM surface, New 10" buried gas gathering pipeline from the main road intersection to the 1023-5B intersection. Please refer to Exhibit A, Line 5. This pipeline will be used concurrently with the Bonanza 1023-5C and the Bonanza 1023-5D pads.
- ±2,210' (0.42 miles) – Section 5 T10S R23E (S/2 SE/4) – On-lease UTU33433, BLM surface, New 10" buried gas gathering pipeline from the 1023-5K intersection traveling Southeast to tie-in to the existing buried 16" gas pipeline. Please refer to Exhibit A, Line 7. This pipeline will be used concurrently with the Bonanza 1023-5D, Bonanza 1023-5C, Bonanza 1023-5B and Bonanza 1023-5H pads.

**LIQUID GATHERING**

The total liquid gathering pipeline distance from the separator to the tie in point is ±3,990' and the individual segments are broken up as follows:

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

- ±570' (0.12 miles) – Section 5 T10S R23E (NE/4 SW/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.
- ±1,400' (0.27 miles) – Section 5 T10S R23E (NE/4 SW/4) – On-lease UTU33433, BLM surface, New 6" buried liquid gathering pipeline from the edge of the pad to tie-in to the proposed 6" liquid pipeline at the main road intersection. Please refer to Exhibit B, Line 13.
- ±120' (0.02 miles) – Section 5 T10S R23E (SW/2 NE/4) – On-lease UTU33433, BLM surface, New 6" buried liquid gathering pipeline from the main road intersection to the 1023-5B intersection. Please refer to Exhibit B, Line 6. This pipeline will be used concurrently with the Bonanza 1023-5C and Bonanza 1023-5D pads.
- ±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 to Exhibit B, Line 7. This pipeline will be used concurrently with the Bonanza 1023-5C, Bonanza 1023-5D and Bonanza 1023-5B 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 1023-5B and Bonanza 1023-5H 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' disturbance width that will be maintained for the portion adjacent to the road. The need for the 30' permanent disturbance width is for maintenance and repairs. Cross country permanent disturbance width also are required to be 30ft.

Bonanza 1023-5J2DS/ 1023-5K1BS/ 1023-5K1CS/ 1023-5K3DS  
Bonanza 1023-5L1DS/ 1023-5L4AS/ 1023-5L4DS/ 1023-5O2AS  
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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 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 its successor will consult with the BLM, Vernal Field Office before terminating of the use of the pipeline(s).

10/12/2011

**RECEIVED: October 17, 2011**

Bonanza 1023-5J2DS/ 1023-5K1BS/ 1023-5K1CS/ 1023-5K3DS  
 Bonanza 1023-5L1DS/ 1023-5L4AS/ 1023-5L4DS/ 1023-5O2AS  
 Kerr-McGee Oil Gas Onshore, L.P.

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### **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 discussed 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 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

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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 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.

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Bonanza 1023-5L1DS/ 1023-5L4AS/ 1023-5L4DS/ 1023-5O2AS  
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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 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.

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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 distance may be less if using closed loop. But in either case, the area of disturbance 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.

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Bonanza 1023-5L1DS/ 1023-5L4AS/ 1023-5L4DS/ 1023-5O2AS  
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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 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.

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### 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 reseeded, 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
<b>Total</b>	<b>9.75</b>

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 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

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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 1023-5O2AS and the Bonanza 1023-5J2DS cross CA boundaries.
- Top Soil: Need 6" of topsoil. Move top soil pile north onto finger.

**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.

**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 UT10-14314-14.

Biological field survey was completed on August 20, 2010 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-206.

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**Proposed Action Annual Emissions Tables:**

<b>Table 1: Proposed Action Annual Emissions (tons/year)<sup>1</sup></b>			
<b>Pollutant</b>	<b>Development</b>	<b>Production</b>	<b>Total</b>
NO <sub>x</sub>	3.8	0.12	3.92
CO	2.2	0.11	2.31
VOC	0.1	4.9	5
SO <sub>2</sub>	0.005	0.0043	0.0093
PM <sub>10</sub>	1.7	0.11	1.81
PM <sub>2.5</sub>	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

<sup>1</sup> Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

<b>Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison</b>			
<b>Species</b>	<b>Proposed Action Production Emissions (ton/yr)</b>	<b>2012 Uintah Basin Emission Inventory<sup>a</sup> (ton/yr)</b>	<b>Percentage of Proposed Action to WRAP Phase III</b>
NO <sub>x</sub>	31.36	16,547	0.19%
VOC	40	127,495	0.03%

<sup>a</sup> [http://www.wrapair.org/forums/ogwg/PhaseIII\\_Inventory.html](http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html)

Uintah Basin Data

Bonanza 1023-5J2DS/ 1023-5K1BS/ 1023-5K1CS/ 1023-5K3DS  
Bonanza 1023-5L1DS/ 1023-5L4AS/ 1023-5L4DS/ 1023-5O2AS  
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**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 14, 2011

Date



Joseph D. Johnson  
LANDMAN

Kerr-McGee Oil & Gas Onshore LP  
P.O. Box 173779  
Denver, CO 80217-3779

June 8, 2011

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

Re: Exception Location R649-3-3 and Directional Drilling R649-3-11  
Bonanza 1023-5O2AS  
T10S- R23E  
Section 5: NESW/SWSE  
1951' FSL, 2025' FWL (surface)  
1275' FSL, 2125' FEL (bottom hole)  
Uintah County, Utah

Dear Ms. Mason:

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

- Kerr-McGee's Bonanza 1023-5O2AS is located within the area covered by Docket No. 2008-011 authorizing the equivalent of an approximate 10-acre well density pattern, and requiring approval for wells drilled at an exception location and wells drilled directionally in accordance with the referenced rules.
- Kerr-McGee is permitting this well at this location for geological reasons. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to minimize surface disturbance.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

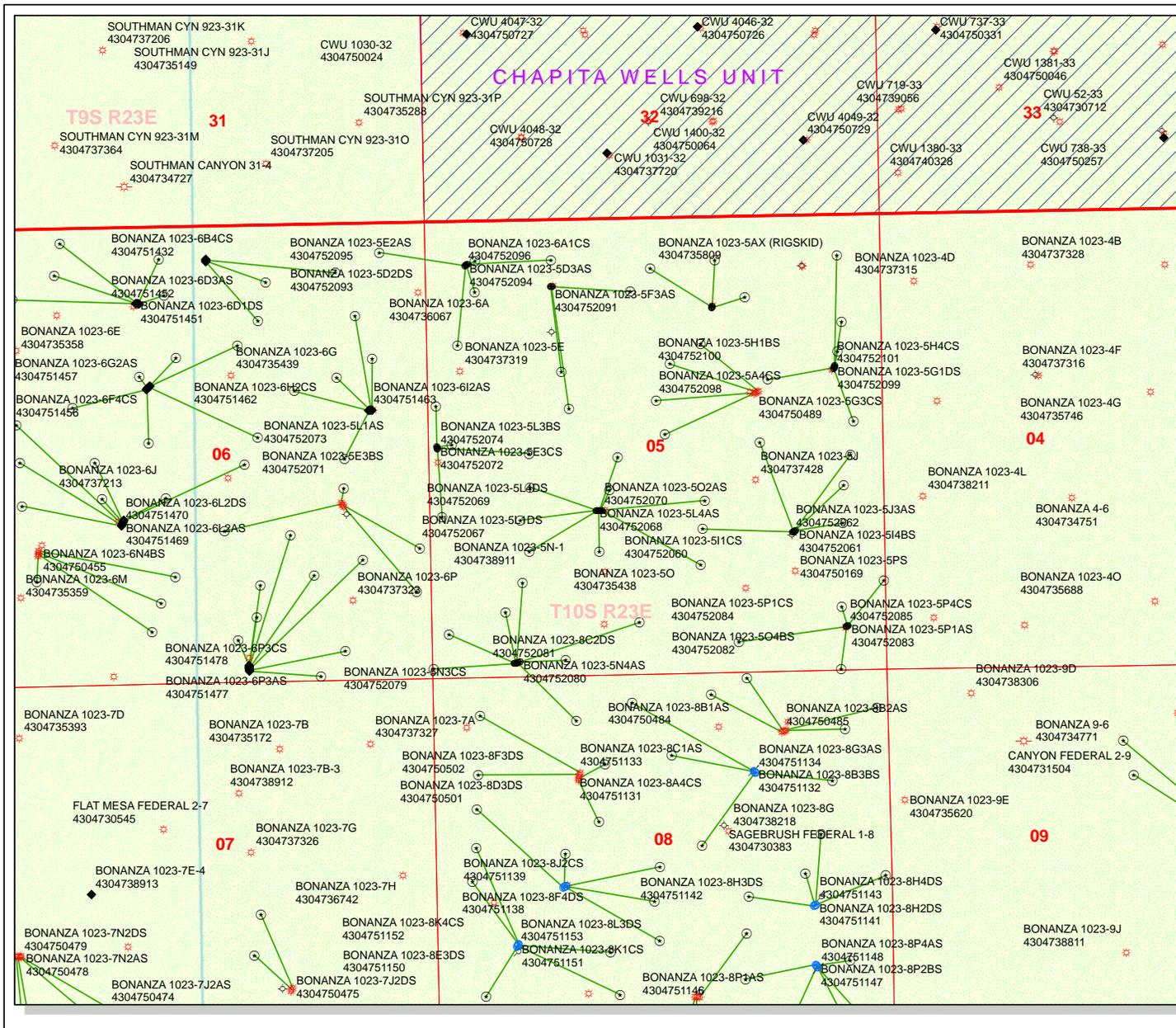
Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to Rule R649-3-3 and Rule R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink, appearing to read 'J.D.J.', with a horizontal line underneath.

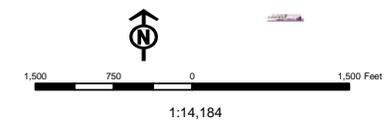
Joseph D. Johnson  
Landman



**API Number: 4304752070**  
**Well Name: BONANZA 1023-5O2AS**  
**Township T10. Range R2.3. Section 05**  
**Meridian: SLBM**  
**Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.**

Map Prepared:  
 Map Produced by Diana Mason

Units STATUS	Wells Query Status
ACTIVE	APD - Approved Permit
EXPLORATORY	DRIL - Spudded (Drilling Commenced)
GAS STORAGE	GIW - Gas Injection
NF PP OIL	GS - Gas Storage
NF SECONDARY	LA - Location Abandoned
PI OIL	LOC - New Location
PP GAS	OPS - Operation Suspended
PP GEOTHERM.	PA - Plugged Abandoned
PP OIL	PGW - Producing Gas Well
SECONDARY	POW - Producing Oil Well
TERMINATED	RET - Returned APD
Fields STATUS	SGW - Shut-in Gas Well
Unknown	SOW - Shut-in Oil Well
ABANDONED	TA - Temp. Abandoned
ACTIVE	TW - Test Well
COMBINED	WDW - Water Disposal
INACTIVE	WWI - Water Injection Well
STORAGE	WSW - Water Supply Well
TERMINATED	



## WORKSHEET APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 10/17/2011

**API NO. ASSIGNED:** 43047520700000

**WELL NAME:** BONANZA 1023-5O2AS

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

**PHONE NUMBER:** 720 929-6086

**CONTACT:** Gina Becker

**PROPOSED LOCATION:** NESW 05 100S 230E

**Permit Tech Review:**

**SURFACE:** 1951 FSL 2025 FWL

**Engineering Review:**

**BOTTOM:** 1275 FSL 2125 FEL

**Geology Review:**

**COUNTY:** UINTAH

**LATITUDE:** 39.97596

**LONGITUDE:** -109.35303

**UTM SURF EASTINGS:** 640638.00

**NORTHINGS:** 4426388.00

**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

**Commingle 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 - Commingle - ddoucet  
4 - Federal Approval - dmason  
15 - Directional - dmason



GARY R. HERBERT  
*Governor*

GREGORY S. BELL  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** BONANZA 1023-502AS

**API Well Number:** 43047520700000

**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:**

A handwritten signature in black ink, appearing to read "John Rogers", written over a faint, illegible stamp or background.

For John Rogers  
Associate Director, Oil & Gas

**RECEIVED**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

JUL 22 2011

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

**BLM**

**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU33433
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERR-MCGEE OIL & GAS ONSHORE Contact: GINA T BECKER Email: GINA.BECKER@ANADARKO.COM		7. If Unit or CA Agreement, Name and No.
3a. Address P.O. BOX 173779 DENVER, CO 80202-3779		8. Lease Name and Well No. BONANZA 1023-502AS
3b. Phone No. (include area code) Ph: 720-929-6086 Fx: 720-929-7086		9. API Well No. 43-047-52070
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NESW 1951FSL 2025FWL 39.976058 N Lat, 109.352898 W Lon At proposed prod. zone SWSE 1275FSL 2125FEL 39.974210 N Lat, 109.348909 W Lon		10. Field and Pool, or Exploratory BONANZA
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 48 MILES SOUTHEAST OF VERNAL, UTAH		11. Sec., T., R., M., or Blk. and Survey or Area Sec 5 T10S R23E Mer SLB
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1275	16. No. of Acres in Lease 1923.00	12. County or Parish UINTAH
17. Spacing Unit dedicated to this well	13. State UT	
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 482	19. Proposed Depth 8620 MD 8424 TVD	20. BLM/BIA Bond No. on file WYB000291
21. Elevations (Show whether DF, KB, RT, GL, etc.) 5327 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.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification  |
| 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). | 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 07/06/2011
Title REGULATORY ANALYST II		
Approved by (Signature)	Name (Printed/Typed) <b>Jerry Kenczka</b>	Date <b>JAN 30 2012</b>
Title <b>Assistant Field Manager Lands &amp; Mineral Resources</b>	Office <b>VERNAL FIELD OFFICE</b>	

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 #112363 verified by the BLM Well Information System  
For KERR-MCGEE OIL & GAS ONSHORE, sent to the Vernal

FEB 03 2012

NOTICE OF APPROVAL

DIV. OF OIL, GAS & MINING

**UDOGM**

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

1022H0231AG - MCS - 12/12/2011



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  
Well No: Bonanza 1023-502AS  
API No: 43-047-52070

Location: NESW, Sec. 5, T10S, R23E  
Lease No: UTU-33433  
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 (Notify Environmental Scientist)	- Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	- Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	- Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:blm_ut_vn_opreport@blm.gov">blm ut vn opreport@blm.gov</a>
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (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 horsepower 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 activities: 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:**

- A copy of Kerr McGee's Standard Operating Practices (SOP version: dated 7/17/08 and approved 7/28/08) shall be on location.
- Surface casing cement shall be brought to surface.
- Production casing cement shall be brought 200' up and into the surface casing.

**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](http://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 ( $\frac{1}{4}$ / $\frac{1}{4}$ , Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs,

core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU33433	
<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>	
<b>7. UNIT or CA AGREEMENT NAME:</b>	
<b>8. WELL NAME and NUMBER:</b> BONANZA 1023-5O2AS	
<b>9. API NUMBER:</b> 43047520700000	
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>COUNTY:</b> UINTAH	
<b>STATE:</b> UTAH	

**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.

<b>1. TYPE OF WELL</b> Gas Well	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1951 FSL 2025 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 05 Township: 10.0S Range: 23.0E Meridian: S	

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 6/8/2012	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

MIRU TRIPLE A BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'.  
 RAN 14" 36.7# SCHEDULE 10 CONDUCTOR PIPE. CEMENT WITH 28 SACKS READY MIX. SPUD WELL LOCATION ON JUNE 8, 2012 AT 11:30 HRS.

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

**FOR RECORD ONLY**

June 21, 2012

<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regularatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 6/18/2012	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU33433	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	
<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>	
<b>7. UNIT or CA AGREEMENT NAME:</b>	
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> BONANZA 1023-5O2AS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047520700000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1951 FSL 2025 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 05 Township: 10.0S Range: 23.0E Meridian: S	<b>COUNTY:</b> UINTAH
<b>STATE:</b> UTAH	

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 6/20/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

MIRU AIR RIG ON 6/19/2012. DRILLED SURFACE HOLE TO 2565'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.

**Accepted by the  
 Utah Division of  
 Oil, Gas and Mining  
 FOR RECORD ONLY  
 June 21, 2012**

<b>NAME (PLEASE PRINT)</b> Cara Mahler	<b>PHONE NUMBER</b> 720 929-6029	<b>TITLE</b> Regulatory Analyst I
<b>SIGNATURE</b> N/A	<b>DATE</b> 6/21/2012	

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
Submitted By J. Scharnowske Phone Number 720.929.6304  
Well Name/Number BONANZA 1023-5O2AS  
Qtr/Qtr NESW Section 5 Township 10S Range 23E  
Lease Serial Number UTU33433  
API Number 4304752070

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

Date/Time 06/06/2012 09:00 HRS AM  PM

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

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

Date/Time 06/15/2012 08:00 HRS AM  PM

BOPE

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

**RECEIVED**  
**JUN 05 2012**  
DIV. OF OIL, GAS & MINING

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

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT

435.828.0986 OR LOVEL YOUNG AT 435.781.7051

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU33433
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7. UNIT or CA AGREEMENT NAME:</b>
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> BONANZA 1023-502AS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047520700000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6514
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1951 FSL 2025 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 05 Township: 10.0S Range: 23.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: <b>5/30/2012</b>  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> <b>CHANGE TO PREVIOUS PLANS</b> <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>

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

THE OPERATOR REQUESTS APPROVAL FOR A FIT WAIVER, A CLOSED LOOP DRILLING OPTION, AND A PRODUCTION CASING CHANGE. ALL OTHER ASPECTS OF THE PREVIOUSLY APPROVED DRILLING PLAN WILL NOT CHANGE. PLEASE SEE THE ATTACHMENT. THANK YOU.

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

**Date:** June 26, 2012

**By:** *Derek Quist*

<b>NAME (PLEASE PRINT)</b> Cara Mahler	<b>PHONE NUMBER</b> 720 929-6029	<b>TITLE</b> Regulatory Analyst I
<b>SIGNATURE</b> N/A	<b>DATE</b> 5/30/2012	

**Kerr-McGee Oil & Gas Onshore. L.P.****BONANZA 1023-502AS**

Surface: 1951 FSL / 2025 FWL      NESW  
 BHL: 1275 FSL / 2125 FEL      SWSE

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:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,256'	
Birds Nest	1,506'	Water
Mahogany	1,867'	Water
Wasatch	4,218'	Gas
Mesaverde	6,260'	Gas
Sego	8,424'	Gas
TVD	8,424'	
TD	8,620'	

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

Please refer to the attached Drilling Program

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

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

**7. Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 8424' TVD, approximately equals  
5,391 psi 0.64 psi/ft = actual bottomhole gradient

---

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

Maximum anticipated surface pressure equals approximately 3,526 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.

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

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

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

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

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

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

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

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

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

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

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

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

**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.





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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	LTC		DQX TENSION
							COLLAPSE		
CONDUCTOR	14"	0-40'				3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,320	28.00	IJ-55	LTC	2.33	1.73	6.12	N/A
						7,780	6,350	223,000	267,035
PRODUCTION	4-1/2"	0 to 5,000	11.60	I-80	DQX	1.11	1.16		3.30
						7,780	6,350	223,000	267,035
	4-1/2"	5,000 to 8,620'	11.60	I-80	LTC	1.11	1.16	6.56	

**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 + 0.25 pps flocele	180	60%	15.80	1.15
	Option 1 TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE	Option 2 LEAD	1,820'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	170	35%	11.00	3.82
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,710'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	290	35%	12.00	3.38
	TAIL	4,910'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,160	35%	14.30	1.31

\*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. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

**ADDITIONAL INFORMATION**

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

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

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

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

**DRILLING ENGINEER:**

Nick Spence / Danny Showers / Chad Loesel

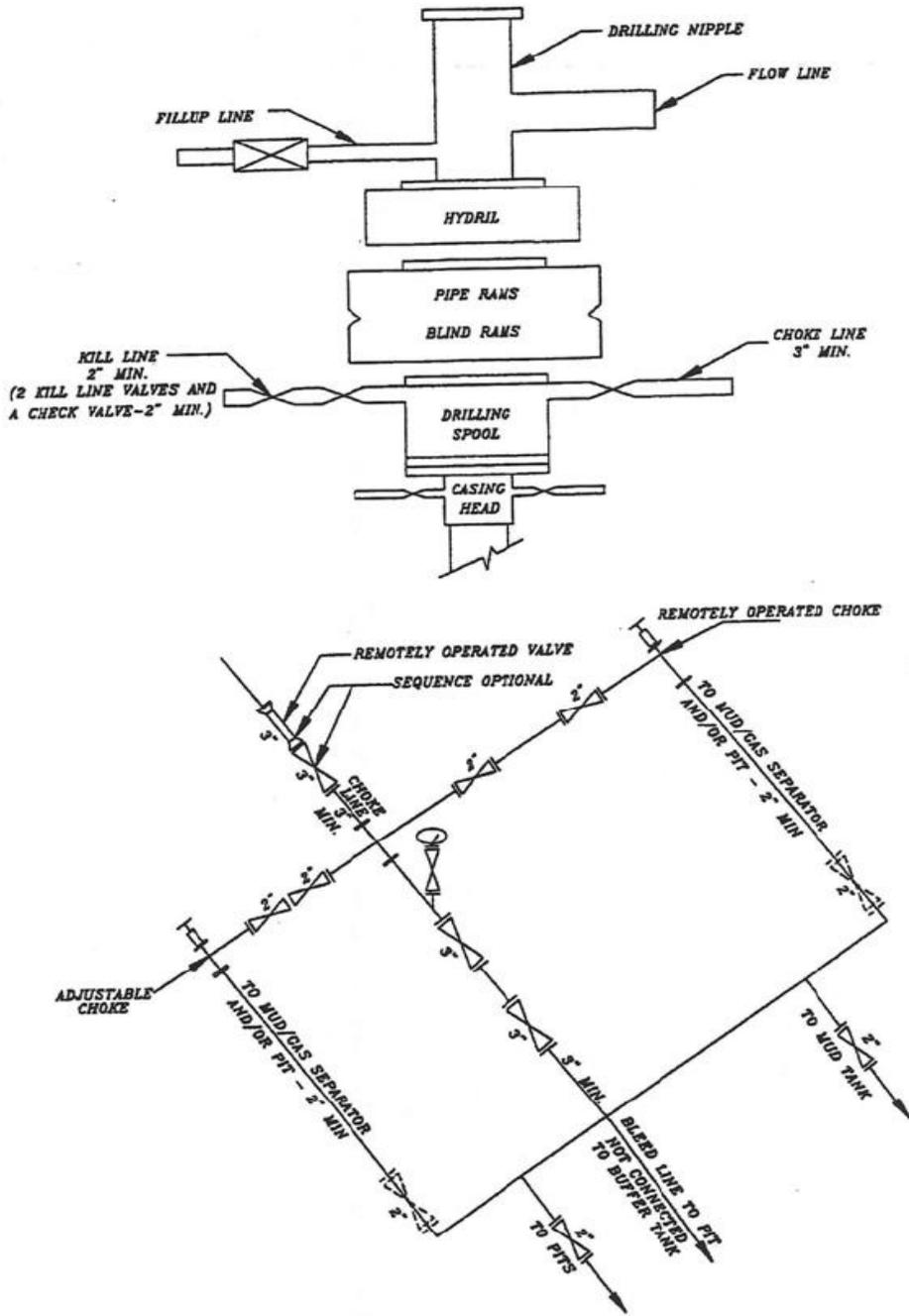
DATE: \_\_\_\_\_

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

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

### EXHIBIT A BONANZA 1023-502AS



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

Requested Drilling Options:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). 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/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

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

FORM 6

**ENTITY ACTION FORM**

Operator: KERR MCGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
 Address: P.O. Box 173779  
city DENVER  
state CO zip 80217 Phone Number: (720) 929-6304

**Well 1**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752067	Bonanza 1023-5L1DS		NESW	5	10S	23E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
A	99999	18575	6/8/2012			6/20/2012	
<b>Comments:</b> MIRU TRIPLE A BUCKET RIG. <i>Wsmvd</i> SPUD WELL LOCATION ON 06/08/2012 AT 07:30 HRS. <i>BHL: NWSW</i>							

**Well 2**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752070	Bonanza 1023-5O2AS		NESW	5	10S	23E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
A	99999	18576	6/8/2012			6/20/2012	
<b>Comments:</b> MIRU TRIPLE A BUCKET RIG. <i>Wsmvd</i> SPUD WELL LOCATION ON 06/08/2012 AT 11:30 HRS. <i>BHL: SWSE</i>							

**Well 3**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752064	Bonanza 1023-5K1BS		NESW	5	10S	23E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
A	99999	18577	6/8/2012			6/20/2012	
<b>Comments:</b> MIRU TRIPLE A BUCKET RIG. <i>Wsmvd</i> SPUD WELL LOCATION ON 06/08/2012 AT 15:30 HRS. <i>BHL: NESW</i>							

**ACTION CODES:**

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

JAIME SCHARNOWSKE

Name (Please Print)

*Jaime Scharnowske*

Signature

REGULATORY ANALYST

6/18/2012

Title

Date

RECEIVED  
JUN 18 2012

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# EXTREME 12  
Submitted By DALTON KING Phone Number 435- 828-0985  
Well Name/Number BONANZA 1023-5O2AS  
Qtr/Qtr NE/SW Section 5 Township 10S Range 23E  
Lease Serial Number UTU-33433  
API Number 43-047-52070

Casing – Time casing run starts, not cementing times.

- Production Casing
- Other

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

BOPE

- Initial BOPE test at surface casing point
- Other

Date/Time 7/8/2012 09:00 AM  PM

RECEIVED

JUL 06 2012

DIV. OF OIL, GAS & MINING

Rig Move

Location To: BONANZA 1023-5O2AS

Date/Time 7/8/2012 08:00 AM  PM

Remarks TIME IS ESTIMATED

7/6/2012 14:30

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU33433	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	
<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>	
<b>7. UNIT or CA AGREEMENT NAME:</b>	
<b>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> BONANZA 1023-5O2AS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047520700000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1951 FSL 2025 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 05 Township: 10.0S Range: 23.0E Meridian: S	<b>COUNTY:</b> UINTAH
<b>STATE:</b> UTAH	

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 7/13/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

MIRU ROTARY RIG. FINISHED DRILLING FROM 2576' TO 8590' ON 7/11/2012. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED XTREME 12 RIG ON 7/13/2012 @ 18:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 July 18, 2012

<b>NAME (PLEASE PRINT)</b> Cara Mahler	<b>PHONE NUMBER</b> 720 929-6029	<b>TITLE</b> Regulatory Analyst I
<b>SIGNATURE</b> N/A	<b>DATE</b> 7/17/2012	

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# EXTREME 12  
Submitted By DALTON KING Phone Number 435- 828-0985  
Well Name/Number BONANZA 1023-502AS  
Qtr/Qtr NE/SW Section 5 Township 10S Range 23E  
Lease Serial Number UTU-33433  
API Number 43-047-52070

Casing – Time casing run starts, not cementing times.

- Production Casing
- Other

Date/Time 7/12/2012 10:00 AM  PM

BOPE

- Initial BOPE test at surface casing point
- Other

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

RECEIVED

JUL 11 2012

DIV. OF OIL, GAS & MINING

Rig Move

Location To: BONANZA 1023-5K1CS

Date/Time 7/12/2012 22:00 AM  PM

Remarks TIME IS ESTIMATED  
7/10/2012 21:30

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9  5. LEASE DESIGNATION AND SERIAL NUMBER: UTU33433
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  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:
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: BONANZA 1023-5O2AS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047520700000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	PHONE NUMBER: 720 929-6511  9. FIELD and POOL or WILDCAT: NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1951 FSL 2025 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESW 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		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 9/4/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

No Activity for the month of August 2012. Well TD at 8,590

**Accepted by the  
 Utah Division of  
 Oil, Gas and Mining  
 FOR RECORD ONLY  
 September 07, 2012**

NAME (PLEASE PRINT) Lindsey Frazier	PHONE NUMBER 720 929-6857	TITLE Regulatory Analyst II
SIGNATURE N/A	DATE 9/4/2012	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU33433	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	
<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>	
<b>7. UNIT or CA AGREEMENT NAME:</b> PONDEROSA	
<b>1. TYPE OF WELL</b> Gas Well	
<b>8. WELL NAME and NUMBER:</b> BONANZA 1023-5O2AS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	
<b>9. API NUMBER:</b> 43047520700000	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 <span style="float: right;"><b>PHONE NUMBER:</b> 720 929-6511</span>	
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1951 FSL 2025 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 05 Township: 10.0S Range: 23.0E Meridian: S	
<b>COUNTY:</b> UINTAH	
<b>STATE:</b> UTAH	

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 10/2/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	<input type="checkbox"/> TEMPORARY ABANDON
	<input type="checkbox"/> TUBING REPAIR	<input type="checkbox"/> VENT OR FLARE	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

No Activity for the month of September 2012. Well TD at 8,655.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 October 02, 2012

<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 10/2/2012	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU33433	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	
<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>	
<b>7. UNIT or CA AGREEMENT NAME:</b> PONDEROSA	
<b>1. TYPE OF WELL</b> Gas Well	
<b>8. WELL NAME and NUMBER:</b> BONANZA 1023-5O2AS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	
<b>9. API NUMBER:</b> 43047520700000	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 <span style="float: right;"><b>PHONE NUMBER:</b> 720 929-6511</span>	
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1951 FSL 2025 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 05 Township: 10.0S Range: 23.0E Meridian: S	
<b>COUNTY:</b> UINTAH	
<b>STATE:</b> UTAH	

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TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 11/5/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
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	<input type="checkbox"/> WATER SHUTOFF	<input type="checkbox"/> SI TA STATUS EXTENSION	<input type="checkbox"/> APD EXTENSION
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

Started completing the well. Well TD at 8,655.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 November 06, 2012

<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 11/5/2012	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU33433	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	
<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>	
<b>7. UNIT or CA AGREEMENT NAME:</b> PONDEROSA	
<b>1. TYPE OF WELL</b> Gas Well	
<b>8. WELL NAME and NUMBER:</b> BONANZA 1023-5O2AS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	
<b>9. API NUMBER:</b> 43047520700000	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 <span style="float: right;"><b>PHONE NUMBER:</b> 720 929-6511</span>	
<b>9. FIELD and POOL or WILDCAT:</b> MATHEW BUTTES	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 1951 FSL 2025 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NESW Section: 05 Township: 10.0S Range: 23.0E Meridian: S	
<b>COUNTY:</b> UINTAH	
<b>STATE:</b> UTAH	

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TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 11/14/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input checked="" type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
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	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

The subject well was placed on production on 11/14/2012. The Chronological Well History will be submitted with the well completion report.

**Accepted by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
**FOR RECORD ONLY**  
 November 19, 2012

<b>NAME (PLEASE PRINT)</b> Lindsey Frazier	<b>PHONE NUMBER</b> 720 929-6857	<b>TITLE</b> Regulatory Analyst II
<b>SIGNATURE</b> N/A	<b>DATE</b> 11/16/2012	

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

FORM 6

**ENTITY ACTION FORM**

Operator: KERR MCGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
 Address: P.O. Box 173779  
city DENVER  
state CO zip 80217 Phone Number: (720) 929-6304

**Well 1**

API Number	Well Name		QQ	Sec	Twp	Rng	County
Various	Ponderosa Wells						UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
	18421	18519				5/1/2012	
<b>Comments:</b> Move the attached wells into the Ponderosa unit. All wells are WSMVD.						11/16/2012	

**Well 2**

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<b>Comments:</b>							

**Well 3**

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
<b>Comments:</b>							

**ACTION CODES:**

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

JAIME SCHARNOWSKE

Name (Please Print)

*Jaime Scharnowske*

Signature

REGULATORY ANALYST

11/8/2012

Title

Date

**RECEIVED**

**NOV 08 2012**

Well Name	Quarter/Quarter	Section	Township	Range	APUI Number	County	New Entity Number	Formation
BONANZA 1023-6J2AS	NESW	6	10S	23E	4304751465	Uintah	18519	WSMVD
BONANZA 1023-6K1CS	NESW	6	10S	23E	4304751466	Uintah	18519	WSMVD
BONANZA 1023-6K2BS	NESW	6	10S	23E	4304751467	Uintah	18519	WSMVD
BONANZA 1023-6K2CS	NESW	6	10S	23E	4304751468	Uintah	18519	WSMVD
BONANZA 1023-6L2AS	NESW	6	10S	23E	4304751469	Uintah	18519	WSMVD
BONANZA 1023-6L2DS	NESW	6	10S	23E	4304751470	Uintah	18519	WSMVD
BONANZA 1023-6O1BS	SWSE	6	10S	23E	4304751473	Uintah	18519	WSMVD
BONANZA 1023-6O2DS	SWSE	6	10S	23E	4304751474	Uintah	18519	WSMVD
BONANZA 1023-6O3AS	SWSE	6	10S	23E	4304751475	Uintah	18519	WSMVD
BONANZA 1023-6P2BS	SWSE	6	10S	23E	4304751476	Uintah	18519	WSMVD
BONANZA 1023-6P3CS	SWSE	6	10S	23E	4304751478	Uintah	18519	WSMVD
BONANZA 1023-5J2DS	NESW	5	10S	23E	4304752063	Uintah	18519	WSMVD
BONANZA 1023-5K1BS	NESW	5	10S	23E	4304752064	Uintah	18519	WSMVD
BONANZA 1023-5K1CS	NESW	5	10S	23E	4304752065	Uintah	18519	WSMVD
BONANZA 1023-5K3DS	NESW	5	10S	23E	4304752066	Uintah	18519	WSMVD
BONANZA 1023-5L1DS	NESW	5	10S	23E	4304752067	Uintah	18519	WSMVD
BONANZA 1023-5L4AS	NESW	5	10S	23E	4304752068	Uintah	18519	WSMVD
BONANZA 1023-5L4DS	NESW	5	10S	23E	4304752069	Uintah	18519	WSMVD
BONANZA 1023-5O2AS	NESW	5	10S	23E	4304752070	Uintah	18519	WSMVD
BONANZA 1023-5E3BS	SWNW	5	10S	23E	4304752071	Uintah	18519	WSMVD
BONANZA 1023-5E3CS	SWNW	5	10S	23E	4304752072	Uintah	18519	WSMVD
BONANZA 1023-5L1AS	SWNW	5	10S	23E	4304752073	Uintah	18519	WSMVD
BONANZA 1023-5L3BS	SWNW	5	10S	23E	4304752074	Uintah	18519	WSMVD
BONANZA 1023-5M1AS	SWSW	5	10S	23E	4304752075	Uintah	18519	WSMVD
BONANZA 1023-5M1CS	SWSW	5	10S	23E	4304752076	Uintah	18519	WSMVD
BONANZA 1023-5M3BS	SWSW	5	10S	23E	4304752077	Uintah	18519	WSMVD
BONANZA 1023-5M3CS	SWSW	5	10S	23E	4304752078	Uintah	18519	WSMVD
BONANZA 1023-5N3CS	SWSW	5	10S	23E	4304752079	Uintah	18519	WSMVD
BONANZA 1023-5O4BS	SESE	5	10S	23E	4304752082	Uintah	18519	WSMVD
BONANZA 1023-5P1AS	SESE	5	10S	23E	4304752083	Uintah	18519	WSMVD
BONANZA 1023-5P1CS	SESE	5	10S	23E	4304752084	Uintah	18519	WSMVD
BONANZA 1023-5P4CS	SESE	5	10S	23E	4304752085	Uintah	18519	WSMVD
BONANZA 1023-5C4AS	NENW	5	10S	23E	4304752089	Uintah	18519	WSMVD
BONANZA 1023-5F2CS	NENW	5	10S	23E	4304752090	Uintah	18519	WSMVD
BONANZA 1023-5F3AS	NENW	5	10S	23E	4304752091	Uintah	18519	WSMVD
BONANZA 1023-5C2CS	NWNW	5	10S	23E	4304752092	Uintah	18519	WSMVD
BONANZA 1023-5D2DS	NWNW	5	10S	23E	4304752093	Uintah	18519	WSMVD
BONANZA 1023-5D3AS	NWNW	5	10S	23E	4304752094	Uintah	18519	WSMVD
BONANZA 1023-5E2AS	NWNW	5	10S	23E	4304752095	Uintah	18519	WSMVD
BONANZA 1023-6A1CS	NWNW	5	10S	23E	4304752096	Uintah	18519	WSMVD
BONANZA 1023-6I3AS	SWNW	5	10S	23E	4304752387	Uintah	18519	WSMVD
BONANZA 11-2	SWNW	11	10S	23E	4304734773	Uintah	18519	WSMVD
BONANZA 1023-6E4AS	SENE	6	10S	23E	4304751453	Uintah	18519	WSMVD
BONANZA 1023-6F1AS	SENE	6	10S	23E	4304751454	Uintah	18519	WSMVD
BONANZA 1023-6F1CS	SENE	6	10S	23E	4304751455	Uintah	18519	WSMVD
BONANZA 1023-6F4CS	SENE	6	10S	23E	4304751456	Uintah	18519	WSMVD
BONANZA 1023-6G2AS	SENE	6	10S	23E	4304751457	Uintah	18519	WSMVD
BONANZA 1023-6G4CS	SENE	6	10S	23E	4304751458	Uintah	18519	WSMVD
BONANZA 1023-6A3DS	SENE	6	10S	23E	4304751459	Uintah	18519	WSMVD
BONANZA 1023-6G1DS	SENE	6	10S	23E	4304751460	Uintah	18519	WSMVD
BONANZA 1023-6H1BS	SENE	6	10S	23E	4304751461	Uintah	18519	WSMVD
BONANZA 1023-6H2CS	SENE	6	10S	23E	4304751462	Uintah	18519	WSMVD
BONANZA 1023-6I2AS	SENE	6	10S	23E	4304751463	Uintah	18519	WSMVD
BONANZA 1023-6I3DS	SWSE	6	10S	23E	4304751471	Uintah	18519	WSMVD
BONANZA 1023-6J4AS	SWSE	6	10S	23E	4304751472	Uintah	18519	WSMVD
BONANZA 1023-6P3AS	SWSE	6	10S	23E	4304751477	Uintah	18519	WSMVD

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

5. Lease Serial No. UTU33433

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No. UTU88209A

8. Lease Name and Well No. BONANZA 1023-502AS

9. API Well No. 43-047-52070

10. Field and Pool, or Exploratory NATURAL BUTTES

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

12. County or Parish UINTAH

13. State UT

14. Date Spudded 06/08/2012

15. Date T.D. Reached 07/11/2012

16. Date Completed 11/14/2012

17. Elevations (DF, KB, RT, GL)\* 5342 KB

18. Total Depth: MD 8655 TVD 8449

19. Plug Back T.D.: MD 8590 TVD 8384

20. Depth Bridge Plug Set: MD 8573 TVD

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

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

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

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
11.000	8.625 IJ-55	28.0	0	2546		881		0	
7.875	4.500 P-110	11.6	0	4443		1480		2174	
7.875	4.500 I-80	11.6	4443	8637					

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	8066							

25. Producing Intervals

26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	7001	8573	7001 TO 8573	0.360	147	OPEN
B)						
C)						
D)						

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

Depth Interval	Amount and Type of Material
7001 TO 8573	PUMP 7,185 BBLs SLICK H2O AND 145,731 LBS 30/50 OTTAWA SAND

**RECORDED**  
**DEC 19 2012**  
**BY: GEOL. GAS. MINE**

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
11/14/2012	11/16/2012	24	→	0.0	1880.0	0.0			FLows FROM WELL
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
20/64	SI	1515.0	→	0	1880	0		PGW	

28a. Production - Interval B

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

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #163562 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

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

28b. Production - Interval C

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

28c. Production - Interval D

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

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

30. Summary of Porous Zones (Include Aquifers):

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

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				GREEN RIVER	1185
				BIRD'S NEST	1480
				MAHOGANY	1971
				WASATCH	4433
				MESAVERDE	6455

32. Additional remarks (include plugging procedure):

The first 210' of the surface hole was drilled with a 12 ?? bit. The remainder of surface hole was drilled with an 11? bit. DQX csg was run from surface to 5020?; LTC csg was run from 5020? to 8637?. A cast iron bridge plug was set @ 8573' on 10/26/12 to prevent gas migration coming up the bottom into the csg. Attached is the chronological well history, perforation report & final survey. The SN for the Rig Release dated 7/17/12 stated TD was 8590'; actual TD is 8655'.

33. Circle enclosed attachments:

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

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

**Electronic Submission #163562 Verified by the BLM Well Information System.  
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal**

Name (please print) LINDSEY A FRAZIER Title REGUALTORY ANALYST

Signature \_\_\_\_\_ (Electronic Submission) Date 12/13/2012

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

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

Well: BONANZA 1023-5O2AS BLUE

Spud Date: 6/19/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-5K PAD

Rig Name No: PROPETRO 11/11, XTC 12/12

Event: DRILLING

Start Date: 6/5/2012

End Date: 7/13/2012

Active Datum: RKB @5,342.00usft (above Mean Sea Level)

UVM: NE/SW010/S/23/E/5/0/0/26/PM/S/1951/W/0/2025/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
6/18/2012	15:00 - 18:30	3.50	MIRU	01	B	P		BON 1023-5J2DS ( WELL 1 OF 8 ) INSTALL DIVERTOR HEAD AND BLUEY LINE. RIG UP NOV. SPOT IN RIG. SPOT IN CATWALK AND PIPE RACKS. RIG UP PIT PUMP. RIG UP PUMP. PRIME PUMP. INSPECT RIG. SAFETY MEETING
	18:30 - 0:00	5.50	PRSPD	08	A	Z		*****FAILURE / RIG, BATTERY AND WIRING
6/19/2012	0:00 - 1:00	1.00	DRLSUR	08	A	Z		***** RIG FAILURE / FINISH WORKING ON ELECTRICAL SYSTEM ON RIG
	1:00 - 1:30	0.50	DRLSUR	06	A	P		PICK UP #1 BHA
	1:30 - 3:00	1.50	DRLSUR	02	D	P		DRL F/ 44'- T/210' (166'@ 110.6' PER HR) W.O.B. 5-15K RPM 45 UP/DWN/ROT 20/20/20 PSI ON/OFF 600/400 M.W. 8.7# VIS 27 395.8 GPM PUMP RATE /NO AIR NOV-DEWATERING
	3:00 - 3:30	0.50	DRLSUR	06	A	P		TOOH LDDP & BHA #1
	3:30 - 4:30	1.00	DRLSUR	06	A	P		TIH #2 BHA WITH 11" BIT
	4:30 - 5:30	1.00	DRLSUR	22	L	Z		***** NOV TRANSFER HOSE FAILURE
	5:30 - 12:00	6.50	DRLSUR	02	D	P		DRL F/210' T/1190' (980'@ 150.8' PER HR) W.O.B. 20K RPM 45 UP/DWN/ROT 63/49/58 PSI ON/OFF 1070/920 M.W. 8.5 VIS 27 395.8 GPM PUMP RATE / NO AIR NOV-DEWATERING
	12:00 - 0:00	12.00	DRLSUR	02	D	P		DRL F/1190' T/2180' (990'@ 82.5' PER HR) W.O.B. 20K RPM 45 UP/DWN/ROT 90/55/69 PSI ON/OFF 1050/850 M.W. 8.5 VIS 27 395.8 GPM PUMP RATE / 2420 CFM AIR NOV-DEWATERING
6/20/2012	0:00 - 5:00	5.00	DRLSUR	02	D	P		LOST CIRCULATION @ 1710'
								DRL F/2180' T/2565' (385'@ 77' PER HR) W.O.B. 20K RPM 45 UP/DWN/ROT 94/61/75 PSI ON/OFF 1200/1000 M.W. 8.6 VIS 27 395.8 GPM PUMP RATE / 2420 CFM AIR NOV-DEWATERING
	5:00 - 7:00	2.00	DRLSUR	05	C	P		CIRCULATE FOR CASING
	7:00 - 10:30	3.50	DRLSUR	06	D	P		LDDS, BHA & DIR. TOOLS
	10:30 - 11:00	0.50	CSGSUR	12	A	P		MOVE PIPE RACKS AND CATWALK. PULL DIVERTER HEAD. RIG UP TO RUN CSG. MOVE CSG INTO POSITION TO P/U.
	11:00 - 13:30	2.50	CSGSUR	12	C	P		RUN 57 JOINTS 8 5/8", 28#, J55 CASING SHOE IS AT 2530.7' BAFFLE IS AT 2486.2'
	13:30 - 14:00	0.50	CSGSUR	12	B	P		HOLD SAFETY MEETING PUMP ON CASING RUN 200' OF 1". RIG DOWN RIG, MOVE OFF WELL, RIG UP CEMENT TRUCK, 2" HARD LINES.

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

Well: BONANZA 1023-5O2AS BLUE

Spud Date: 6/19/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-5K PAD

Rig Name No: PROPETRO 11/11, XTC 12/12

Event: DRILLING

Start Date: 6/5/2012

End Date: 7/13/2012

Active Datum: RKB @5,342.00usft (above Mean Sea Level)

UWI: NE/SW0/10/S/23/E/5/0/0/26/PM/S/1951/W/0/2025/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	14:00 - 15:30	1.50	CSGSUR	12	E	P		PRO PETRO CMTERS MAKE UP HEAD & LOAD PLUG TEST LINES TO 2000 PSI. PUMP 140 BBLS FOLLOWED BY 20 BBL'S GEL WATER /// TAIL = 300 SX(61.4 BBLS) OF 15.8# & 1.15 YIELD (2% CALC, 1/4# /SK OF FLOCELE) /// DROP PLUG & DISPLACE W/ 154.7 BBLS WATER /// PLUG DOWN @ 15:13 06/20/2012 /// BUMP PLUG @ 500 PSI /// FINAL LIFT = 180 PSI. /// CHECK FLOAT, HELD W/ 1 BBL BACK /// NO RETURNS THRU OUT JOB /// PUMP 150 SXS 15.8# (20.5 BBLS) CMT W/4% CALCIUM DOWN 1". NO CEMENT TO SURFACE
	15:30 - 17:30	2.00	CSGSUR	12	E	P		WOC FOR 1.5 HOURS & PUMP TOP OUT #2 WITH 100 SX CLASS G CMT @ 1.15 YIELD & 15.8 WT + 4% CACL2 /// NO CMT TO SURFACE
	17:30 - 19:00	1.50	CSGSUR	12	E	P		WOC FOR 1.5 HOURS & PUMP TOP OUT #3 WITH 306 SX CLASS G CMT @ 1.15 YIELD & 15.8 WT + 4% CACL2 /// CMT TO SURFACE /// RELEASE RIG @ 19:00 06/20/2012 TO BON 1023-5L4DS
7/8/2012	6:00 - 7:00	1.00	MIRU	01	C	P		SKID THE RIG TO THE BONANZA 1023-5O2AS AND CENTER IT OVER THE HOLE
	7:00 - 7:30	0.50	MIRU	14	A	P		NIPPLE UP THE BOP AND CHOKE
	7:30 - 8:00	0.50	MIRU	01	B	P		RIG UP THE MUD LINE, ELECTRIC, PAYSON, AND AIR HOSES
	8:00 - 13:00	5.00	MIRU	15	A	P		HOLD SAFETY MEETING. TEST TOP DRIVE VALVE, I-BOP VALVE, FLOOR VALVE, DART VALVE, PIPE AND BLIND RAMS, INSIDE AND OUTSIDE KILL LINE VALVES INSIDE OUTSIDE CHOKE LINE VALVE, HCR VALVE, CHOKE LINE, CHOKE MANIFOLD VALVES AND CHOKES TO 5000 PSI FOR 10 MINUTES AND 250 PSI FOR 5 MINUTES. TEST ANNULLAR TO 2500 PSI FOR 10 MIN AND 250 PSI FOR 5 MINUTES. TESTING CASING TO 1500 PSI FOR 30 MINUTES.
	13:00 - 13:30	0.50	MIRU	14	B	P		INSTALL THE WEAR BUSHING
	13:30 - 15:30	2.00	PRPSPD	06	A	P		PICK UP AND SCRIBE THE DIRECTIONAL ASSEMBLY . TRIP IN THE HOLE TO 914'
	15:30 - 16:00	0.50	PRPSPD	14	B	P		INSTALL THE ROTATING HEAD RUBBER
	16:00 - 17:00	1.00	PRPSPD	09	A	P		SLIP AND CUT 72' OF DRILLING LINE
	17:00 - 18:00	1.00	PRPSPD	06	A	P		TRIP IN THE HOLE, TAGGED CEMENT @ 2405'
	18:00 - 18:30	0.50	PRPSPD	23		P		PRE SPUD RIG INSPECTION
	18:30 - 19:30	1.00	DRLPRC	02	F	P		DRILLED THE CEMENT AND FLOAT EQUIPMENT 10-12K WEIGHT ON BIT 90 STROKES ON THE PUMP 40 RPM ROTARY

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

Well: BONANZA 1023-5O2AS BLUE

Spud Date: 6/19/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-5K PAD

Rig Name No: PROPETRO 11/11, XTC 12/12

Event: DRILLING

Start Date: 6/5/2012

End Date: 7/13/2012

Active Datum: RKB @5,342.00usft (above Mean Sea Level)

UWI: NE/SW0/10/S/23/E/5/0/0/26/PM/S/1951/W/0/2025/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	19:30 - 0:00	4.50	DRLPRC	02	D	P		<p>DRILL SLIDE 2576'- 2956' (380',84'/HR)            WEIGHT ON BIT 19-23K. AVERAGE WEIGHT ON BIT 21K.            ROTARY RPM 60. MUD MOTOR RPM 103.            STROKES PER MINUTE 115 GALLONS PER MINUTE 517.            ON/OFF PSI 1580/1320. DIFFERENTIAL 260.            TORQUE HIGH/LOW 8000/7000. OFF BOTTOM TORQUE 4600            STRING WEIGHT UP/DOWN/ROT 110/78/88. DRAG 22K.            6' LOW &amp; 6' LEFT OF THE LINE            SLIDE 122' AT 77'/HR.            SLIDE 48.7% ROTATE 51.3%.            RUNNING 2 CENTRIFUGES AND DE WATERING.( WT 8.4 VIS 26. )            USED 17 BBLS DRILL WATER FOR HOLE VOLUME.            LOSS 40 BBLS DRILL WATER INTO FORMATION. (LOSING 9 BBLS HR)            PUMP 5% LCM SWEEPS TO HELP WITH LOSSES. (ADD 50 BBLS OF 32 VIS DRILL WATER TO PITS FOR SWEEPS)            ADDING POLYMER TO SYSTEM HELP STABILIZE SHELLS. NO FLARE</p>
7/9/2012	0:00 - 5:30	5.50	DRLPRC	02	D	P		<p>DRILL SLIDE 2956'-3546' (590',107'/HR)            WEIGHT ON BIT 19-23K.            ROTARY RPM 60. MUD MOTOR RPM 84.            STROKES PER MINUTE 115 GALLONS PER MINUTE 517.            ON/OFF PSI 1580/1320. DIFFERENTIAL 260.            TORQUE HIGH/LOW 8000/7000. OFF BOTTOM TORQUE 4600            UP/DOWN/ROT 110/78/88. DRAG 22K.            6' LOW &amp; 6' LEFT OF THE LINE            SLIDE 144' AT 66'/HR.            SLIDE 37.14% ROTATE 62.86%.            RUNNING 2 CENTRIFUGES AND DE WATERING.( WT 8.4 VIS 26. )            USED 27 BBLS DRILL WATER FOR HOLE VOLUME. (ADD 50 BBLS OF 32 VIS DRILL WATER TO PITS FOR SWEEPS)            LOST 70 BBLS DRILL WATER INTO FORMATION. (LOSING 13 BBLS HR)            PUMP 5% LCM SWEEPS TO HELP WITH LOSSES. ADDED 47 BBL. DRILL WATER FROM THE UPIGHTS            ADDING POLYMER TO SYSTEM HELP STABILIZE SHALES NO FLARE</p>
	5:30 - 6:00	0.50	MAINT	07	A	P		RIG SERVICE

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

Well: BONANZA 1023-5O2AS BLUE

Spud Date: 6/19/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-5K PAD

Rig Name No: PROPETRO 11/11, XTC 12/12

Event: DRILLING

Start Date: 6/5/2012

End Date: 7/13/2012

Active Datum: RKB @5,342.00usft (above Mean Sea Level)

UWI: NE/SW/0/10/S/23/E/5/0/0/26/PM/S/1951/W/0/2025/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 17:30	11.50	DRLPRC	02	D	P		<p>DRILL SLIDE 3546'- 4681' (1135',98.6'/HR)                      WEIGHT ON BIT 19-23K.                      ROTARY RPM 60. MUD MOTOR RPM 103.                      STROKES PER MINUTE 115 GALLONS PER MINUTE 517.                      ON/OFF PSI 1580/1320. DIFFERENTIAL 260.                      TORQUE HIGH/LOW 9800/6800. OFF BOTTOM TORQUE 5200                      UP/DOWN/ROT 120/70/95. DRAG 22K.                      4631' 15' LOW 4' RIGHT OF THE LINE SLIDE 306' AT 68'/HR.                      SLIDE 38.03% ROTATE 61.97%.                      RUNNING 2 CENTRIFUGES AND DE WATERING. ( WT 8.4 VIS 26. )                      USED 55 BBLs DRILL WATER FOR HOLE VOLUME. LOST 190 BBLs DRILL WATER INTO FORMATION. (LOOSING 16.5 BBLs HR)                      (ADD 100 BBLs OF 32 VIS DRILL WATER TO PITS FOR SWEEPS)                      ADDED 140 BBL. DRILL WATER FROM THE UPIGHTS PUMP 5% LCM SWEEPS TO HELP WITH LOSSES. ADDING POLYMER TO SYSTEM HELP STABILIZE SHALES. NO FLARE</p>
	17:30 - 18:00	0.50	MAINT	07	A	P		RIG SERVICE
	18:00 - 0:00	6.00	DRLPRC	02	D	P		<p>DRILL SLIDE 4681' - 5498' (817', 136'/HR)                      WEIGHT ON BIT 19-23K.                      ROTARY RPM 60. MUD MOTOR RPM 84.                      STROKES PER MINUTE 115 GALLONS PER MINUTE 517.                      ON/OFF PSI 2150/1700. DIFFERENTIAL 450.                      TORQUE HIGH/LOW 11500/9200. OFF BOTTOM TORQUE 7000                      UP/DOWN/ROT 120/70/90. DRAG 30K.                      9' N &amp; 9' W OF CENTER SLIDE 94' AT 56.6'/HR.                      SLIDE 25.32% ROTATE 74.68%.                      RUNNING 2 CENTRIFUGES AND DE WATERING. ( WT 8.4 VIS 26. )                      USED 36 BBLs DRILL WATER FOR HOLE VOLUME. LOST 110 BBLs DRILL WATER INTO FORMATION. (LOOSING 18 BBLs HR)                      (ADD 50 BBLs OF 32 VIS DRILL WATER TO PITS FOR SWEEPS)                      ADDED 0 BBL. DRILL WATER FROM THE UPIGHTS PUMP CALCIUM CARBONATE SWEEPS EVERY 350' TO HELP WITH LOSSES.                      ADDING POLYMER TO SYSTEM HELP STABILIZE SHALES. NO FLARE</p>

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

Well: BONANZA 1023-5O2AS BLUE

Spud Date: 6/19/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-5K PAD

Rig Name No: PROPETRO 11/11, XTC 12/12

Event: DRILLING

Start Date: 6/5/2012

End Date: 7/13/2012

Active Datum: RKB @5,342.00usft (above Mean Sea Level)

UVM: NE/SW/0/10/S/23/E/5/0/0/26/PM/S/1951/W/0/2025/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/10/2012	0:00 - 5:30	5.50	DRLPRC	02	D	P		<p>DRILL SLIDE 5498' - 6174' (676', 122.9'/HR)                      WEIGHT ON BIT 19-23K.                      ROTARY RPM 65. MUD MOTOR RPM 84.                      STROKES PER MINUTE 115 GALLONS PER MINUTE 517.                      ON/OFF PSI 2150/1700. DIFFERENTIAL 450.                      TORQUE HIGH/LOW 11500/9200. OFF BOTTOM TORQUE 7000                      UP/DOWN/ROT 120/70/90. DRAG 30K.                      SLIDE 94' AT 56.6'/HR.                      SLIDE 25.32% ROTATE 74.68%.                      RUNNING 2 CENTRIFUGES AND DE WATERING.( WT 8.4 VIS 26. )                      USED 36 BBLS DRILL WATER FOR HOLE VOLUME.                      LOST 110 BBLS DRILL WATER INTO FORMATION. (LOOSING 18 BBLS HR)                      (ADD 50 BBLS OF 32 VIS DRILL WATER TO PITS FOR SWEEPS)                      ADDED 0 BBL. DRILL WATER FROM THE UPIGHTS PUMP CALCIUM CARBONATE SWEEPS EVERY 350' TO HELP WITH LOSSES.                      ADDING POLYMER TO SYSTEM HELP STABILIZE SHALES. NO FLARE                      BIT POSITION: 11'N 11'W OF CENTER                      RIG SERVICE</p>
	5:30 - 6:00	0.50	MAINT	07	A	P		
	6:00 - 17:00	11.00	DRLPRC	02	D	P		<p>DRILL SLIDE 6174' -7218' (1044', 94.9'/HR)                      WEIGHT ON BIT 19-23K.                      ROTARY RPM 65. MUD MOTOR RPM 84.                      STROKES PER MINUTE 115 GALLONS PER MINUTE 517.                      ON/OFF PSI 2150/1700. DIFFERENTIAL 450.                      TORQUE HIGH/LOW 11500/9200. OFF BOTTOM TORQUE 7000                      UP/DOWN/ROT 180/100/130. DRAG 50K.                      SLIDE 82' AT 39'/HR.                      SLIDE 17.86% ROTATE 82.14%.                      RUNNING 2 CENTRIFUGES AND DE WATERING.( WT 8.4 VIS 26. )                      USED 55 BBLS DRILL WATER FOR HOLE VOLUME.                      LOST 145 BBLS DRILL WATER INTO FORMATION. (LOOSING 18 BBLS HR)                      (ADD 100 BBLS OF 32 VIS DRILL WATER TO PITS FOR SWEEPS)                      ADDED 100 BBL. DRILL WATER FROM STORAGE PUMP CALCIUM CARBONATE SWEEPS EVERY 350' TO HELP WITH LOSSES.                      ADDING POLYMER TO SYSTEM HELP STABILIZE SHALES. NO FLARE                      BIT POSITION 16' N &amp; 3' W OF CENTER                      RIG SERVICE</p>
	17:00 - 17:30	0.50	MAINT	07	A	P		

US ROCKIES REGION  
**Operation Summary Report**

Well: BONANZA 1023-5O2AS BLUE Spud Date: 6/19/2012  
 Project: UTAH-UINTAH Site: BONANZA 1023-5K PAD Rig Name No: PROPETRO 11/11, XTC 12/12  
 Event: DRILLING Start Date: 6/5/2012 End Date: 7/13/2012  
 Active Datum: RKB @5,342.00usft (above Mean Sea Level) UWI: NE/SW/0/10/S/23/E/5/0/0/26/PM/S/1951/W/0/2025/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	17:30 - 0:00	6.50	DRLPRC	02	D	P		DRILL SLIDE 7218'- 7853' (635', 97.7'/HR) WEIGHT ON BIT 19-23K. ROTARY RPM 65. MUD MOTOR RPM 84. STROKES PER MINUTE 115 GALLONS PER MINUTE 518. ON/OFF PSI 2270/2000. DIFFERENTIAL 270. TORQUE HIGH/LOW 13000/10200. OFF BOTTOM TORQUE 9000 UP/DOWN/ROT 185/114/137. DRAG 48K. SLIDE 82' AT 39'/HR. SLIDE 17.86% ROTATE 82.14%. RUNNING 2 CENTRIFUGES CONVENTIONAL ( WT 8.6 VIS 26. ) USED 33 BBLs DRILL WATER FOR HOLE VOLUME. LOST 100 BBLs DRILL WATER INTO FORMATION. (LOOSING 15 BBLs HR) ADDED 130 BBL. DRILL WATER FROM STORAGE PUMP CALCIUM CARBONATE SWEEPS EVERY 350' TO HELP WITH LOSSES. STARTED A LIGHT MUD UP @ 7500' 32 VIS 8.6 MW 4-8' FLARE BIT POSITION: 13' N & 3' W OF CENTER DRILL SLIDE 7853' - 8397' (544', 98.9'/HR) WEIGHT ON BIT 19-23K. ROTARY RPM 65. MUD MOTOR RPM 84. STROKES PER MINUTE 115 GALLONS PER MINUTE 518. ON/OFF PSI 2270/2000. DIFFERENTIAL 270. TORQUE HIGH/LOW 13000/10200. OFF BOTTOM TORQUE 9000 UP/DOWN/ROT 185/114/137. DRAG 48K. SLIDE 0' SLIDE 0% ROTATE 0%. RUNNING 2 CENTRIFUGES CONVENTIONAL 7500' 32 VIS 8.6 MW USED 30 BBLs DRILL WATER FOR HOLE VOLUME. LOST 70 BBLs DRILL WATER INTO FORMATION. (LOOSING 13 BBLs HR) ADDED 100 BBL. DRILL WATER FROM STORAGE PUMP CALCIUM CARBONATE SWEEPS EVERY 350' TO HELP WITH LOSSES. 32 VIS 8.6 MW 4-10' FLARE BIT POSITION: 7'N & 1' W OF CENTER RIG SERVICE
7/11/2012	0:00 - 5:30	5.50	DRLPRC	02	D	P		DRILL SLIDE 7218'- 7853' (635', 97.7'/HR) WEIGHT ON BIT 19-23K. ROTARY RPM 65. MUD MOTOR RPM 84. STROKES PER MINUTE 115 GALLONS PER MINUTE 518. ON/OFF PSI 2270/2000. DIFFERENTIAL 270. TORQUE HIGH/LOW 13000/10200. OFF BOTTOM TORQUE 9000 UP/DOWN/ROT 185/114/137. DRAG 48K. SLIDE 82' AT 39'/HR. SLIDE 17.86% ROTATE 82.14%. RUNNING 2 CENTRIFUGES CONVENTIONAL ( WT 8.6 VIS 26. ) USED 33 BBLs DRILL WATER FOR HOLE VOLUME. LOST 100 BBLs DRILL WATER INTO FORMATION. (LOOSING 15 BBLs HR) ADDED 130 BBL. DRILL WATER FROM STORAGE PUMP CALCIUM CARBONATE SWEEPS EVERY 350' TO HELP WITH LOSSES. STARTED A LIGHT MUD UP @ 7500' 32 VIS 8.6 MW 4-8' FLARE BIT POSITION: 13' N & 3' W OF CENTER DRILL SLIDE 7853' - 8397' (544', 98.9'/HR) WEIGHT ON BIT 19-23K. ROTARY RPM 65. MUD MOTOR RPM 84. STROKES PER MINUTE 115 GALLONS PER MINUTE 518. ON/OFF PSI 2270/2000. DIFFERENTIAL 270. TORQUE HIGH/LOW 13000/10200. OFF BOTTOM TORQUE 9000 UP/DOWN/ROT 185/114/137. DRAG 48K. SLIDE 0' SLIDE 0% ROTATE 0%. RUNNING 2 CENTRIFUGES CONVENTIONAL 7500' 32 VIS 8.6 MW USED 30 BBLs DRILL WATER FOR HOLE VOLUME. LOST 70 BBLs DRILL WATER INTO FORMATION. (LOOSING 13 BBLs HR) ADDED 100 BBL. DRILL WATER FROM STORAGE PUMP CALCIUM CARBONATE SWEEPS EVERY 350' TO HELP WITH LOSSES. 32 VIS 8.6 MW 4-10' FLARE BIT POSITION: 7'N & 1' W OF CENTER RIG SERVICE
	5:30 - 6:00	0.50	MAINT	07	A	P		

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

Well: BONANZA 1023-5O2AS BLUE

Spud Date: 6/19/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-5K PAD

Rig Name No: PROPETRO 11/11, XTC 12/12

Event: DRILLING

Start Date: 6/5/2012

End Date: 7/13/2012

Active Datum: RKB @5,342.00usft (above Mean Sea Level)

UWM: NE/SW0/10/S/23/E/5/0/0/26/PM/S/1951/M/0/2025/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 10:00	4.00	DRLPRC	02	D	P		DRILL SLIDE 8397'- 8655' (258', 64.5'/HR) WEIGHT ON BIT 19-24K. ROTARY RPM 65. MUD MOTOR RPM 79. STROKES PER MINUTE 110 GALLONS PER MINUTE 495. ON/OFF PSI 2740/2470. DIFFERENTIAL 270. TORQUE HIGH/LOW 12000/10200. OFF BOTTOM TORQUE 9000 UP/DOWN/ROT 185/114/137. DRAG 48K. SLIDE 0' SLIDE 0% ROTATE 0%. BOTH CENTRIFUGES SHUT DOWN 39 VIS 10.9 MW DISPLACED LIGHT MUD WITH HEAVY MUD @ 8430' ADDED 0 BBL. DRILL WATER FROM STORAGE NO FLARE
	10:00 - 13:00	3.00	DRLPRC	05	C	P		BIT POSITION: 8655' 3'S 8'E OF CENTER CIRCULATED AND CONDITIONED PRIOR TO THE WIPER TRIP. RAISED THE VIS TO 44 MUD WEIGHT TO 11.1 LOWERED THE WATER LOSS TO 10.0
	13:00 - 17:30	4.50	DRLPRC	06	E	P		MADE A WIPER TRIP TO THE SHOE PUMPED 26 JOINTS OUT OF THE HOLE TO 7500'. TRIPPED OUT TO 2566' LIGHT DRAG AROUND 4000'. RIG SERVICE REPLACE THE TONG LINE
	17:30 - 18:00	0.50	MAINT	07	A	P		FINISH THE WIPER TRIP OUT TO THE SHOE
	18:00 - 0:00	6.00	DRLPRC	06	E	P		FILLED THE PIPE, TRIPPED BACK IN AND WASHED THROUGH BRIDGES @ 4100', 4155', 4407', 6165', 6640' & 7995'.
7/12/2012	0:00 - 1:00	1.00	DRLPRC	06	E	P		FINISH TRIPPING IN THE HOLE ON WIPER TRIP #1
	1:00 - 3:00	2.00	DRLPRC	05	C	P		CIRCULATED AND CONDITIONED FOR A 2ND WIPER TRIP MW 11.4 45 VIS LOST 60 BBL. OF MUD ON THE 1ST WIPER TRIP BOTTOMS UP 10' FLARE FOR 10 MINUTES RIG SERVICE
	3:00 - 3:30	0.50	DRLPRC	07	A	P		***SECOND WIPER TRIP
	3:30 - 11:30	8.00	DRLPRC	06	E	X		TRIP OUT TO 3000' FOR THE SECOND WIPER TRIP FOR LOGGING DUE TO BRIDGES TRIPPING IN THE HOLE ON WIPER TRIP #1. TIGHT SPOT @ 5450' AND 4980'. TRIP BACK IN THE HOLE TO 6570' WASHED THROUGH A BRIDGE @ 4080'. RIG SERVICE
	11:30 - 12:00	0.50	MAINT	07	A	P		***SECOND WIPER TRIP
	12:00 - 14:00	2.00	DRLPRC	06	E	X		FINISH TRIPPING IN THE HOLE. WASHED THROUGH A BRIDGE @ 6576'
	14:00 - 16:00	2.00	DRLPRC	05	C	X		CIRCULATED AND CONDITIONED BEFORE TRIPPING OUT FOR LOGS. 45 VIS 11.4 MUD WEIGHT. 6' FLARE FOR 5 MIN. ON BOTTOMS UP
	16:00 - 23:30	7.50	DRLPRC	06	A	P		TRIP OUT OF THE HOLE FOR LOGS AND LAY DOWN THE DIRECTIONAL TOOLS
	23:30 - 0:00	0.50	DRLPRC	14	B			PULLED THE WEAR BUSHING

US ROCKIES REGION  
**Operation Summary Report**

Well: BONANZA 1023-5O2AS BLUE		Spud Date: 6/19/2012	
Project: UTAH-UINTAH		Site: BONANZA 1023-5K PAD	Rig Name No: PROPETRO 11/11, XTC 12/12
Event: DRILLING		Start Date: 6/5/2012	End Date: 7/13/2012
Active Datum: RKB @5,342.00usft (above Mean Sea Level)		UWM: NE/SW0/10/S/23/E/5/0/0/26/PM/S/1951/W/0/2025/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/13/2012	0:00 - 5:00	5.00	EVALPR	11	D	P		WE HELD A SAFETY MEETING, RIGGED UP HALLIBURTON AND RAN TRIPLE COMBO LOG. RIGGED DOWN THE LOGGING TRUCK DRILLERS TD 8655' LOGGER TD 8688'
	5:00 - 13:00	8.00	CSGPRO	12	B	P		WE HELD A SAFETY MEETING, RIGGED UP KIMSEY CASING AND RAN 197 TOTAL JTS. OF CASING (82 JOINTS OF 4.5"/11.6# / I-80/ LTC + 1 MARKER) + (14 JTS. OF 4.5"/ 11.6#/ I-80/ DQX) + ( 99 JTS. OF 4.5"/ 11.6#/ P-110/ DQX) ( 1-DQX CROSS OVER). LANDED @ 8637.13', FLOAT COLLAR @ 8590.08', MESA VERDE MARKER @ 6432.41', CROSS OVER JT. @ 4998.68'. FILLED THE PIPE @ 110', 904', 2601', & 5019' TOP OF MANDRELL LANDED @ GL / 15' KB, CIRCULATED THE CASING 80 STROKES / 360 GPM / 820 PSI WE HAD A 5' FLARE ON BOTTOMS UP FOR 5 MIN. MW 11.5, 45 VIS
	13:00 - 14:00	1.00	CSGPRO	05	D	P		HELD A SAFETY MEETING WITH BJ SERVICES. PRESSURE TEST TO 4900 PSI. DROP THE BOTTOM PLUG, PUMP 25 BBLs OF FRESH WATER. PUMP 175 BBLs (435 SX) OF PREMIUM LITE II LEAD CEMENT, 12.0 PPG 2.26 YLD, .05 LB/SACK OF STATIC FREE + .15%BWOC R-3 +.25 LBS/SACK CELLO FLAKE + 5 LBS/SACK KOL-SEAL + .6% BWOC FL-52 + .4%BWOC SODIUM METASILICATE + 6% BWOC BENTONITE + 119.7%FRESH WATER . FOLLOWED BY 243 BBLs (1045 SX) OF 14.3# 1.31 YD 5.91 GAL/SK. POZ 50/50 TAIL CEMENT + 2% BWOC BENTONITEII + .005 LB/SACK STATIC FREE + 10% BWOW SODIUM CHLORIDE + .15%BWOC R-3 + .002GPS FP-6L + 58.7% FRESH WATER . SHUT DOWN AND FLUSH LINES. DROP TOP PLUG AND DISPLACE W/ 133.8 BBLs OF FRESH WATER TREATED WITH CLAYFIX AND MAGNACIDE. LOST RETURNS 40 BBL. INTO THE DISPLACEMENT . 0 BBLs OF WATER AND NO CEMENT TO SURFACE. LIFT PSI OF 2198 / BUMP PLUG 2821 PSI. . PRESSURE HELD 5 MINS. FLOAT HELD. FLOW BACK 1.5 BBLs. EST. TOC FOR LEAD 1000', EST TOC FOR TAIL 3900'. RIG DOWN CEMENTERS.
	14:00 - 17:30	3.50	CSGPRO	12	E	P		SET THE PACK OFF AND NIPPLE DOWN THE BOP RIG RELEASED @ 18:00
	17:30 - 18:00	0.50	CSGPRO	14	A	P		

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	BONANZA 1023-5O2AS BLUE	Wellbore No.	OH
Well Name	BONANZA 1023-5O2AS	Wellbore Name	BONANZA 1023-5O2AS
Report No.	1	Report Date	10/25/2012
Project	UTAH-UINTAH	Site	BONANZA 1023-5K PAD
Rig Name/No.		Event	COMPLETION
Start Date	10/25/2012	End Date	11/14/2012
Spud Date	6/19/2012	Active Datum	RKB @5,342.00usft (above Mean Sea Level)
UWI	NE/SW/0/10/S/23/E/5/0/0/26/PM/S/1951/N/0/2025/0/0		

1.3 General

Contractor		Job Method		Supervisor	
Perforated Assembly		Conveyed Method			

1.4 Initial Conditions

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

1.5 Summary

Gross Interval	7,001.0 (usft)-8,573.0 (usft)	Start Date/Time	10/25/2012 12:00AM
No. of Intervals	42	End Date/Time	10/25/2012 12:00AM
Total Shots	147	Net Perforation Interval	49.00 (usft)
Avg Shot Density	3.00 (shot/ft)	Final Surface Pressure	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/Add. Shot	Diameter (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
10/25/2012 12:00AM	MESAVERDE/			7,001.0	7,002.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
10/25/2012 12:00AM	MESAVERDE/			7,010.0	7,011.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			7,034.0	7,035.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			7,055.0	7,056.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			7,111.0	7,112.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			7,150.0	7,151.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			7,186.0	7,187.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			7,204.0	7,205.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			7,412.0	7,413.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			7,441.0	7,442.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			7,473.0	7,474.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			7,510.0	7,512.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			7,562.0	7,564.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			7,593.0	7,594.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			7,657.0	7,658.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
10/25/201 2 12:00AM	MESAVERDE/			7,685.0	7,686.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/201 2 12:00AM	MESAVERDE/			7,696.0	7,697.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/201 2 12:00AM	MESAVERDE/			7,739.0	7,741.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/201 2 12:00AM	MESAVERDE/			7,765.0	7,766.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/201 2 12:00AM	MESAVERDE/			7,790.0	7,791.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/201 2 12:00AM	MESAVERDE/			7,807.0	7,808.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/201 2 12:00AM	MESAVERDE/			7,845.0	7,846.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/201 2 12:00AM	MESAVERDE/			7,889.0	7,891.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/201 2 12:00AM	MESAVERDE/			7,929.0	7,930.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/201 2 12:00AM	MESAVERDE/			7,977.0	7,978.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/201 2 12:00AM	MESAVERDE/			7,998.0	7,999.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/201 2 12:00AM	MESAVERDE/			8,016.0	8,017.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/201 2 12:00AM	MESAVERDE/			8,023.0	8,024.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/201 2 12:00AM	MESAVERDE/			8,085.0	8,086.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
10/25/2012 12:00AM	MESAVERDE/			8,159.0	8,160.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			8,165.0	8,166.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			8,200.0	8,201.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			8,231.0	8,232.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			8,254.0	8,255.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			8,268.0	8,269.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			8,275.0	8,276.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			8,347.0	8,348.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			8,447.0	8,448.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			8,467.0	8,468.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			8,484.0	8,486.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			8,528.0	8,530.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
10/25/2012 12:00AM	MESAVERDE/			8,571.0	8,573.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

3 Plots

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

Well: BONANZA 1023-502AS BLUE

Spud Date: 6/19/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-5K PAD

Rig Name No: ROCKY MOUNTAIN WELL SERVICE  
3/3

Event: COMPLETION

Start Date: 10/25/2012

End Date: 11/14/2012

Active Datum: RKB @5,342.00usft (above Mean Sea Level)

UWI: NE/SW0/10/S/23/E/5/0/0/26/PM/S/1951/W/0/2025/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
6/19/2012	-							
10/25/2012	10:30 - 13:30	3.00	FRAC	33	C	P		<p>FILL SURFACE CSG. MIRU B&amp;C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 9 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 34 PSI. 1ST PSI TEST T/ 7000 PSI. HELD FOR 30 MIN LOST 132 PSI. 2ND PSI TEST T/ 7000 PSI. HELD FOR 30 MIN. LOST 204 PSI. 3RD PSI TEST T/ 7000 PSI. HELD FOR 30 MIN. LOST 157 PSI.</p> <p>RU CUTTERS SET CAST IRON BRIDGE PLUG @ 8,573, POOH RD WL CREW</p> <p>FILL SURFACE CSG. MIRU B&amp;C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 3 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 25 PSI. 1ST PSI TEST T/ 7000 PSI. HELD FOR 30 MIN LOST 53 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. MOVE T/ NEXT WELL. SWFW</p>
11/2/2012	7:00 - 11:00	4.00	FRAC	37		P		<p>PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH PERF AS PER PERF DESIGN. POOH. SWFW</p> <p>A CIBP WAS SET ON 10/26/12 @ 8573, BOTTOM PERF ON PROCEDURE WAS @ 8574-75, CALLED BRAD BURMAN, SAT DOWN ON CIBP &amp; SHOT GUN @ 8571-73, TOP OF SAND. PBTD @ 8573 CAST IRON BRIDGE PLUG JSA-SAFETY MEETING</p>
11/7/2012	6:30 - 6:45	0.25	FRAC	48		P		

US ROCKIES REGION  
**Operation Summary Report**

Well: BONANZA 1023-5O2AS BLUE		Spud Date: 6/19/2012	
Project: UTAH-UINTAH		Site: BONANZA 1023-5K PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION		Start Date: 10/25/2012	End Date: 11/14/2012
Active Datum: RKB @5,342.00usft (above Mean Sea Level)		UWI: NE/SW0/10/S/23/E/5/0/0/26/PM/S/1951/W/0/2025/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:45 - 17:00	10.25	FRAC	36	B	P		<p>PRESSURE TEST SURFACE LINES TO 9300#  FRAC STG #1] WHP = 1385 PSI, BRK DN PERFS = 4690 PSI, @ 5.1 BPM, ISIP = 2343#, FG = 0.72 , CALC PERF OPEN @ 52.9 BPM, @ 4266 PSI = 100%, ( 24/24 HOLES OPEN, )  FINAL ISIP = 2254 #, FINAL FG = 0.71 , NET PRESSURE INCREASE = -89 #  MAX PSI = 5898 #, MAX RATE = 53.6 BPM, AVERAGE PSI = 4019 #, AVERAGE RATE = 52.8 BPM, X OVER TO WIRE LINE</p> <p>PERF STG #2] P/U 4 1/2" HALLIBURTON 8K CBP &amp; 3 1/8" PERF GUN, 23 GM, 0.36 HOLE SIZE, 90 - 120* PHASING, RIH SET CBP @ = 8306 ', PERF AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #2] WHP = 1814 #, BRK DN PERFS = 2109 #, @ = 4.7 BPM, ISIP = 1836 #, FG = 0.66, CALC PERF OPEN @ 52.8 BPM, @ 4147 PSI = 100 % , ( 24/24 HOLES OPEN )  FINAL ISIP = 2272 #, FINAL FG = 0.72, NET PRESSURE INCREASE = 436 #  MAX PSI = 4981#, MAX RATE = 53.8 BPM, AVERAGE PSI = 3914 #, AVERAGE RATE = 52.7 BPM, X OVER TO WIRE LINE</p> <p>PERF STG #3] P/U 4 1/2" HALLIBURTON 8K CBP &amp; 3 1/8" PERF GUN, 23 GM, 0.36 HOLE SIZE, 90 - 120* PHASING, RIH SET CBP @ 8054 ', PERF AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #3] WHP = 1690 #, BRK DN PERFS = 2619 #, @ = 5 BPM, ISIP = 1596 #, F.G = 0.64 , CALC PER OPEN @ 52.8 BPM @ 4164 PSI = 100%, ( 24/24 HOLES OPEN )  FINAIL ISIP = 1997 #, FINIAL F.G. = 0.69 , NET PRESSURE INCREASE = 401 #,  MAX PSI = 4493 #, MAX RATE = 53.8 BPM, AVERAGE PSI = 4164 #, AVERAGE RATE = 52.7 BPM X OVER TO WIRE LINE</p> <p>PERF STG #4] P/U 4 1/2" HALIBURTON 8K CBP &amp; 3 1/8" PERF GUN, 23 GM, 0.36 HOLE SIZE, 90 - 120* PHASING, RIH SET CBP @ = 7835', PERF AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #4] WHP = 1371 #, BRK DN PERFS = 1601#, @ = 4.7 BPM, ISIP = 1360 #, FG = 0.61 , CALC PERF OPEN @ 52.6 BPM @ 4084 PSI = 96 % , ( 23/24/ HOLES OPEN,  FINAL ISIP = 1615 #, FINAL FG = 0.65 , NET PRESSURE INCREASE = 255 #,  MAX PSI = 4344 #, MAX RATE = 53.9 BPM, AVERAGE PSI = 3544 #, AVERAGE RATE = 52.9</p>

US ROCKIES REGION  
**Operation Summary Report**

Well: BONANZA 1023-5O2AS BLUE

Spud Date: 6/19/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-5K PAD

Rig Name No: ROCKY MOUNTAIN WELL SERVICE  
3/3

Event: COMPLETION

Start Date: 10/25/2012

End Date: 11/14/2012

Active Datum: RKB @5,342.00usft (above Mean Sea Level)

UWI: NE/SW010/S123/E510/026/PM/S1951/W02025/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								BPM, X OVER TO WIRE LINE
11/8/2012	6:30 - 6:45	0.25	FRAC	48		P		PERF STG #5] P/U 4 1/2" HALIBURTON 8K CBP & 3 1/8" PERF GUN, 23 GM, 0.36 HOLE SIZE, 90 - 120* PHASING, RIH SET CBP @ = 7624 ', PERF AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
	6:45 - 10:30	3.75	FRAC	36	B	P		JSA-SAFETY MEETING
								FRAC STG #5] WHP = 1072 #, BRK DN PERFS = 2197 #, @ 4.7 BPM, ISIP = #, F G = 0.64, CALC PERF OPEN @ 52.8 BPM @ 4084 PSI = 100%, ( 24/24 HOLES OPEN,) FINAL ISIP = 1626 #, FINAL F G = 0.66, NET PRESSURE INCREASE = 84 PSI. MAX PSI = 4368 #, MAX RATE = 53.9 BPM, AVERAGE PSI = 3306 #. AVERAGE RATE = 52.9 BPM, X OVER TO WIRE LINE
								PERF STG #6] P/U 4 1/2" HALLIBURTON 8K CBP & 3 1/8" PERF GUN, 23 gm, 0.36 HOLE SIZE, 90 - 120* PHASING, RIH SET CBP @ = 7235 ', PERF AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW
								FRAC STG #6] WHP = 253 #, BRK DN PERFS = 2119 #, @ = 5 BPM, ISIP = 1186 #, F G = 0.61, CALC PERF OPEN @ 50.7 BPM @ 4313 PSI = 79%, ( 19/24 HOLES OPEN ) FINAL ISIP = 1905 #, FINAL F G = 0.71, NET PRESSURE INCREASE = 719 PSI, MAX PSI = 5248 #, MAX RATE = 51.4 BPM, AVERAGE PSI = 3933 #, AVERAGE RATE = 50.5 BPM, X OVER TO WIRE LINE
								( KILL PLUG ) P/U RIH W HALIBURTON 8K CBP, SET FOR TOP KILL @ = 6951', R/D WIRELINE AND FRAC CREW
11/13/2012	11:00 - 17:00	6.00	DRLOUT	31	I	P		TOTAL FLUID PUMP'D = 7185 BBLS TOTAL SAND PUMP'D = 145731 # MIRU, PU 3 7/8" BIT & POBS W/ XN SN RIH W/ 219 JTS 2 3/8" L-80 OFF FLOAT TAG FILL @ 6,936', RU PWR SWWL, SWI, WINTERIZE EQUIP, SDFN HSM-JSA
11/14/2012	7:00 - 7:15	0.25	DRLOUT	48		P		

US ROCKIES REGION  
**Operation Summary Report**

Well: BONANZA 1023-5O2AS BLUE		Spud Date: 6/19/2012	
Project: UTAH-UIINTAH		Site: BONANZA 1023-5K PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION		Start Date: 10/25/2012	End Date: 11/14/2012
Active Datum: RKB @5,342.00usft (above Mean Sea Level)		UWI: NE/SW0/10/S/23/E/5/0/0/26/PM/S/1951/W/0/2025/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 16:00	8.75	DRLOUT	44	C	P		<p>BRK CIRC, PRESS TEST BOP TO 3,000 PSI, LOST 0 PSI IN 15 MIN.</p> <p>C/O 15' SAND TAG PLUG #1 @ 6,951', DRL HAL 8K CBP IN 12 MIN, 50 PSI INC, FCP 0 PSI, RIH TAG FILL @ 7,175'.</p> <p>C/O 60' SAND TAG PLUG #2 @ 7,235', DRL HAL 8K CBP IN 15 MIN, 700 PSI INC, FCP 400 PSI, RIH TAG FILL @ 7,604'.</p> <p>C/O 20' SAND TAG PLUG #3 @ 7,624', DRL HAL 8K CBP IN 15 MIN, 300 PSI INC, FCP 350 PSI, RIH TAG FILL @ 7,815'.</p> <p>C/O 20' SAND TAG PLUG #4 @ 7,835', DRL HAL 8K CBP IN 8 MIN, 150 PSI INC, FCP 350 PSI, RIH TAG FILL @ 8,024'.</p> <p>C/O 30' SAND TAG PLUG #5 @ 8,054', DRL HAL 8K CBP IN 10 MIN, 400 PSI INC, FCP 350 PSI, RIH TAG FILL @ 8,276'.</p> <p>C/O 30' SAND TAG PLUG #6 @ 8,306', DRL HAL 8K CBP IN 8 MIN, 350 PSI INC, FCP 450 PSI, RIH TAG FILL @ 8,568'.</p> <p>C/O 5' SAND TO PBTD @ 8,573', CIRC CLEAN, RD PWR SWWL, POOH LD 17 JTS TBG, LAND TBG W/ 254 JTS 2 3/8" L-80, EOT @ 8,065.88', RD FLOOR &amp; TBG EQUIP, NDBOP, NUWH, DROP BALL POBS @ 1,600 PSI, PRESS TEST FLOWLINE BETWEEN WELLHEAD &amp; HAL 9,000 TO 3,000 PSI, LET BIT FALL 20 MIN TURN OVER TO FBC, BATCH TREAT CASING W/ 70 BBLS WTR &amp; SCALE INHIBITOR, RDMO, MIRU ON 1023-5K1CS, WINTERIZE EQUIP, SDFN.</p> <p>KB-15'  HANGER-.83'  254 JTS 2 3/8" L-80-8,047.85'  POBS W/ XN SN-2.20'  EOT @ 8,065.88'</p> <p>283 JTS DEL  254 JTS USED  29 JTS RET</p> <p>TWTR=7,615 BBLS  TWR=1,937 BBLS  TWLTR=5,678 BBLS</p>
	16:00 - 16:00	0.00	DRLOUT	50				<p>WELL TURNED TO SALES @ 0300 HR ON 11/14/2012. 1850 MCFD, 1920 BWPD, FCP 1400#, FTP 2200#, 20/64" CK.</p>
11/15/2012	-							

US ROCKIES REGION  
**Operation Summary Report**

Well: BONANZA 1023-5O2AS BLUE				Spud Date: 6/19/2012				
Project: UTAH-UINTAH			Site: BONANZA 1023-5K PAD			Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3		
Event: COMPLETION			Start Date: 10/25/2012		End Date: 11/14/2012			
Active Datum: RKB @5,342.00usft (above Mean Sea Level)				UWI: NE/SW0/10/S/23/E/5/0/0/26/PM/S/1951/W/0/2025/0/0				
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/16/2012	7:00 -			50				WELL IP'D ON 11/16/12 - 1880 MCFD, 0 BWPD, 0 BOPD, CP 1515#, FTP 1169#, LP 83#, 24 HRS, CK 20/64

Site: UINTAH BONANZA 1023-5K PAD  
 Well: BONANZA 1023-5O2AS  
 Wellbore: BONANZA 1023-5O2AS  
 Section:  
 SHL:  
 Design: BONANZA 1023-5O2AS (wp01)  
 Latitude: 39.976093  
 Longitude: -109.352219  
 GL: 5327.00  
 KB: GL + 15' rkb @ 5342.00ft (XTREME 12)

TVDFPath	MDPath	Formation
4235.00	4442.83	WASATCH
4835.00	5046.46	TOP OF CYLINDER
6250.00	6461.49	MESAVERDE
8434.00	8645.53	SEGO

WELL DETAILS: BONANZA 1023-5O2AS						
+N/-S	+E/-W	Northing	Ground Level: Easting	5327.00 Latitude	Longitude	Slot
0.00	0.00	14521604.58	2102063.55	39.976093	-109.352219	

CASING DETAILS			
TVD	MD	Name	Size
2434.98	2534.73	8-5/8"	8-5/8

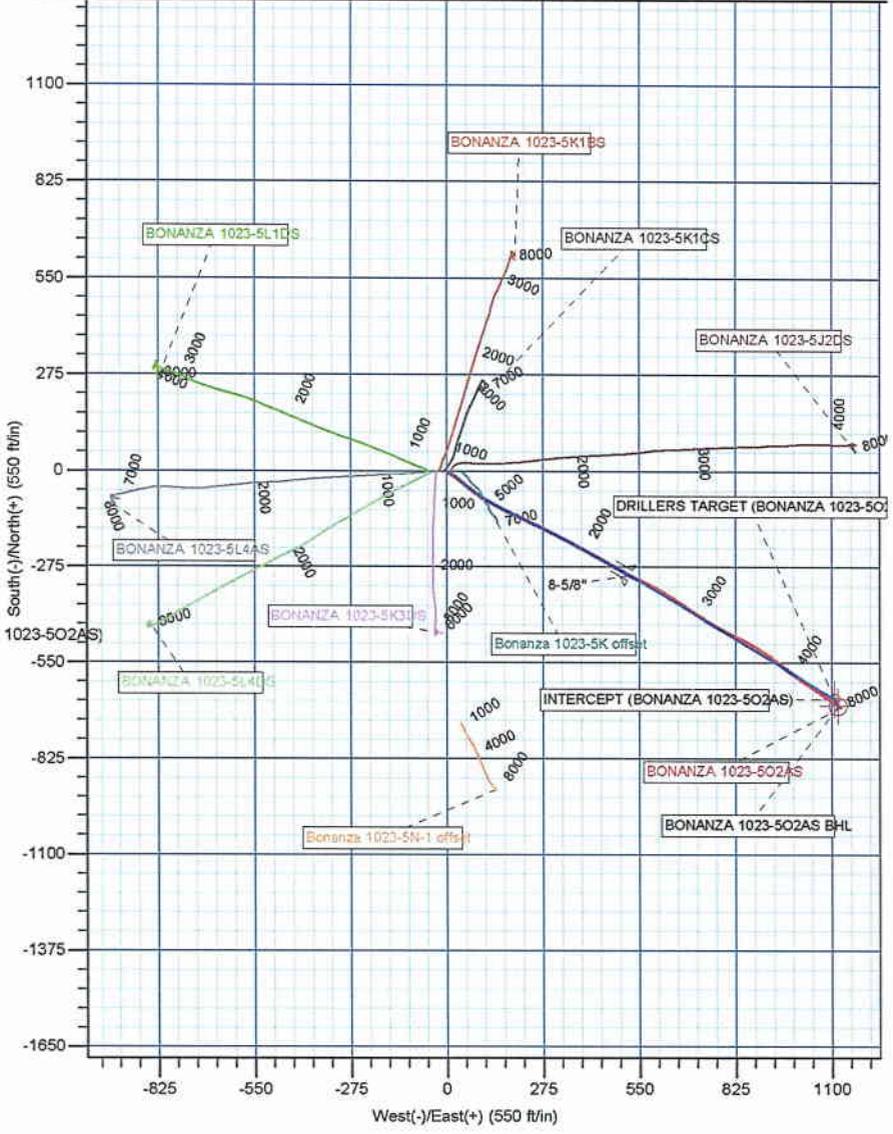
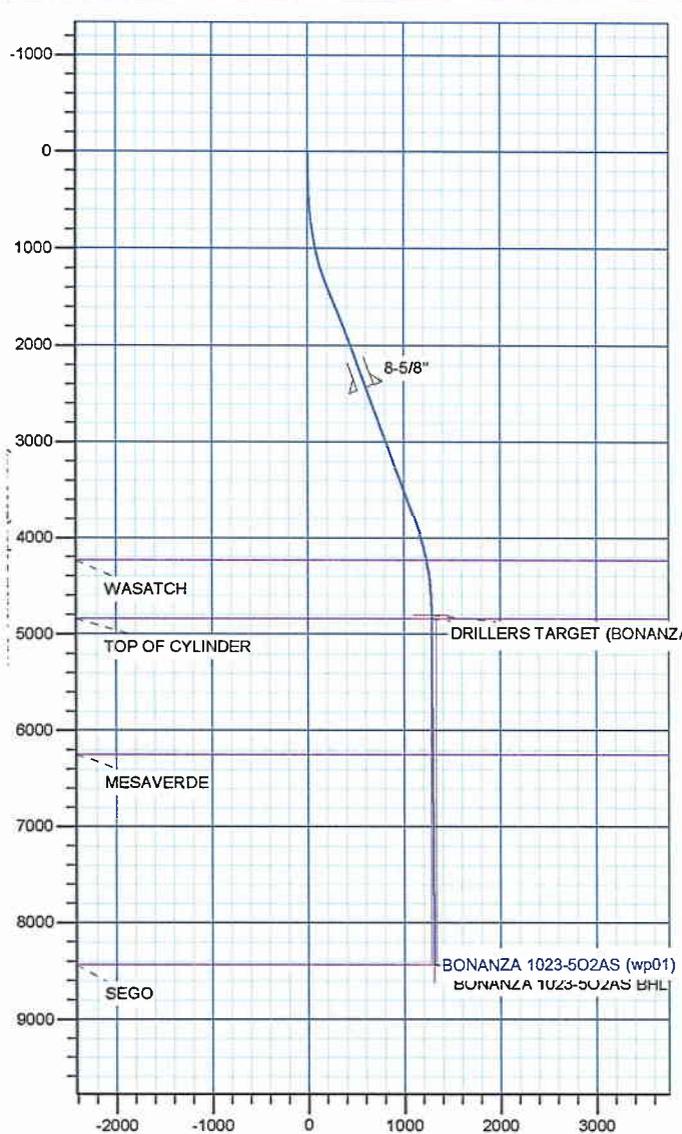
Azimuths to True North  
 Magnetic North: 10.8  
 Magnetic File Strength: 52230.3sr  
 Dip Angle: 65.8  
 Date: 6/28/201  
 Model: IGRF201

**DESIGN TARGET DETAILS**

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
DRILLERS TARGET (BONANZA 1023-5O2AS)	4795.00	-653.42	1107.57	14520971.74	2103183.01	39.974299	-109.348267	Circle (Radius: 15.00)
INTERCEPT (BONANZA 1023-5O2AS)	4835.00	-653.46	1107.59	14520971.70	2103183.02	39.974299	-109.348267	Point
BONANZA 1023-5O2AS BHL	8434.00	-673.42	1117.57	14520951.93	2103193.37	39.974244	-109.348231	Circle (Radius: 25.00)

**SECTION DETAILS**

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V Sect
2511.00	20.31	119.60	2412.72	-295.39	515.53	0.00	0.00	594.02
2661.00	20.31	119.60	2553.40	-321.10	560.80	0.00	0.00	646.07
2780.02	20.32	121.35	2665.02	-342.05	596.41	0.51	90.34	687.38
3990.71	20.32	121.35	3800.39	-560.72	955.38	0.00	0.00	1107.70
5006.46	0.00	0.00	4795.00	-653.42	1107.57	2.00	180.00	1285.89
5125.78	0.36	153.45	4914.32	-653.75	1107.74	0.30	153.45	1286.21
8645.53	0.36	153.45	8434.00	-673.42	1117.57	0.00	0.00	1304.78



# **US ROCKIES REGION PLANNING**

**UTAH - UTM (feet), NAD27, Zone 12N**

**UINTAH\_BONANZA 1023-5K PAD**

**BONANZA 1023-5O2AS**

**BONANZA 1023-5O2AS**

**Design: BONANZA 1023-5O2AS**

## **Standard Survey Report**

**16 August, 2012**

# Andarko Petroleum Corporation

## Survey Report

<b>Company:</b> US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b> Well BONANZA 1023-5O2AS
<b>Project:</b> UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b> GL + 15' rkb @ 5342.00ft (XTREME 12)
<b>Site:</b> UINTAH_BONANZA 1023-5K PAD	<b>MD Reference:</b> GL + 15' rkb @ 5342.00ft (XTREME 12)
<b>Well:</b> BONANZA 1023-5O2AS	<b>North Reference:</b> True
<b>Wellbore:</b> BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> BONANZA 1023-5O2AS	<b>Database:</b> edmp

<b>Project</b> UTAH - UTM (feet), NAD27, Zone 12N	
<b>Map System:</b> Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b> Mean Sea Level
<b>Geo Datum:</b> NAD 1927 (NADCON CONUS)	
<b>Map Zone:</b> Zone 12N (114 W to 108 W)	

<b>Site</b> UINTAH_BONANZA 1023-5K PAD		
<b>Site Position:</b>	<b>Northing:</b> 14,521,604.77 usft	<b>Latitude:</b> 39.976093
<b>From:</b> Lat/Long	<b>Easting:</b> 2,102,073.63 usft	<b>Longitude:</b> -109.352183
<b>Position Uncertainty:</b> 0.00 ft	<b>Slot Radius:</b> 13-3/16 "	<b>Grid Convergence:</b> 1.06 °

<b>Well</b> BONANZA 1023-5O2AS			
<b>Well Position</b>	<b>+N/-S</b> 0.00 ft	<b>Northing:</b> 14,521,604.58 usft	<b>Latitude:</b> 39.976093
	<b>+E/-W</b> 0.00 ft	<b>Easting:</b> 2,102,063.55 usft	<b>Longitude:</b> -109.352219
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b> ft	<b>Ground Level:</b> 5,327.00 ft

<b>Wellbore</b> BONANZA 1023-5O2AS					
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
	IGRF2010	6/28/2012	(°) 10.88	(°) 65.85	(nT) 52,230

<b>Design</b> BONANZA 1023-5O2AS					
<b>Audit Notes:</b>					
<b>Version:</b> 1.0	<b>Phase:</b> ACTUAL	<b>Tie On Depth:</b> 11.00			
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft) 865.99	(ft) 0.00	(ft) 0.00	(°) 121.01	

<b>Survey Program</b>		<b>Date</b> 8/16/2012		
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
152.00	2,511.00	Survey #1 (BONANZA 1023-5O2AS)	MWD	MWD - STANDARD
2,633.00	8,655.00	Survey #2 (BONANZA 1023-5O2AS)	MWD	MWD - STANDARD

<b>Survey</b>										
<b>Measured Depth</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical Depth</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Vertical Section</b>	<b>Dogleg Rate</b>	<b>Build Rate</b>	<b>Turn Rate</b>	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)	
11.00	0.00	0.00	11.00	0.00	0.00	0.00	0.00	0.00	0.00	
152.00	0.79	143.86	152.00	-0.79	0.57	0.90	0.56	0.56	0.00	
181.00	1.14	136.92	180.99	-1.16	0.89	1.36	1.27	1.21	-23.93	
210.00	1.32	136.48	209.98	-1.61	1.32	1.96	0.62	0.62	-1.52	
238.00	1.67	131.03	237.98	-2.11	1.85	2.67	1.35	1.25	-19.46	
264.00	1.58	122.06	263.96	-2.55	2.43	3.40	1.04	-0.35	-34.50	
293.00	1.85	117.14	292.95	-2.98	3.19	4.27	1.06	0.93	-16.97	
321.00	1.85	117.84	320.94	-3.39	3.99	5.17	0.08	0.00	2.50	
351.00	2.11	130.68	350.92	-3.98	4.84	6.20	1.71	0.87	42.80	
441.00	2.11	120.57	440.86	-5.90	7.52	9.49	0.41	0.00	-11.23	

# Andarko Petroleum Corporation

## Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL + 15' rkb @ 5342.00ft (XTREME 12)
<b>Site:</b>	UINTAH_BONANZA 1023-5K PAD	<b>MD Reference:</b>	GL + 15' rkb @ 5342.00ft (XTREME 12)
<b>Well:</b>	BONANZA 1023-5O2AS	<b>North Reference:</b>	True
<b>Wellbore:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	BONANZA 1023-5O2AS	<b>Database:</b>	edmp

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
531.00	3.17	113.94	530.76	-7.75	11.22	13.61	1.22	1.18	-7.37
621.00	4.84	119.60	620.54	-10.64	16.80	19.88	1.90	1.86	6.29
711.00	7.47	128.39	710.01	-16.15	24.69	29.48	3.10	2.92	9.77
801.00	8.62	129.88	799.13	-24.11	34.45	41.95	1.30	1.28	1.66
891.00	9.85	131.73	887.96	-33.56	45.37	56.17	1.41	1.37	2.06
981.00	11.96	128.30	976.33	-44.46	58.44	72.99	2.45	2.34	-3.81
1,071.00	14.20	126.40	1,063.99	-56.79	74.64	93.23	2.53	2.49	-2.11
1,161.00	16.18	123.73	1,150.84	-70.31	93.96	116.75	2.33	2.20	-2.97
1,251.00	18.03	119.95	1,236.86	-84.23	116.46	143.20	2.40	2.06	-4.20
1,341.00	19.86	118.77	1,321.98	-98.54	141.93	172.41	2.08	2.03	-1.31
1,431.00	22.07	117.14	1,406.02	-113.61	170.38	204.56	2.54	2.46	-1.81
1,521.00	23.83	115.65	1,488.89	-129.20	201.82	239.53	2.06	1.96	-1.66
1,611.00	23.30	115.38	1,571.39	-144.70	234.29	275.35	0.60	-0.59	-0.30
1,701.00	22.25	115.91	1,654.37	-159.77	265.70	310.03	1.19	-1.17	0.59
1,791.00	21.37	115.47	1,737.93	-174.27	295.83	343.33	0.99	-0.98	-0.49
1,881.00	21.02	118.72	1,821.84	-189.08	324.79	375.78	1.36	-0.39	3.61
1,971.00	21.63	118.63	1,905.68	-204.78	353.50	408.48	0.68	0.68	-0.10
2,061.00	20.93	117.23	1,989.54	-220.09	382.36	441.09	0.96	-0.78	-1.56
2,151.00	19.43	120.04	2,074.02	-234.94	409.61	472.10	1.98	-1.67	3.12
2,241.00	19.43	120.83	2,158.89	-250.10	435.42	502.04	0.29	0.00	0.88
2,331.00	19.87	118.28	2,243.65	-265.02	461.75	532.29	1.07	0.49	-2.83
2,421.00	20.05	119.95	2,328.25	-279.97	488.59	562.99	0.66	0.20	1.86
2,511.00	20.31	119.60	2,412.72	-295.39	515.53	594.03	0.32	0.29	-0.39
<b>TIE ON</b>									
2,633.00	18.83	114.98	2,527.68	-314.16	551.80	634.78	1.75	-1.21	-3.79
<b>FIRST MWD SURVEY</b>									
2,724.00	18.87	115.87	2,613.80	-326.78	578.35	664.04	0.32	0.04	0.98
2,815.00	20.29	118.05	2,699.53	-340.62	605.52	694.46	1.75	1.56	2.40
2,906.00	21.44	122.90	2,784.57	-357.08	633.41	726.84	2.28	1.26	5.33
2,996.00	22.81	124.65	2,867.94	-375.93	661.57	760.69	1.69	1.52	1.94
3,087.00	22.69	125.28	2,951.86	-396.10	690.41	795.80	0.30	-0.13	0.69
3,178.00	20.19	122.53	3,036.56	-414.69	717.98	829.01	2.96	-2.75	-3.02
3,268.00	18.50	119.65	3,121.48	-430.10	743.49	858.81	2.16	-1.88	-3.20
3,359.00	18.69	121.53	3,207.73	-444.87	768.46	887.82	0.69	0.21	2.07
3,450.00	18.31	119.28	3,294.03	-459.49	793.36	916.69	0.89	-0.42	-2.47
3,541.00	18.50	111.90	3,380.39	-471.86	819.23	945.24	2.57	0.21	-8.11
3,632.00	18.06	118.53	3,466.80	-483.99	845.02	973.59	2.33	-0.48	7.29
3,723.00	17.00	120.65	3,553.58	-497.51	868.86	1,000.99	1.36	-1.16	2.33
3,814.00	17.31	123.28	3,640.53	-511.72	891.62	1,027.82	0.92	0.34	2.89
3,904.00	16.44	122.90	3,726.65	-525.98	913.51	1,053.92	0.97	-0.97	-0.42
3,995.00	15.88	130.15	3,814.07	-541.01	933.84	1,079.09	2.30	-0.62	7.97
4,086.00	17.13	126.90	3,901.32	-557.08	954.07	1,104.71	1.71	1.37	-3.57
4,177.00	18.25	125.03	3,988.01	-573.31	976.46	1,132.26	1.38	1.23	-2.05

# Andarko Petroleum Corporation

## Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL + 15' rkb @ 5342.00ft (XTREME 12)
<b>Site:</b>	UINTAH_BONANZA 1023-5K PAD	<b>MD Reference:</b>	GL + 15' rkb @ 5342.00ft (XTREME 12)
<b>Well:</b>	BONANZA 1023-5O2AS	<b>North Reference:</b>	True
<b>Wellbore:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	BONANZA 1023-5O2AS	<b>Database:</b>	edmp

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,267.00	14.69	123.40	4,074.31	-587.68	997.53	1,157.73	3.99	-3.96	-1.81	
4,358.00	14.63	124.78	4,162.34	-600.59	1,016.60	1,180.72	0.39	-0.07	1.52	
4,449.00	13.25	123.78	4,250.66	-612.94	1,034.71	1,202.61	1.54	-1.52	-1.10	
4,540.00	12.31	125.15	4,339.41	-624.33	1,051.31	1,222.70	1.09	-1.03	1.51	
4,631.00	9.63	124.15	4,428.74	-634.19	1,065.54	1,239.98	2.95	-2.95	-1.10	
4,722.00	8.91	125.24	4,518.55	-642.53	1,077.60	1,254.61	0.81	-0.79	1.20	
4,812.00	7.13	126.65	4,607.66	-649.88	1,087.77	1,267.12	1.99	-1.98	1.57	
4,903.00	5.19	113.53	4,698.14	-654.90	1,096.08	1,276.82	2.62	-2.13	-14.42	
4,994.00	3.44	123.53	4,788.88	-658.05	1,102.13	1,283.63	2.09	-1.92	10.99	
5,085.00	2.44	140.53	4,879.76	-661.05	1,105.64	1,288.18	1.45	-1.10	18.68	
5,175.00	0.69	150.03	4,969.72	-663.00	1,107.12	1,290.46	1.96	-1.94	10.56	
5,266.00	0.94	149.53	5,060.71	-664.12	1,107.78	1,291.60	0.27	0.27	-0.55	
5,357.00	0.44	353.65	5,151.71	-664.42	1,108.12	1,292.04	1.49	-0.55	-171.30	
5,448.00	0.06	25.40	5,242.71	-664.02	1,108.10	1,291.82	0.43	-0.42	34.89	
5,538.00	0.31	119.90	5,332.71	-664.10	1,108.33	1,292.06	0.36	0.28	105.00	
5,629.00	0.94	324.77	5,423.70	-663.62	1,108.11	1,291.63	1.35	0.69	-170.47	
5,720.00	0.44	313.77	5,514.70	-662.77	1,107.43	1,290.60	0.57	-0.55	-12.09	
5,811.00	0.19	245.78	5,605.70	-662.59	1,107.04	1,290.17	0.45	-0.27	-74.71	
5,897.00	0.25	197.53	5,691.70	-662.82	1,106.85	1,290.14	0.22	0.07	-56.10	
5,988.00	0.50	173.03	5,782.69	-663.41	1,106.84	1,290.43	0.32	0.27	-26.92	
6,078.00	0.69	149.78	5,872.69	-664.26	1,107.16	1,291.14	0.34	0.21	-25.83	
6,169.00	1.06	144.90	5,963.68	-665.43	1,107.92	1,292.39	0.41	0.41	-5.36	
6,260.00	0.44	108.40	6,054.67	-666.23	1,108.74	1,293.50	0.83	-0.68	-40.11	
6,351.00	1.38	24.28	6,145.66	-665.34	1,109.52	1,293.72	1.54	1.03	-92.44	
6,441.00	1.38	28.15	6,235.63	-663.39	1,110.48	1,293.54	0.10	0.00	4.30	
6,532.00	1.13	49.65	6,326.61	-661.85	1,111.68	1,293.77	0.58	-0.27	23.63	
6,623.00	1.31	65.90	6,417.59	-660.84	1,113.31	1,294.65	0.43	0.20	17.86	
6,714.00	1.38	76.78	6,508.57	-660.17	1,115.33	1,296.03	0.29	0.08	11.96	
6,804.00	0.81	96.40	6,598.55	-659.99	1,117.01	1,297.39	0.75	-0.63	21.80	
6,895.00	0.13	261.40	6,689.55	-660.08	1,117.55	1,297.89	1.03	-0.75	181.32	
6,986.00	1.13	321.15	6,780.54	-659.39	1,116.89	1,296.97	1.18	1.10	65.66	
7,077.00	1.13	325.40	6,871.52	-657.95	1,115.81	1,295.31	0.09	0.00	4.67	
7,168.00	0.44	295.15	6,962.52	-657.07	1,114.99	1,294.14	0.86	-0.76	-33.24	
7,258.00	0.31	318.03	7,052.51	-656.74	1,114.51	1,293.57	0.22	-0.14	25.42	
7,349.00	0.02	136.81	7,143.51	-656.57	1,114.36	1,293.35	0.36	-0.32	196.46	
7,440.00	0.38	214.15	7,234.51	-656.83	1,114.20	1,293.35	0.41	0.40	84.99	
7,531.00	0.56	209.78	7,325.51	-657.47	1,113.81	1,293.34	0.20	0.20	-4.80	
7,621.00	0.56	173.78	7,415.50	-658.28	1,113.64	1,293.61	0.38	0.00	-40.00	
7,712.00	1.00	156.40	7,506.50	-659.45	1,114.01	1,294.53	0.54	0.48	-19.10	
7,803.00	0.31	207.15	7,597.49	-660.40	1,114.21	1,295.19	0.92	-0.76	55.77	
7,894.00	0.94	173.03	7,688.48	-661.36	1,114.19	1,295.67	0.77	0.69	-37.49	
7,984.00	1.38	157.28	7,778.47	-663.09	1,114.70	1,297.00	0.60	0.49	-17.50	
8,075.00	1.38	150.15	7,869.44	-665.05	1,115.67	1,298.84	0.19	0.00	-7.84	
8,166.00	1.63	155.90	7,960.41	-667.19	1,116.74	1,300.86	0.32	0.27	6.32	

# Andarko Petroleum Corporation

## Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well BONANZA 1023-5O2AS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	GL + 15' rkb @ 5342.00ft (XTREME 12)
<b>Site:</b>	UINTAH_BONANZA 1023-5K PAD	<b>MD Reference:</b>	GL + 15' rkb @ 5342.00ft (XTREME 12)
<b>Well:</b>	BONANZA 1023-5O2AS	<b>North Reference:</b>	True
<b>Wellbore:</b>	BONANZA 1023-5O2AS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	BONANZA 1023-5O2AS	<b>Database:</b>	edmp

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,257.00	1.50	156.15	8,051.37	-669.46	1,117.75	1,302.89	0.14	-0.14	0.27
8,347.00	1.25	144.65	8,141.35	-671.33	1,118.79	1,304.76	0.41	-0.28	-12.78
8,438.00	1.25	126.65	8,232.33	-672.74	1,120.16	1,306.65	0.43	0.00	-19.78
8,529.00	1.50	126.53	8,323.30	-674.04	1,121.92	1,308.83	0.27	0.27	-0.13
8,605.00	1.86	125.85	8,399.27	-675.35	1,123.72	1,311.05	0.47	0.47	-0.89
<b>LAST MWD SURVEY</b>									
8,655.00	1.86	125.85	8,449.24	-676.30	1,125.03	1,312.66	0.00	0.00	0.00
<b>PROJECTION TO TD</b>									

Checked By: _____	Approved By: _____	Date: _____
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