

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

FORM 3

AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL		1. WELL NAME and NUMBER BONANZA 1023-5I1BS
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>		3. FIELD OR WILDCAT NATURAL BUTTES
4. TYPE OF WELL Gas Well Coalbed Methane Well: NO		5. UNIT or COMMUNITIZATION AGREEMENT NAME
6. NAME OF OPERATOR KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. OPERATOR PHONE 720 929-6515
8. ADDRESS OF OPERATOR P.O. Box 173779, Denver, CO, 80217		9. OPERATOR E-MAIL julie.jacobson@anadarko.com
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) UTU33433	11. MINERAL OWNERSHIP FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>	
13. NAME OF SURFACE OWNER (if box 12 = 'fee')		12. SURFACE OWNERSHIP FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')		14. SURFACE OWNER PHONE (if box 12 = 'fee')
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')		16. SURFACE OWNER E-MAIL (if box 12 = 'fee')
18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		19. SLANT 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	1629 FSL 1039 FEL	NESE	5	10.0 S	23.0 E	S
Top of Uppermost Producing Zone	2491 FSL 376 FEL	NESE	5	10.0 S	23.0 E	S
At Total Depth	2491 FSL 376 FEL	NESE	5	10.0 S	23.0 E	S

21. COUNTY UINTAH	22. DISTANCE TO NEAREST LEASE LINE (Feet) 2491	23. NUMBER OF ACRES IN DRILLING UNIT 1923
27. ELEVATION - GROUND LEVEL 5299	25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 972	26. PROPOSED DEPTH MD: 8543 TVD: 8381
	28. BOND NUMBER WYB000291	29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 43-8496

Hole, Casing, and Cement Information

String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	11	8.625	0 - 2290	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 - 8543	11.6	I-80 LT&C	12.5	Premium Lite High Strength	280	3.38	11.0
							50/50 Poz	1150	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

NAME Gina Becker	TITLE Regulatory Analyst II	PHONE 720 929-6086
SIGNATURE	DATE 10/17/2011	EMAIL gina.becker@anadarko.com
API NUMBER ASSIGNED 43047520590000	APPROVAL  Permit Manager	

Kerr-McGee Oil & Gas Onshore. L.P.**BONANZA 1023-5I1BS**

Surface: 1629 FSL / 1039 FEL NESE
 BHL: 2491 FSL / 376 FEL NESE

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	1234	
Birds Nest	1483	Water
Mahogany	1840	Water
Wasatch	4198	Gas
Mesaverde	6216	Gas
MVU2	7211	Gas
MVL1	7738	Gas
TVD	8381	
TD	8543	

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 8381' TVD, approximately equals

$$\frac{5,364 \text{ psi}}{0.64 \text{ psi/ft}} = \text{actual bottomhole gradient}$$

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

Maximum anticipated surface pressure equals approximately 3,508 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.

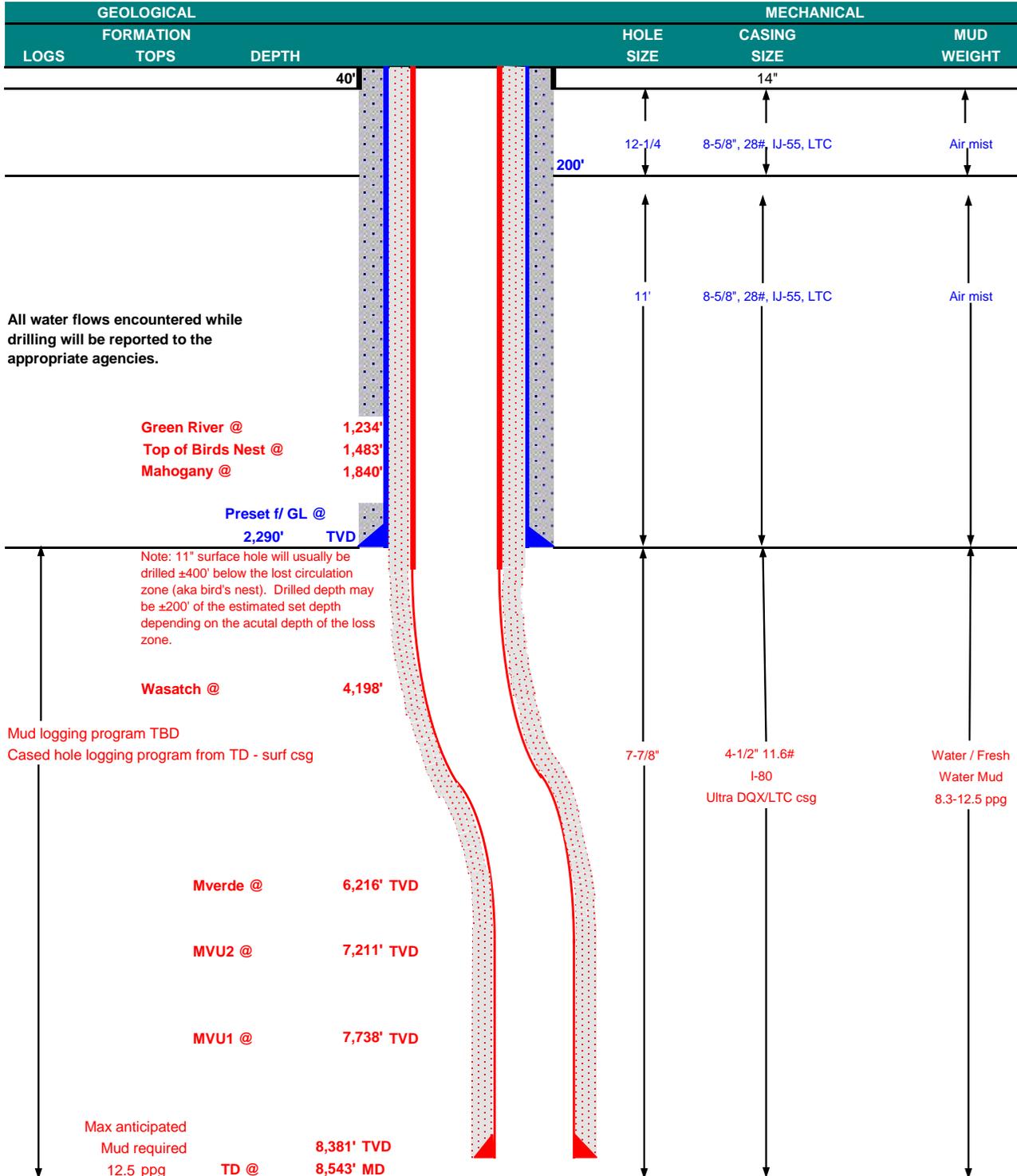
10. **Other Information:**

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	BONANZA 1023-51BS			TD	8,381'	8,543' MD	
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION	5299.2
SURFACE LOCATION	NESE	1629 FSL	1039 FEL	Sec 5	T 10S	R 23E	
	Latitude:	39.975194	Longitude:	-109.345033	NAD 83		
BTM HOLE LOCATION	NESE	2491 FSL	376 FEL	Sec 5	T 10S	R 23E	
	Latitude:	39.977564	Longitude:	-109.342665	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 2,290	28.00	IJ-55	LTC	2.36	1.75	6.20	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	1.17		3.33
						4-1/2"	5,000 to 8,543'	11.60	I-80

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*Buoyn.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*Buoyn.Fact. of water)

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE Option 1	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
	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 Option 2	LEAD	1,790'	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	3,693'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	280	20%	11.00	3.38
	TAIL	4,850'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,150	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

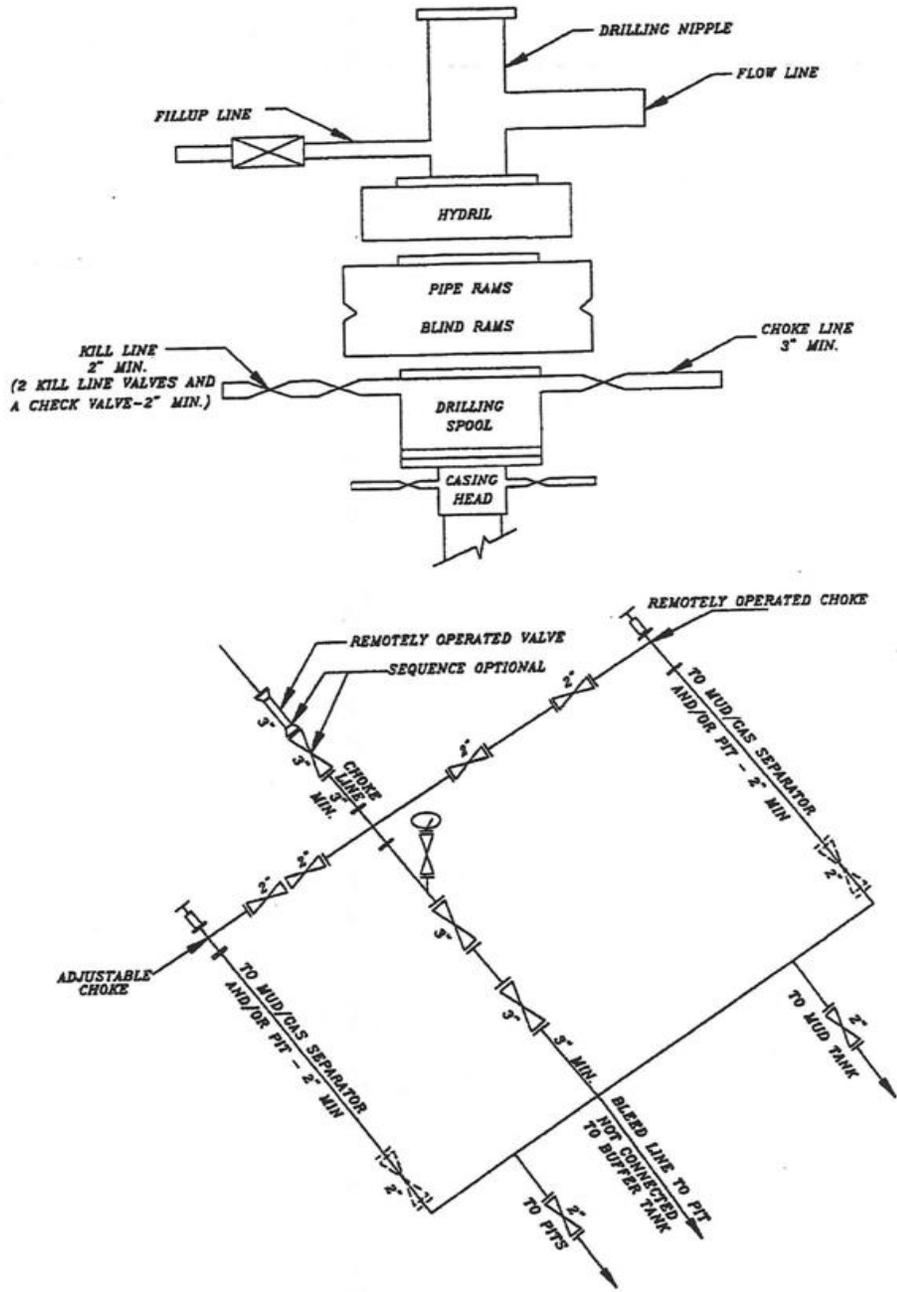
DATE:

DRILLING SUPERINTENDENT:

Kenny Gathings / Lovel Young

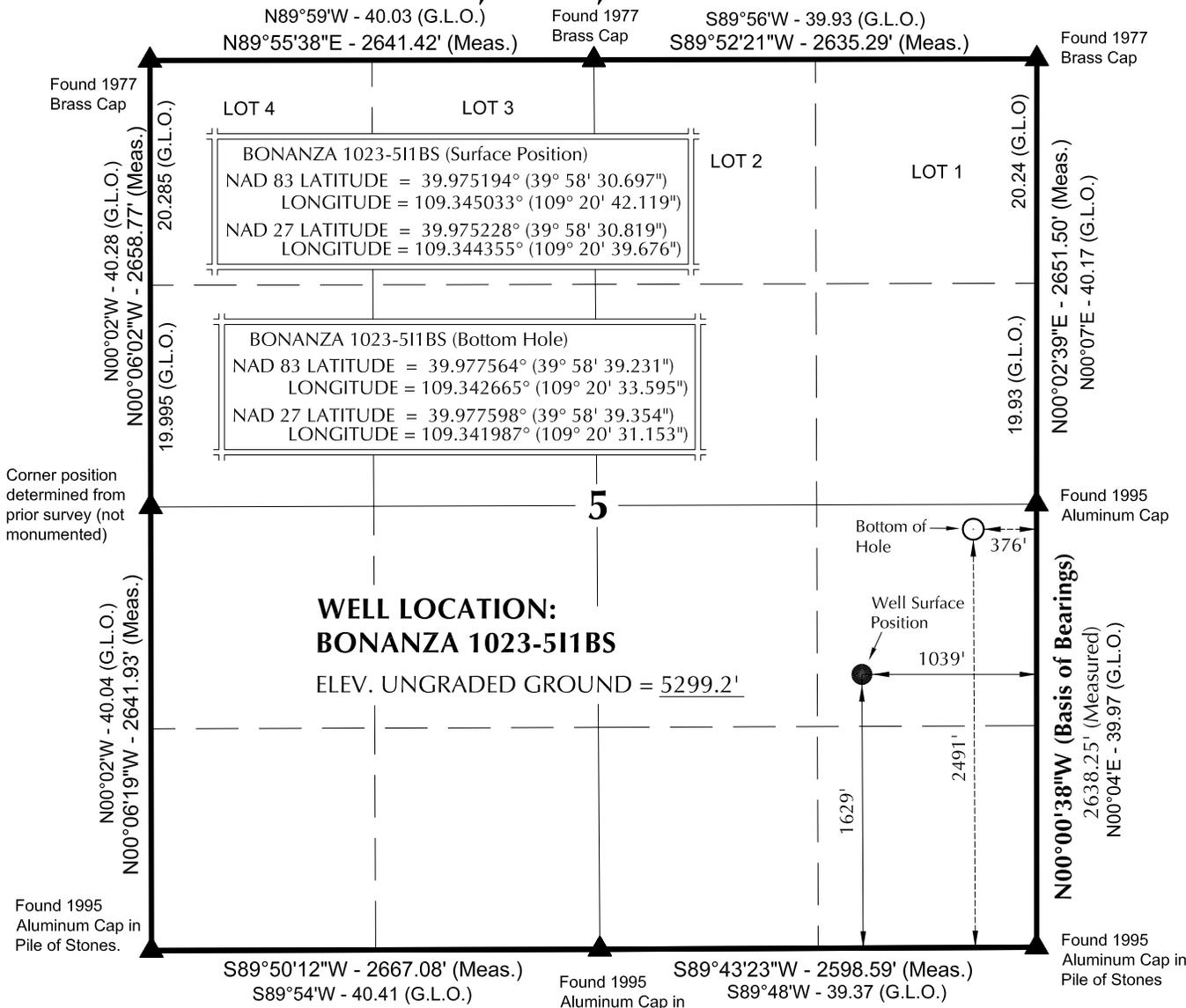
DATE:

EXHIBIT A
BONANZA 1023-511BS



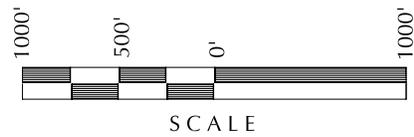
SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

T10S, R23E, S.L.B.&M.



NOTES:

- ▲ = Section Corners Located
- 1. Well footages are measured at right angles to the Section Lines.
- 2. G.L.O. distances are shown in feet or chains.
1 chain = 66 feet.
- 3. The Bottom of hole bears N37°27'40"E - 1089.37' from the Surface Position.
- 4. Bearings are based on Global Positioning Satellite observations.
- 5. Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.



SURVEYOR'S CERTIFICATE

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

John R. Staugh
 No. 6028691
 JOHN R. STAUGH
 PROFESSIONAL LAND SURVEYOR
 REGISTRATION No. 6028691
 STATE OF UTAH

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

WELL PAD: BONANZA 1023-51

BONANZA 1023-511BS
WELL PLAT
 2491' FSL, 376' FEL (Bottom Hole)
 NE ¼ SE ¼ OF 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

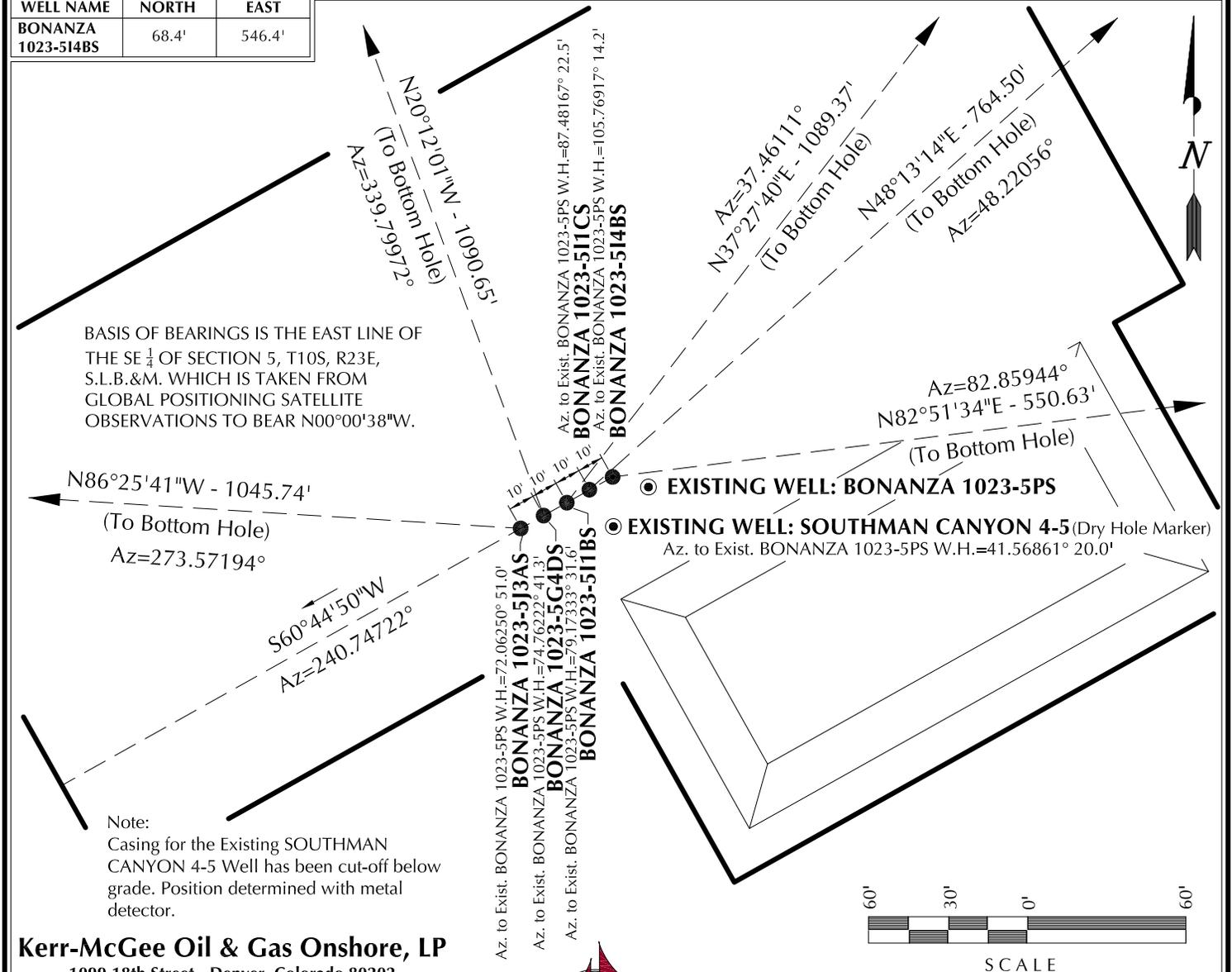
TIMBERLINE (435) 789-1365
 ENGINEERING & LAND SURVEYING, INC.
 209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 03-09-10	SURVEYED BY: M.S.B.	SHEET NO: 3
DATE DRAWN: 03-10-10	DRAWN BY: E.M.S.	
SCALE: 1" = 1000'		3 OF 19

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
BONANZA 1023-5J3AS	39°58'30.600"	109°20'42.345"	39°58'30.723"	109°20'39.902"	1620' FSL 1056' FEL	39°58'31.257"	109°20'55.747"	39°58'31.380"	109°20'53.303"	1690' FSL 2100' FEL
BONANZA 1023-5G4DS	39°58'30.648"	109°20'42.233"	39°58'30.771"	109°20'39.790"	1625' FSL 1048' FEL	39°58'40.766"	109°20'47.052"	39°58'40.888"	109°20'44.608"	2643' FNL 1424' FEL
BONANZA 1023-5I1BS	39°58'30.697"	109°20'42.119"	39°58'30.816"	109°20'39.676"	1629' FSL 1039' FEL	39°58'39.231"	109°20'33.595"	39°58'39.354"	109°20'31.153"	2491' FSL 376' FEL
BONANZA 1023-5I1CS	39°58'30.745"	109°20'42.009"	39°58'30.868"	109°20'39.566"	1634' FSL 1030' FEL	39°58'35.770"	109°20'34.679"	39°58'35.893"	109°20'32.237"	2141' FSL 460' FEL
BONANZA 1023-5I4BS	39°58'30.793"	109°20'41.896"	39°58'30.916"	109°20'39.453"	1639' FSL 1021' FEL	39°58'31.462"	109°20'34.878"	39°58'31.585"	109°20'32.436"	1705' FSL 475' FEL
BONANZA 1023-5PS	39°58'30.755"	109°20'41.721"	39°58'30.877"	109°20'39.278"	1635' FSL 1008' FEL	39°58'31.462"	109°20'34.878"	39°58'31.585"	109°20'32.436"	
SOUTHMAN CANYON 4-5	39°58'30.607"	109°20'41.892"	39°58'30.729"	109°20'39.449"	1620' FSL 1021' FEL	39°58'31.462"	109°20'34.878"	39°58'31.585"	109°20'32.436"	

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 1023-5J3AS	65.2'	-1043.7'	BONANZA 1023-5G4DS	1023.6'	-376.6'	BONANZA 1023-5I1BS	864.7'	662.6'	BONANZA 1023-5I1CS	509.4'	570.1'
BONANZA 1023-5I4BS	68.4'	546.4'									



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

WELL PAD - BONANZA 1023-5I

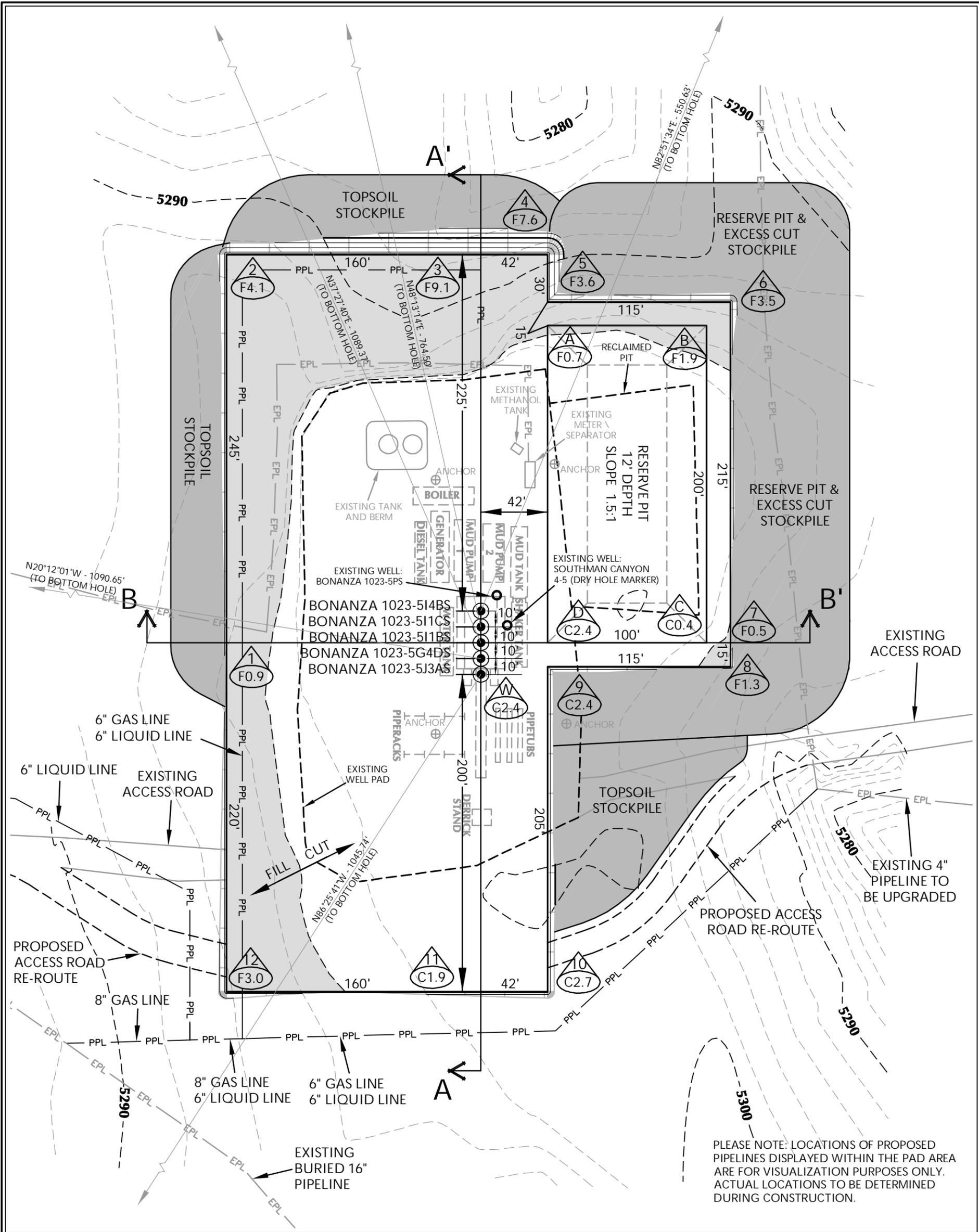
WELL PAD INTERFERENCE PLAT
WELLS - BONANZA 1023-5J3AS,
BONANZA 1023-5G4DS, BONANZA 1023-5I1BS,
BONANZA 1023-5I1CS & BONANZA 1023-5I4BS
LOCATED IN SECTION 5, T10S, R23E,
S.L.B.&M., UINTAH COUNTY, UTAH.

609

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

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

DATE SURVEYED: 03-09-10	SURVEYED BY: M.S.B.	SHEET NO: 6 6 OF 17
DATE DRAWN: 03-10-10	DRAWN BY: E.M.S.	
SCALE: 1" = 60'		



WELL PAD - BONANZA 1023-5I DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5299.2'
 FINISHED GRADE ELEVATION = 5296.8'
 CUT SLOPES = 1.5:1
 FILL SLOPES = 1.5:1
 TOTAL WELL PAD AREA = 2.92 ACRES
 TOTAL DAMAGE AREA = 5.89 ACRES
 SHRINKAGE FACTOR = 1.10
 SWELL FACTOR = 1.00

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

WELL PAD - BONANZA 1023-5I

WELL PAD - LOCATION LAYOUT
 BONANZA 1023-5J3AS,
 BONANZA 1023-5G4DS, BONANZA 1023-5I1BS,
 BONANZA 1023-5I1CS & BONANZA 1023-5I4BS
 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 QUANTITIES

TOTAL CUT FOR WELL PAD = 5,476 C.Y.
 TOTAL FILL FOR WELL PAD = 5,134 C.Y.
 TOPSOIL @ 6" DEPTH = 1,448 C.Y.
 EXCESS MATERIAL = 342 C.Y.

RESERVE PIT QUANTITIES

TOTAL CUT FOR RESERVE PIT
 +/- 6,680 CY
 RESERVE PIT CAPACITY (2' OF FREEBOARD)
 +/- 25,330 BARRELS

WELL PAD LEGEND

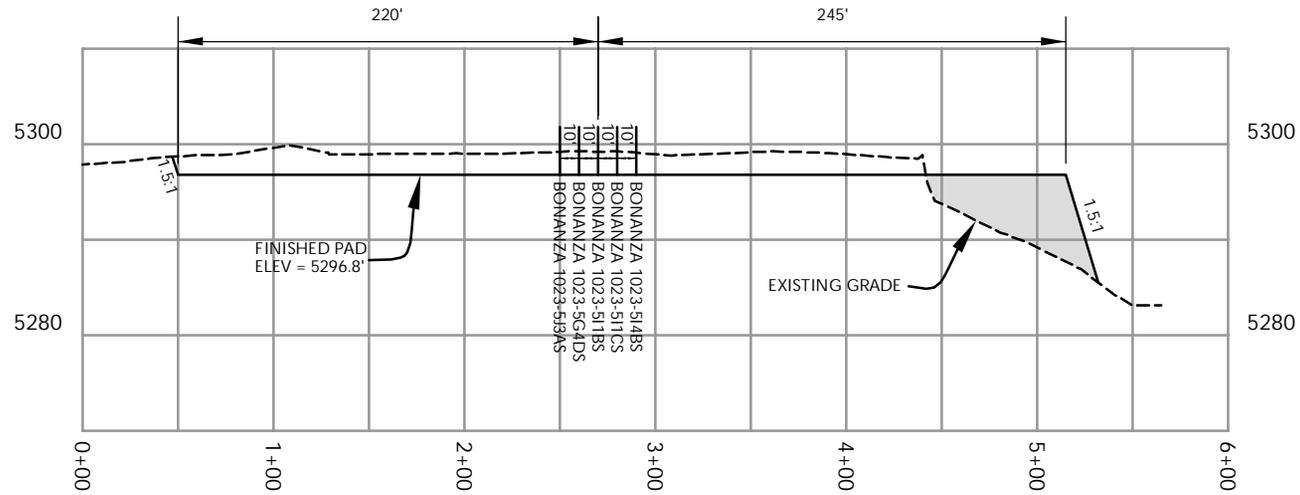
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PROPOSED PIPELINE
- EXISTING PIPELINE



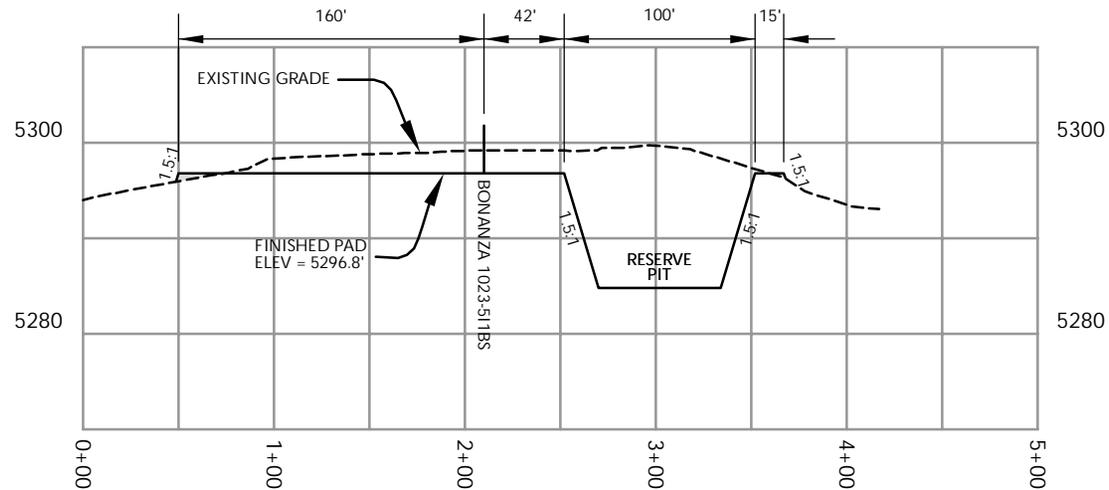
HORIZONTAL 0 30 60 1" = 60'
 2' CONTOURS

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

Scale: 1"=60' Date: 3/30/10 SHEET NO:
 REVISED: SEA 6/25/10 **7** 7 OF 17



CROSS SECTION A-A'



CROSS SECTION B-B'

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

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1099 18th Street - Denver, Colorado 80202

WELL PAD - BONANZA 1023-51

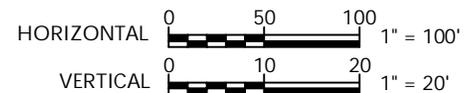
WELL PAD - CROSS SECTIONS
BONANZA 1023-5J3AS,
BONANZA 1023-5G4DS, BONANZA 1023-511BS,
BONANZA 1023-511CS & BONANZA 1023-514BS
LOCATED IN SECTION 5, T10S, R23E,
S.L.B.&M., UINTAH COUNTY, UTAH.



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:

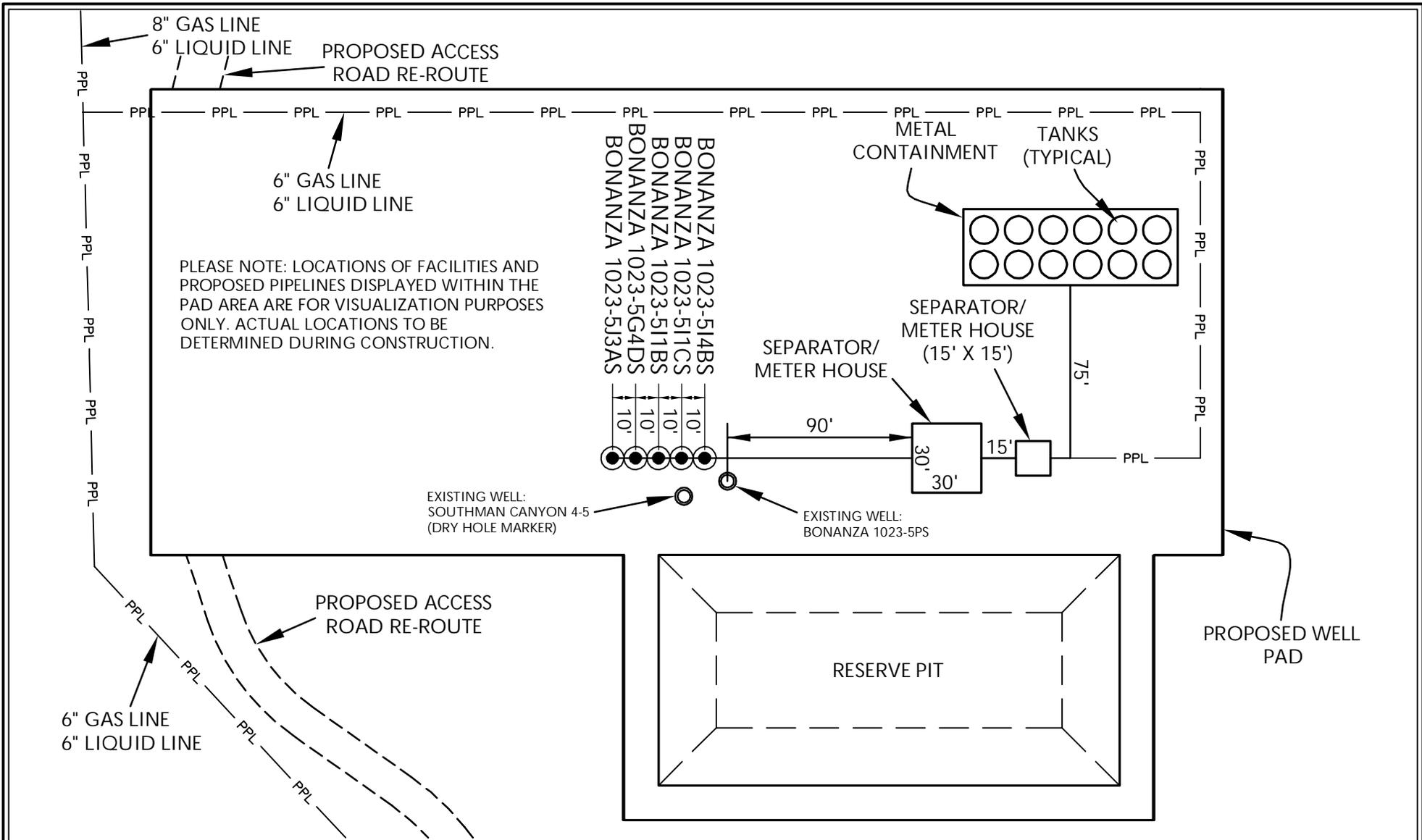
REVISED:

SEA
6/25/10

8

8 OF 17

RECEIVED: October 17, 2011



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

WELL PAD - BONANZA 1023-51

WELL PAD - FACILITIES DIAGRAM
BONANZA 1023-5J3AS,
BONANZA 1023-5G4DS, BONANZA 1023-511BS,
BONANZA 1023-511CS & BONANZA 1023-514BS
LOCATED IN SECTION 5, T10S, R23E,
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WELL PAD LEGEND

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



HORIZONTAL 0 30' 60' 1" = 60'

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

(435) 789-1365

Scale: 1"=60'

Date: 3/30/10

SHEET NO:

REVISED:

SEA
6/25/10

9
9 OF 17

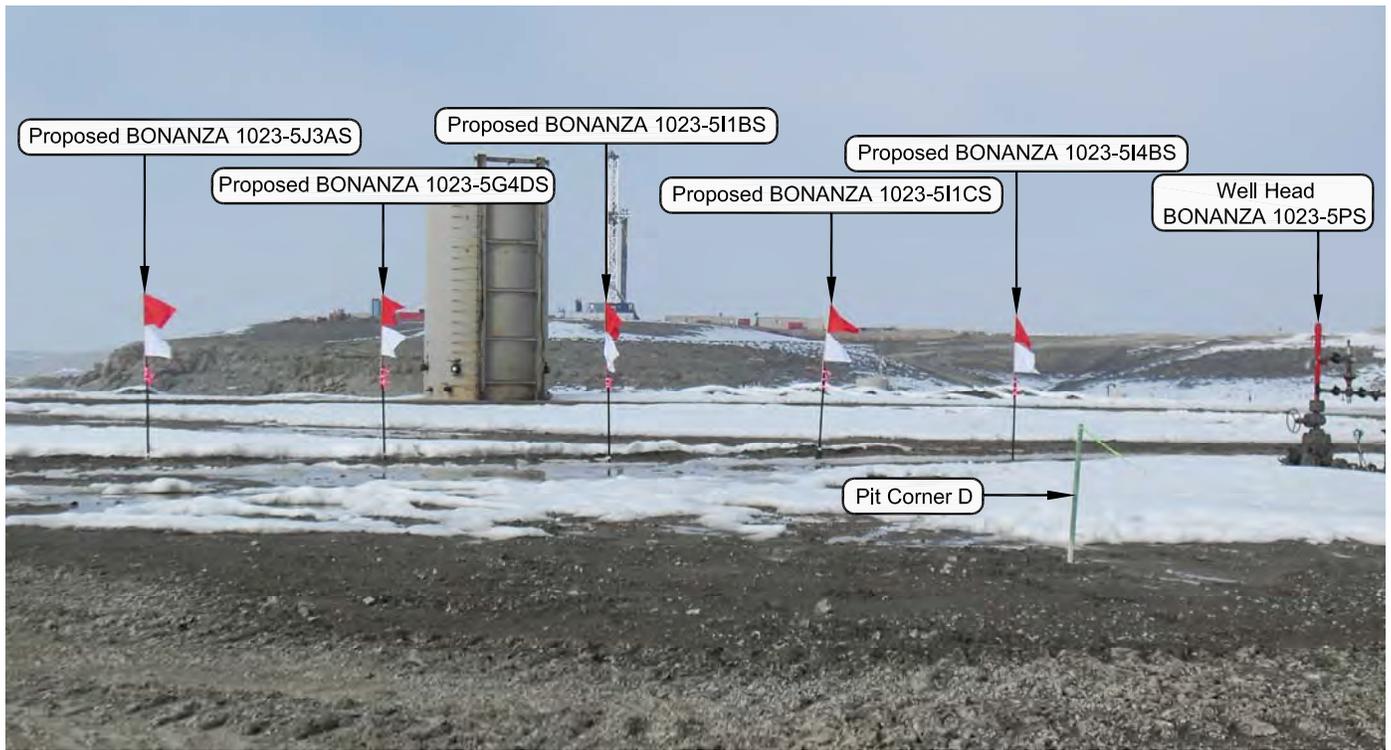


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKES

CAMERA ANGLE: NORTHWESTERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: SOUTHERLY

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

WELL PAD - BONANZA 1023-5I

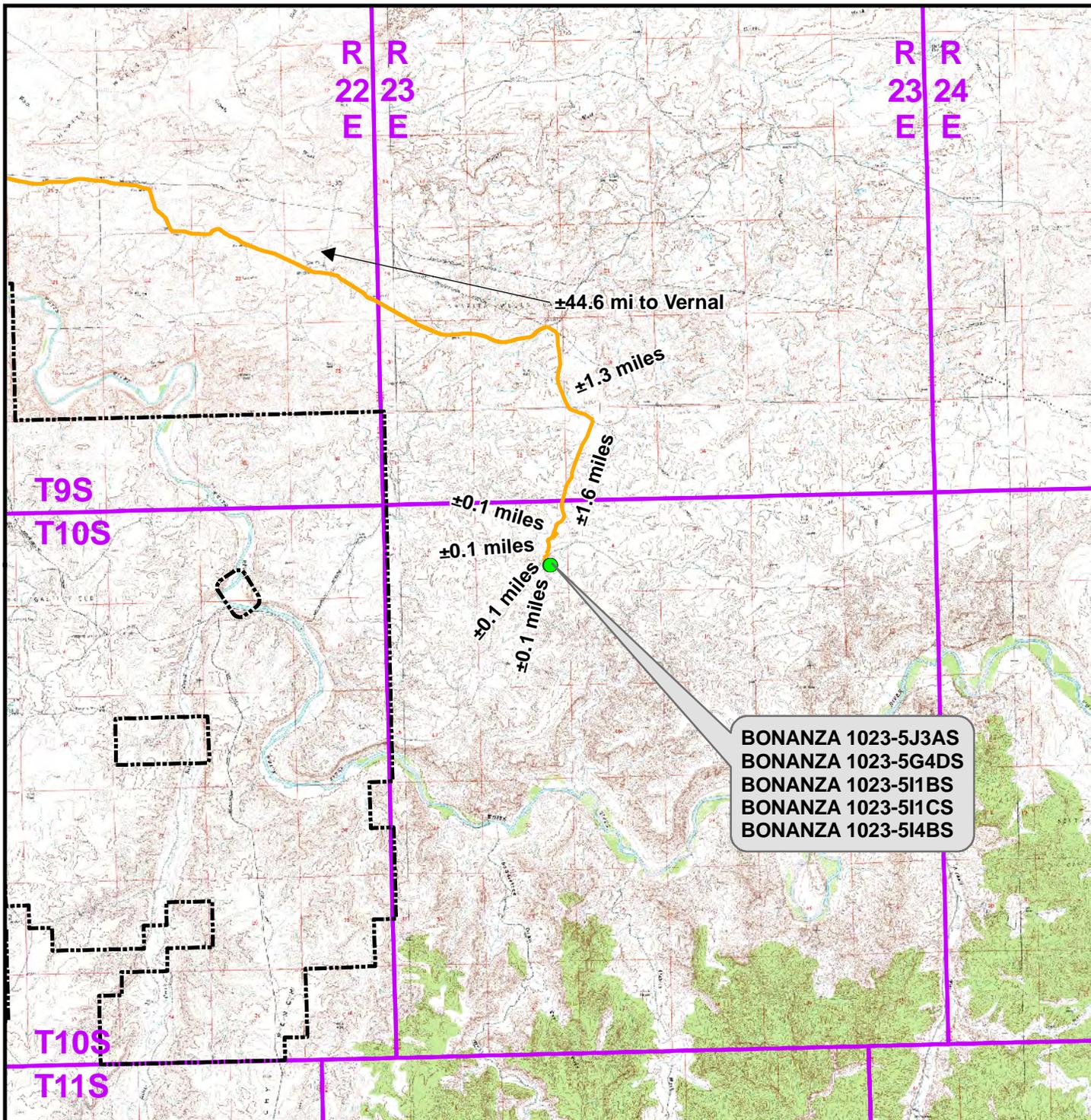
LOCATION PHOTOS
 BONANZA 1023-5J3AS, BONANZA 1023-5G4DS,
 BONANZA 1023-5I1BS, BONANZA 1023-5I1CS &
 BONANZA 1023-5I4BS
 LOCATED IN SECTION 5, T10S, R23E,
 S.L.B.&M., UINTAH COUNTY, UTAH.



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: 03-09-10	PHOTOS TAKEN BY: M.S.B.	SHEET NO: 10
DATE DRAWN: 03-10-10	DRAWN BY: E.M.S.	
Date Last Revised:		10 OF 17



BONANZA 1023-5J3AS
 BONANZA 1023-5G4DS
 BONANZA 1023-5I1BS
 BONANZA 1023-5I1CS
 BONANZA 1023-5I4BS

Legend

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

Distance From Well Pad - BONANZA 1023-5I To Unit Boundary: ±9,070ft

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

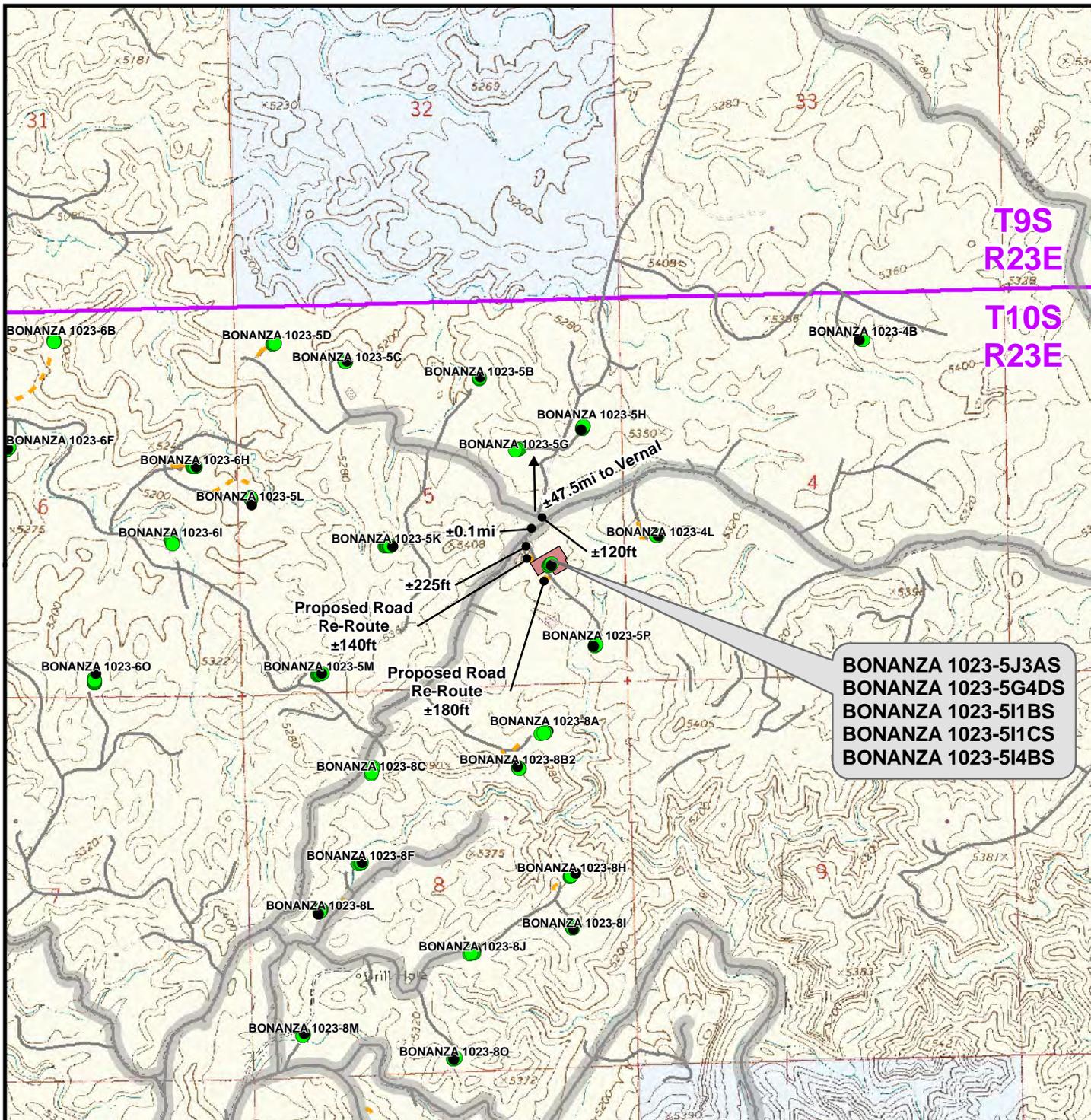
WELL PAD - BONANZA 1023-5I

TOPO A
 BONANZA 1023-5J3AS, BONANZA 1023-5G4DS,
 BONANZA 1023-5I1BS, BONANZA 1023-5I1CS &
 BONANZA 1023-5I4BS
 LOCATED IN SECTION 5, T10S, R23E
 S.L.B.&M., UINTAH COUNTY, UTAH

609
 CONSULTING, LLC
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 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	11
Revised: TL	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 Re-Route Length: ±320ft

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

WELL PAD - BONANZA 1023-51

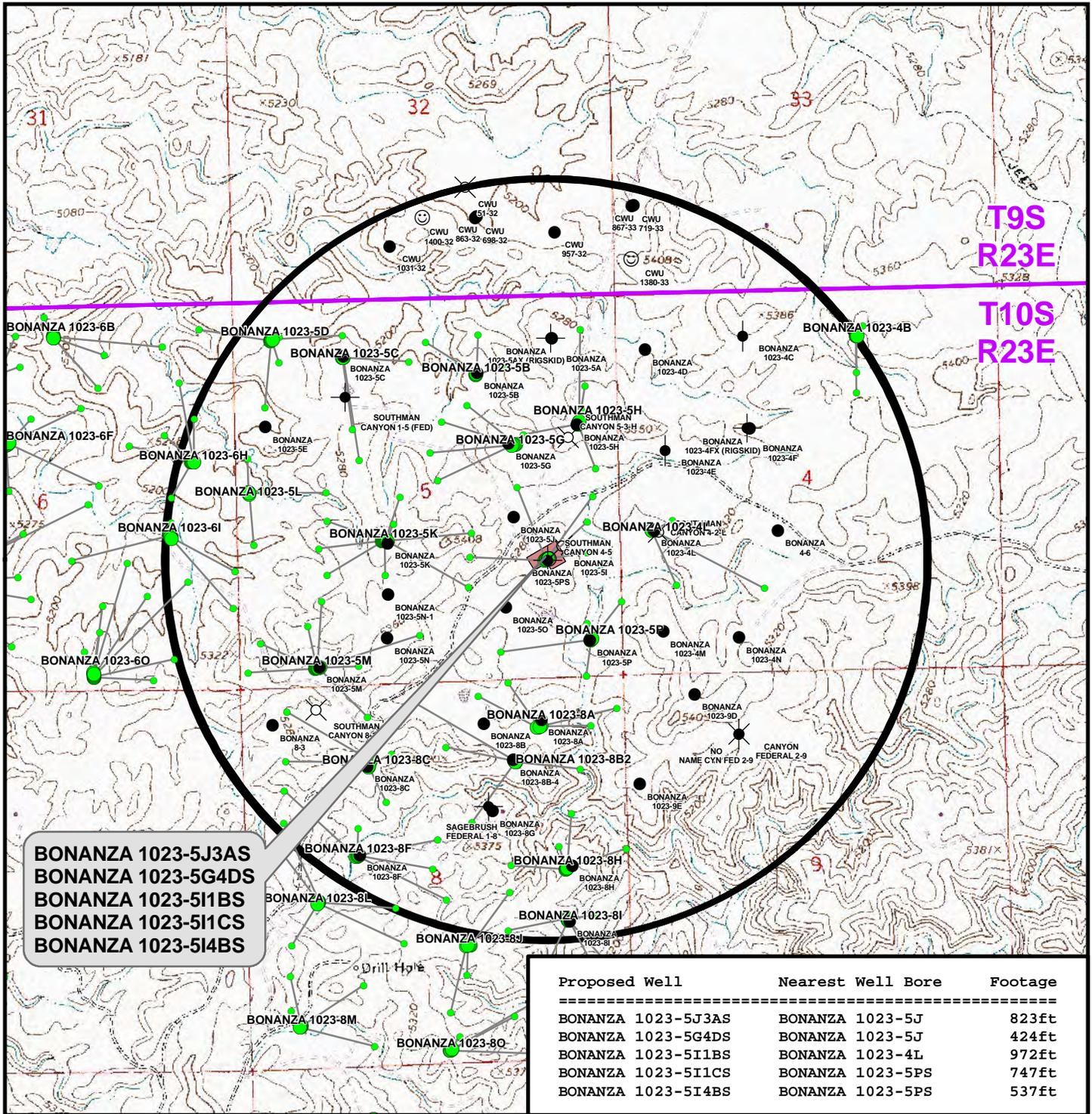
TOPO B
BONANZA 1023-5J3AS, BONANZA 1023-5G4DS,
BONANZA 1023-5I1BS, BONANZA 1023-5I1CS &
BONANZA 1023-5I4BS
LOCATED IN SECTION 5, T10S, R23E
S.L.B.&M., UTAH COUNTY, UTAH

609

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Sheridan, WY 82801
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Fax (307) 674-0182



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: CPS	Date: 30 Mar 2010	12
Revised: TL	Date: 25 June 2010	



BONANZA 1023-5J3AS
BONANZA 1023-5G4DS
BONANZA 1023-5I1BS
BONANZA 1023-5I1CS
BONANZA 1023-5I4BS

Proposed Well	Nearest Well Bore	Footage
BONANZA 1023-5J3AS	BONANZA 1023-5J	823ft
BONANZA 1023-5G4DS	BONANZA 1023-5J	424ft
BONANZA 1023-5I1BS	BONANZA 1023-4L	972ft
BONANZA 1023-5I1CS	BONANZA 1023-5PS	747ft
BONANZA 1023-5I4BS	BONANZA 1023-5PS	537ft

Legend

- Well - Proposed
- Bottom Hole - Proposed
- Well Path
- Well Pad
- Well - 1 Mile Radius

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

- 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 1023-5I

TOPO C
 BONANZA 1023-5J3AS, BONANZA 1023-5G4DS,
 BONANZA 1023-5I1BS, BONANZA 1023-5I1CS &
 BONANZA 1023-5I4BS
 LOCATED IN SECTION 5, T10S, R23E
 S.L.B.&M., UTAH COUNTY, UTAH



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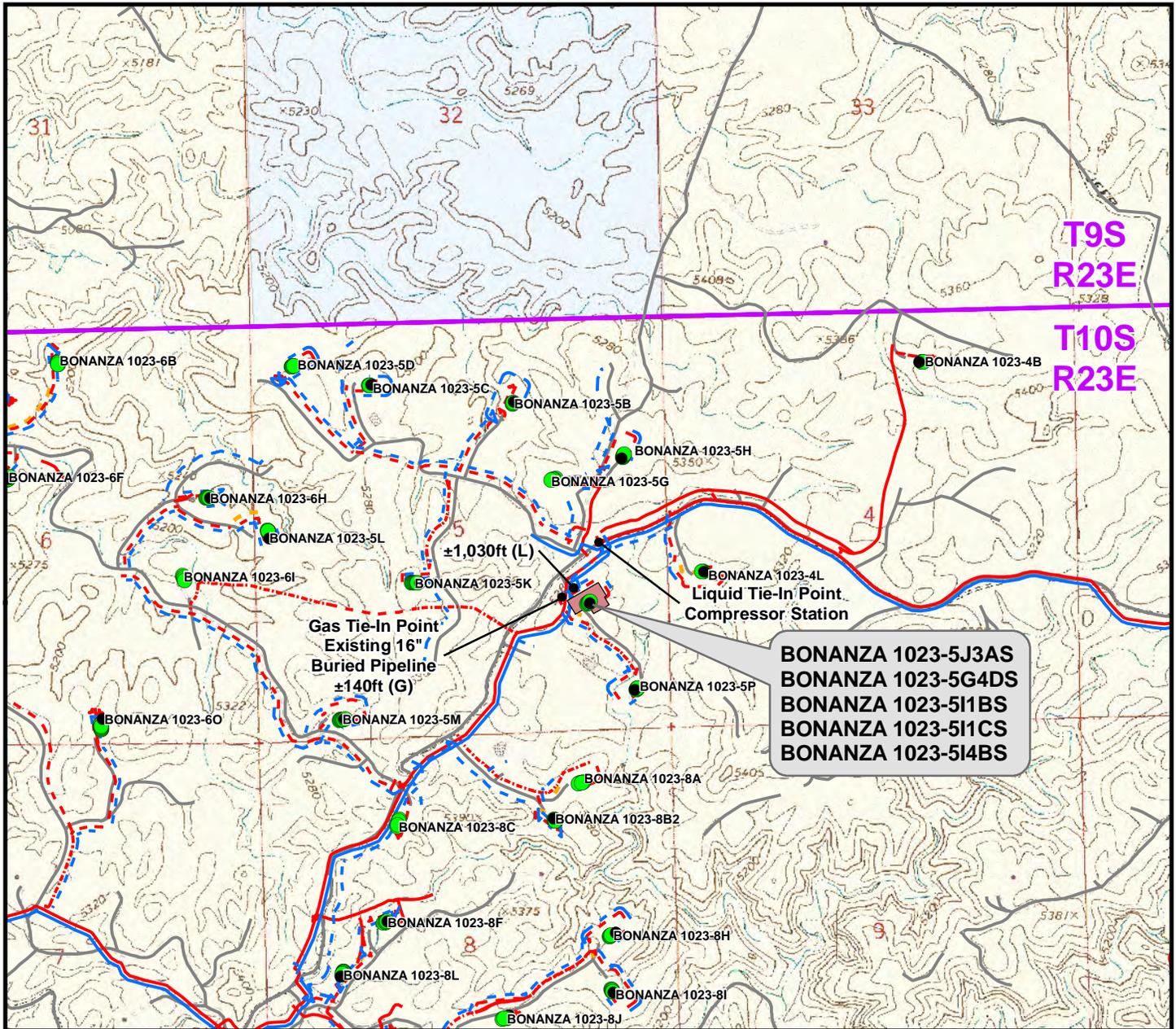
Scale: 1" = 2,000ft

Drawn: CPS
Revised: TL

NAD83 USP Central

Date: 30 Mar 2010
Date: 25 June 2010

Sheet No:
13
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Proposed Liquid Pipeline	Length
Proposed 6" (First Meter House to Edge of Pad)	±680ft
Proposed 6" (Edge of Pad to Compressor Station)	±1,030ft
TOTAL PROPOSED LIQUID PIPELINE =	± 1,710ft

Proposed Gas Pipeline	Length
Proposed 6" (First Meter House to Edge of Pad)	±680ft
Proposed 6" (Edge of Pad to 1023-5P Intersection)	±30ft
Proposed 8" (1023-5P Intersection to Existing 16" Buried Pipeline)	±110ft
TOTAL PROPOSED GAS PIPELINE =	±820ft

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

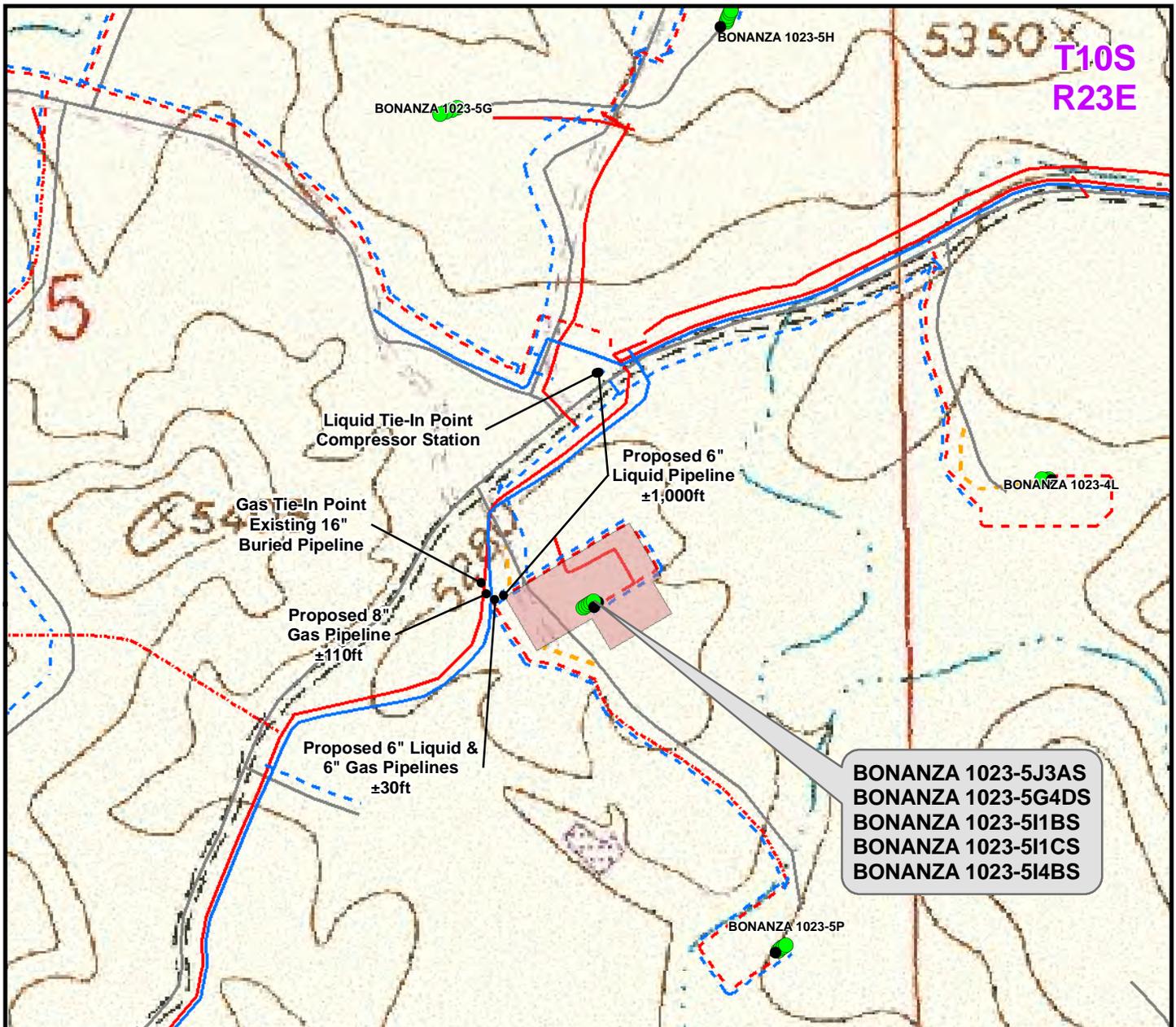
WELL PAD - BONANZA 1023-5I

TOPO D
 BONANZA 1023-5J3AS, BONANZA 1023-5G4DS,
 BONANZA 1023-5I1BS, BONANZA 1023-5I1CS &
 BONANZA 1023-5I4BS
 LOCATED IN SECTION 5, T10S, R23E
 S.L.B.&M., UTAH COUNTY, UTAH

CONSULTING, LLC
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 Sheridan, WY 82801
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 Fax (307) 674-0182

Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: CPS	Date: 30 Mar 2010	14
Revised: TL	Date: 25 June 2010	

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**BONANZA 1023-5J3AS
 BONANZA 1023-5G4DS
 BONANZA 1023-5I1BS
 BONANZA 1023-5I1CS
 BONANZA 1023-5I4BS**

Proposed Liquid Pipeline	Length
Proposed 6" (First Meter House to Edge of Pad)	±680ft
Proposed 6" (Edge of Pad to Compressor Station)	±1,030ft
TOTAL PROPOSED LIQUID PIPELINE =	± 1,710ft

Proposed Gas Pipeline	Length
Proposed 6" (First Meter House to Edge of Pad)	±680ft
Proposed 6" (Edge of Pad to 1023-5P Intersection)	±30ft
Proposed 8" (1023-5P Intersection to Existing 16" Buried Pipeline)	±110ft
TOTAL PROPOSED GAS PIPELINE =	±820ft

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

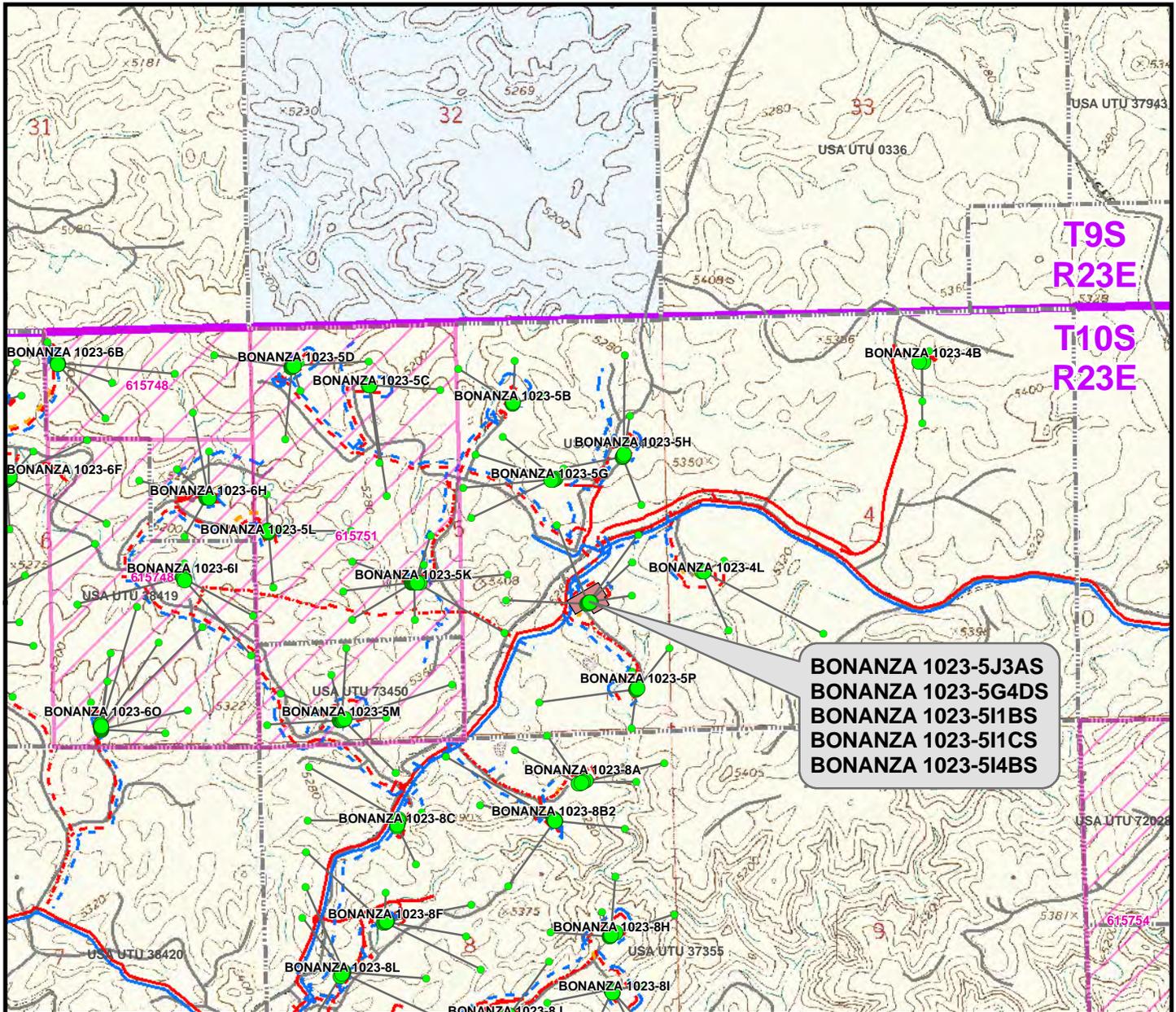
WELL PAD - BONANZA 1023-5I

TOPO D (PAD & PIPELINE DETAIL)
 BONANZA 1023-5J3AS, BONANZA 1023-5G4DS,
 BONANZA 1023-5I1BS, BONANZA 1023-5I1CS &
 BONANZA 1023-5I4BS
 LOCATED IN SECTION 5, T10S, R23E
 S.L.B.&M., UINTAH COUNTY, UTAH

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



Scale: 1" = 500ft	NAD83 USP Central	Sheet No:
Drawn: CPS	Date: 30 Mar 2010	15 15 of 17
Revised: TL	Date: 25 June 2010	



**BONANZA 1023-5J3AS
 BONANZA 1023-5G4DS
 BONANZA 1023-5I1BS
 BONANZA 1023-5I1CS
 BONANZA 1023-5I4BS**

Proposed Well	Distance to Nearest CA Boundary	Proposed Well	Distance to Nearest Lease Boundary
BONANZA 1023-5J3AS	510ft	BONANZA 1023-5J3AS	628ft
BONANZA 1023-5G4DS	1,191ft	BONANZA 1023-5G4DS	1,787ft
BONANZA 1023-5I1BS	2,238ft	BONANZA 1023-5I1BS	2,491ft
BONANZA 1023-5I1CS	2,252ft	BONANZA 1023-5I1CS	2,141ft
BONANZA 1023-5I4BS	2,134ft	BONANZA 1023-5I4BS	1,705ft

Legend

- Well - Proposed (Green circle)
- Bottom Hole - Proposed (Green dot)
- Well Path (Grey line)
- Well Pad (Brown rectangle)
- CA Agreement (Pink rectangle)
- Lease Boundary (Grey dashed line)
- Gas Pipeline - Proposed (Red dashed line)
- Gas Pipeline - To Be Upgraded (Red dotted line)
- Gas Pipeline - Existing (Red solid line)
- Liquid Pipeline - Proposed (Blue dashed line)
- Liquid Pipeline - To Be Upgraded (Blue dotted line)
- Liquid Pipeline - Existing (Blue solid line)
- Road - Proposed (Orange dashed line)
- Road - Existing (Grey solid line)
- Bureau of Land Management (Yellow rectangle)
- Indian Reservation (Red rectangle)
- State (Light blue rectangle)
- Private (White rectangle)

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

WELL PAD - BONANZA 1023-5I

TOPO E
 BONANZA 1023-5J3AS, BONANZA 1023-5G4DS,
 BONANZA 1023-5I1BS, BONANZA 1023-5I1CS &
 BONANZA 1023-5I4BS
 LOCATED IN SECTION 5, T10S, R23E
 S.L.B.&M., UINTAH COUNTY, UTAH

CONSULTING, LLC
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Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: CPS	Date: 30 Mar 2010	16 16 of 17
Revised: TL	Date: 25 June 2010	

**Kerr-McGee Oil & Gas Onshore, LP
WELL PAD – BONANZA 1023-5I
WELLS – BONANZA 1023-5J3AS, BONANZA 1023-5G4DS,
BONANZA 1023-5I1BS, BONANZA 1023-5I1CS &
BONANZA 1023-5I4BS
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 left. Exit left and proceed in a southeasterly direction along third Class D Road approximately 120 feet to a fourth Class D County Road to the right. Exit right and proceed in a southwesterly direction along fourth Class D Road approximately 0.1 miles to a service road to the left. Exit left and proceed in a southeasterly direction along service road approximately 225 feet to a proposed access road to the right. Exit right and follow the road flags in a southerly direction approximately 140 feet to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 47.7 miles in a southerly direction.



ANADARKO PETROLEUM CORP.

UINTAH COUNTY, UTAH (nad 27)

Bonanza 1023-5I

BONANZA 1023-5I1BS

BONANZA 1023-5I1BS

Plan: PLAN #1 4-28-10 RHS

Standard Planning Report

28 April, 2010





Project: UINTAH COUNTY, UTAH (nad 27)
 Site: Bonanza 1023-5I
 Well: BONANZA 1023-5I1BS
 Wellbore: BONANZA 1023-5I1BS
 Section: SECTION 5 T10S R23E
 SHL: 1629 FSL 1039 FEL
 Design: PLAN #1 4-28-10 RHS
 Latitude: 39° 58' 30.821 N
 Longitude: 109° 20' 39.678 W
 GL: 5302.00
 KB: WELL @ 5311.00ft (Original Well Elev)



Weatherford

T
M

Azimuths to True North
Magnetic North: 11.17°

Magnetic Field
Strength: 52463.0nT
Dip Angle: 65.93°
Date: 4/28/2010
Model: BGGM2009

LEGEND	
—	BONANZA 1023-5G4DS, BONANZA 1023-5G4DS, PLAN #1 4-28-10 RHS V0
—	BONANZA 1023-5I1CS, BONANZA 1023-5I1CS, PLAN #1 4-28-10 RHS V0
—	BONANZA 1023-5I4BS, BONANZA 1023-5I4BS, PLAN #1 4-28-10 RHS V0
—	BONANZA 1023-5J3AS, BONANZA 1023-5J3AS, PLAN #1 4-28-10 RHS V0
—	Bonanza 1023-5PS EXISTING, Bonanza 1023-5PS EXISTING, Bonanza 1023-5PS EXISTING V0
—	Southman Canyon 4-5 EXISTING, Southman Canyon 4-5 EXISTING, Southman Canyon 4-5 EXISTING V0
—	PLAN #1 4-28-10 RHS

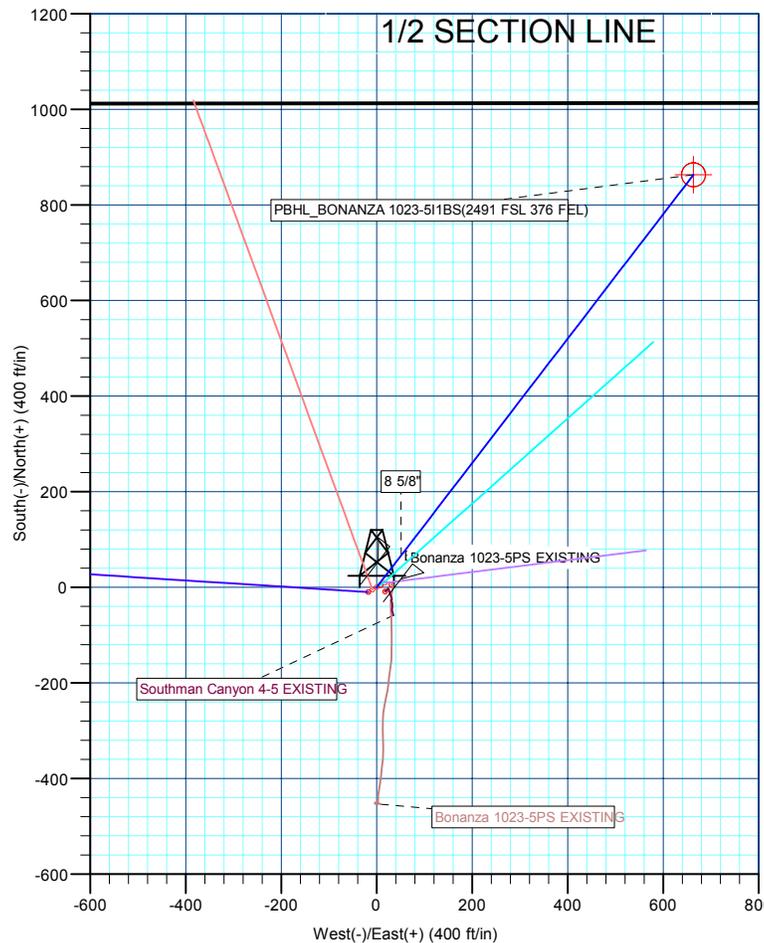
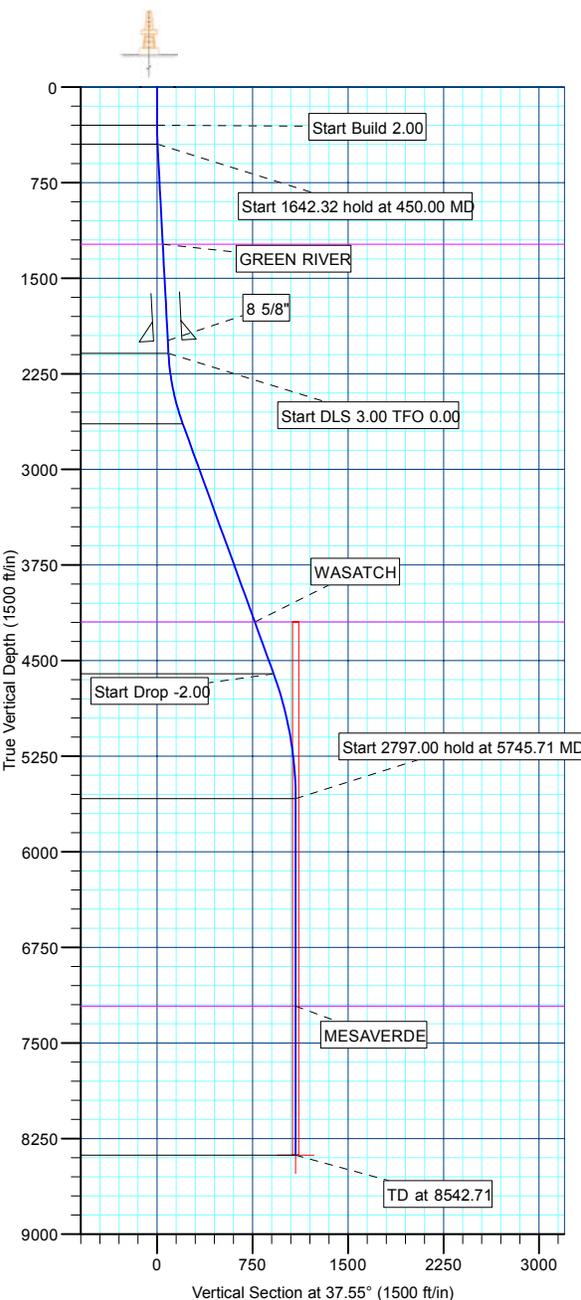
FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1234.00	1235.14	GREEN RIVER
4198.00	4313.47	WASATCH
7211.00	7372.71	MESAVERDE

CASING DETAILS			
TVD	MD	Name	Size
1990.00	1992.18	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	37.55	449.93	3.11	2.39	2.00	37.55	3.93	Start 1642.32 hold at 450.00 MD	
2092.32	3.00	37.55	2090.00	71.26	54.78	0.00	0.00	89.88	Start DLS 3.00 TFO 0.00	
2658.86	20.00	37.55	2643.14	160.47	123.35	3.00	0.00	202.40	Start 2087.03 hold at 2658.86 MD	
4745.90	20.00	37.55	4604.36	726.29	558.30	0.00	0.00	916.08	Start Drop -2.00	
5745.71	0.00	0.00	5584.00	863.22	663.56	2.00	180.00	1088.79	Start 2797.00 hold at 5745.71 MD	
8542.71	0.00	0.00	8381.00	863.22	663.56	0.00	0.00	1088.79	TD at 8542.71	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)							
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape	
PBHL	8381.00	863.22	663.56	39° 58' 39.353 N	109° 20' 31.153 W	Circle (Radius: 25.00)	

WELL DETAILS: BONANZA 1023-5I1BS						
+N/-S	+E/-W	Northing	Ground Level:	5302.00	Longitude	Slot
0.00	0.00	14521330.40	Easting	2104272.71	39° 58' 30.821 N	109° 20' 39.678 W





Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well BONANZA 1023-511BS
Company:	ANADARKO PETROLEUM CORP.	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Project:	UINTAH COUNTY, UTAH (nad 27)	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site:	Bonanza 1023-5I	North Reference:	True
Well:	BONANZA 1023-511BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	BONANZA 1023-511BS		
Design:	PLAN #1 4-28-10 RHS		

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

Site	Bonanza 1023-5I, SECTION 5 T10S R23E				
Site Position:		Northing:	14,521,340.19ft	Latitude:	39° 58' 30.914 N
From:	Lat/Long	Easting:	2,104,289.90ft	Longitude:	109° 20' 39.455 W
Position Uncertainty:	0.00 ft	Slot Radius:	in	Grid Convergence:	1.06 °

Well	BONANZA 1023-511BS					
Well Position	+N/-S	-9.47 ft	Northing:	14,521,330.40 ft	Latitude:	39° 58' 30.821 N
	+E/-W	-17.37 ft	Easting:	2,104,272.71 ft	Longitude:	109° 20' 39.678 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,302.00 ft

Wellbore	BONANZA 1023-511BS				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2009	4/28/2010	11.17	65.93	52,463

Design	PLAN #1 4-28-10 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	37.55

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
450.00	3.00	37.55	449.93	3.11	2.39	2.00	2.00	0.00	37.55	
2,092.32	3.00	37.55	2,090.00	71.26	54.78	0.00	0.00	0.00	0.00	
2,658.86	20.00	37.55	2,643.14	160.47	123.35	3.00	3.00	0.00	0.00	
4,745.90	20.00	37.55	4,604.36	726.29	558.30	0.00	0.00	0.00	0.00	
5,745.71	0.00	0.00	5,584.00	863.22	663.56	2.00	-2.00	0.00	180.00	
8,542.71	0.00	0.00	8,381.00	863.22	663.56	0.00	0.00	0.00	0.00	PBHL_BONANZA 1



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well BONANZA 1023-51BS
Company:	ANADARKO PETROLEUM CORP.	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Project:	UINTAH COUNTY, UTAH (nad 27)	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site:	Bonanza 1023-5I	North Reference:	True
Well:	BONANZA 1023-51BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	BONANZA 1023-51BS		
Design:	PLAN #1 4-28-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
Start Build 2.00										
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	37.55	399.98	1.38	1.06	1.75	2.00	2.00	0.00	0.00
Start 1642.32 hold at 450.00 MD										
450.00	3.00	37.55	449.93	3.11	2.39	3.93	2.00	2.00	0.00	0.00
500.00	3.00	37.55	499.86	5.19	3.99	6.54	0.00	0.00	0.00	0.00
600.00	3.00	37.55	599.73	9.34	7.18	11.78	0.00	0.00	0.00	0.00
700.00	3.00	37.55	699.59	13.49	10.37	17.01	0.00	0.00	0.00	0.00
800.00	3.00	37.55	799.45	17.64	13.56	22.24	0.00	0.00	0.00	0.00
900.00	3.00	37.55	899.31	21.78	16.75	27.48	0.00	0.00	0.00	0.00
1,000.00	3.00	37.55	999.18	25.93	19.94	32.71	0.00	0.00	0.00	0.00
1,100.00	3.00	37.55	1,099.04	30.08	23.13	37.94	0.00	0.00	0.00	0.00
1,200.00	3.00	37.55	1,198.90	34.23	26.32	43.18	0.00	0.00	0.00	0.00
GREEN RIVER										
1,235.14	3.00	37.55	1,234.00	35.69	27.44	45.02	0.00	0.00	0.00	0.00
1,300.00	3.00	37.55	1,298.77	38.38	29.50	48.41	0.00	0.00	0.00	0.00
1,400.00	3.00	37.55	1,398.63	42.53	32.69	53.65	0.00	0.00	0.00	0.00
1,500.00	3.00	37.55	1,498.49	46.68	35.88	58.88	0.00	0.00	0.00	0.00
1,600.00	3.00	37.55	1,598.36	50.83	39.07	64.11	0.00	0.00	0.00	0.00
1,700.00	3.00	37.55	1,698.22	54.98	42.26	69.35	0.00	0.00	0.00	0.00
1,800.00	3.00	37.55	1,798.08	59.13	45.45	74.58	0.00	0.00	0.00	0.00
1,900.00	3.00	37.55	1,897.94	63.28	48.64	79.81	0.00	0.00	0.00	0.00
8 5/8"										
1,992.18	3.00	37.55	1,990.00	67.10	51.58	84.64	0.00	0.00	0.00	0.00
2,000.00	3.00	37.55	1,997.81	67.43	51.83	85.05	0.00	0.00	0.00	0.00
Start DLS 3.00 TFO 0.00										
2,092.32	3.00	37.55	2,090.00	71.26	54.78	89.88	0.00	0.00	0.00	0.00
2,100.00	3.23	37.55	2,097.67	71.59	55.03	90.30	3.00	3.00	0.00	0.00
2,200.00	6.23	37.55	2,197.32	78.13	60.06	98.54	3.00	3.00	0.00	0.00
2,300.00	9.23	37.55	2,296.40	88.79	68.25	111.99	3.00	3.00	0.00	0.00
2,400.00	12.23	37.55	2,394.64	103.55	79.60	130.61	3.00	3.00	0.00	0.00
2,500.00	15.23	37.55	2,491.77	122.36	94.06	154.34	3.00	3.00	0.00	0.00
2,600.00	18.23	37.55	2,587.52	145.19	111.61	183.12	3.00	3.00	0.00	0.00
Start 2087.03 hold at 2658.86 MD										
2,658.86	20.00	37.55	2,643.14	160.47	123.35	202.40	3.00	3.00	0.00	0.00
2,700.00	20.00	37.55	2,681.80	171.62	131.92	216.46	0.00	0.00	0.00	0.00
2,800.00	20.00	37.55	2,775.77	198.73	152.77	250.66	0.00	0.00	0.00	0.00
2,900.00	20.00	37.55	2,869.74	225.84	173.61	284.86	0.00	0.00	0.00	0.00
3,000.00	20.00	37.55	2,963.71	252.95	194.45	319.05	0.00	0.00	0.00	0.00
3,100.00	20.00	37.55	3,057.68	280.06	215.29	353.25	0.00	0.00	0.00	0.00
3,200.00	20.00	37.55	3,151.65	307.18	236.13	387.45	0.00	0.00	0.00	0.00
3,300.00	20.00	37.55	3,245.63	334.29	256.97	421.64	0.00	0.00	0.00	0.00
3,400.00	20.00	37.55	3,339.60	361.40	277.81	455.84	0.00	0.00	0.00	0.00
3,500.00	20.00	37.55	3,433.57	388.51	298.65	490.03	0.00	0.00	0.00	0.00
3,600.00	20.00	37.55	3,527.54	415.62	319.49	524.23	0.00	0.00	0.00	0.00
3,700.00	20.00	37.55	3,621.51	442.73	340.33	558.43	0.00	0.00	0.00	0.00
3,800.00	20.00	37.55	3,715.48	469.84	361.17	592.62	0.00	0.00	0.00	0.00
3,900.00	20.00	37.55	3,809.45	496.96	382.01	626.82	0.00	0.00	0.00	0.00
4,000.00	20.00	37.55	3,903.43	524.07	402.85	661.01	0.00	0.00	0.00	0.00
4,100.00	20.00	37.55	3,997.40	551.18	423.70	695.21	0.00	0.00	0.00	0.00
4,200.00	20.00	37.55	4,091.37	578.29	444.54	729.41	0.00	0.00	0.00	0.00
4,300.00	20.00	37.55	4,185.34	605.40	465.38	763.60	0.00	0.00	0.00	0.00
WASATCH										



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well BONANZA 1023-51BS
Company:	ANADARKO PETROLEUM CORP.	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Project:	UINTAH COUNTY, UTAH (nad 27)	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site:	Bonanza 1023-5I	North Reference:	True
Well:	BONANZA 1023-51BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	BONANZA 1023-51BS		
Design:	PLAN #1 4-28-10 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
4,313.47	20.00	37.55	4,198.00	609.05	468.18	768.21	0.00	0.00	0.00	
4,400.00	20.00	37.55	4,279.31	632.51	486.22	797.80	0.00	0.00	0.00	
4,500.00	20.00	37.55	4,373.28	659.63	507.06	831.99	0.00	0.00	0.00	
4,600.00	20.00	37.55	4,467.25	686.74	527.90	866.19	0.00	0.00	0.00	
4,700.00	20.00	37.55	4,561.23	713.85	548.74	900.39	0.00	0.00	0.00	
Start Drop -2.00										
4,745.90	20.00	37.55	4,604.36	726.29	558.30	916.08	0.00	0.00	0.00	
4,800.00	18.91	37.55	4,655.37	740.58	569.29	934.10	2.00	-2.00	0.00	
4,900.00	16.91	37.55	4,750.52	764.96	588.03	964.86	2.00	-2.00	0.00	
5,000.00	14.91	37.55	4,846.68	786.70	604.74	992.28	2.00	-2.00	0.00	
5,100.00	12.91	37.55	4,943.74	805.77	619.40	1,016.32	2.00	-2.00	0.00	
5,200.00	10.91	37.55	5,041.58	822.13	631.98	1,036.97	2.00	-2.00	0.00	
5,300.00	8.91	37.55	5,140.08	835.78	642.47	1,054.18	2.00	-2.00	0.00	
5,400.00	6.91	37.55	5,239.12	846.70	650.86	1,067.95	2.00	-2.00	0.00	
5,500.00	4.91	37.55	5,338.59	854.87	657.14	1,078.26	2.00	-2.00	0.00	
5,600.00	2.91	37.55	5,438.35	860.28	661.30	1,085.08	2.00	-2.00	0.00	
5,700.00	0.91	37.55	5,538.29	862.93	663.34	1,088.42	2.00	-2.00	0.00	
Start 2797.00 hold at 5745.71 MD										
5,745.71	0.00	0.00	5,584.00	863.22	663.56	1,088.79	2.00	-2.00	0.00	
5,800.00	0.00	0.00	5,638.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,738.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,838.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,938.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,038.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,138.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,238.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,338.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,438.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,538.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,638.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,738.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,838.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,938.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,038.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,138.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
MESAVERDE										
7,372.71	0.00	0.00	7,211.00	863.22	663.56	1,088.79	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,238.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,338.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,438.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,538.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,638.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,738.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,838.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,938.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,038.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,138.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,238.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,338.29	863.22	663.56	1,088.79	0.00	0.00	0.00	
TD at 8542.71 - PBHL_BONANZA 1023-51BS(2491 FSL 376 FEL)										
8,542.71	0.00	0.00	8,381.00	863.22	663.56	1,088.79	0.00	0.00	0.00	



Database:	EDM 2003.21 Single User Db	Local Co-ordinate Reference:	Well BONANZA 1023-511BS
Company:	ANADARKO PETROLEUM CORP.	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Project:	UINTAH COUNTY, UTAH (nad 27)	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site:	Bonanza 1023-5I	North Reference:	True
Well:	BONANZA 1023-511BS	Survey Calculation Method:	Minimum Curvature
Wellbore:	BONANZA 1023-511BS		
Design:	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 102	- plan hits target center	0.00	0.00	8,381.00	863.22	663.56	14,522,205.79	2,104,920.13	39° 58' 39.353 N	109° 20' 31.153 W
	- Circle (radius 25.00)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,992.18	1,990.00	8 5/8"	8.62	11.00	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,235.14	1,234.00	GREEN RIVER			
4,313.47	4,198.00	WASATCH			
7,372.71	7,211.00	MESAVERDE			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment	
300.00	300.00	0.00	0.00	Start Build 2.00	
450.00	449.93	3.11	2.39	Start 1642.32 hold at 450.00 MD	
2,092.32	2,090.00	71.26	54.78	Start DLS 3.00 TFO 0.00	
2,658.86	2,643.14	160.47	123.35	Start 2087.03 hold at 2658.86 MD	
4,745.90	4,604.36	726.29	558.30	Start Drop -2.00	
5,745.71	5,584.00	863.22	663.56	Start 2797.00 hold at 5745.71 MD	
8,542.71	8,381.00	863.22	663.56	TD at 8542.71	



ANADARKO PETROLEUM CORP.

**UINTAH COUNTY, UTAH (nad 27)
Bonanza 1023-5I
BONANZA 1023-5I1BS**

**BONANZA 1023-5I1BS
PLAN #1 4-28-10 RHS**

Anticollision Report

28 April, 2010



Weatherford®



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well BONANZA 1023-511BS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Reference Site:	Bonanza 1023-51	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	BONANZA 1023-511BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-511BS	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 4-28-10 RHS	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	4/28/2010		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	8,542.71	PLAN #1 4-28-10 RHS (BONANZA 1023-	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Bonanza 1023-51						
BONANZA 1023-5G4DS - BONANZA 1023-5G4DS - PL/	300.00	300.00	10.07	8.97	9.127	CC, ES
BONANZA 1023-5G4DS - BONANZA 1023-5G4DS - PL/	400.00	400.03	11.43	9.88	7.357	SF
BONANZA 1023-511CS - BONANZA 1023-511CS - PLAN	300.00	300.00	9.89	8.79	8.965	CC, ES
BONANZA 1023-511CS - BONANZA 1023-511CS - PLAN	4,300.00	4,301.48	146.50	113.18	4.397	SF
BONANZA 1023-514BS - BONANZA 1023-514BS - PLAN	300.00	300.00	19.79	18.69	18.022	CC, ES
BONANZA 1023-514BS - BONANZA 1023-514BS - PLAN	500.00	497.72	24.31	22.33	12.296	SF
BONANZA 1023-5J3AS - BONANZA 1023-5J3AS - PLAN	300.00	300.00	19.96	18.86	18.090	CC, ES
BONANZA 1023-5J3AS - BONANZA 1023-5J3AS - PLAN	400.00	399.33	23.02	21.48	14.889	SF
Bonanza 1023-5PS EXISTING - Bonanza 1023-5PS EXI	835.49	843.87	20.99	17.94	6.880	CC
Bonanza 1023-5PS EXISTING - Bonanza 1023-5PS EXI	900.00	908.29	21.25	17.91	6.356	ES
Bonanza 1023-5PS EXISTING - Bonanza 1023-5PS EXI	1,100.00	1,108.00	25.00	20.77	5.905	SF
Southman Canyon 4-5 EXISTING - Southman Canyon 4-	490.56	476.51	18.86	16.89	9.575	CC
Southman Canyon 4-5 EXISTING - Southman Canyon 4-	500.00	485.93	18.87	16.85	9.358	ES
Southman Canyon 4-5 EXISTING - Southman Canyon 4-	800.00	785.50	25.18	21.78	7.390	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	-120.41	-5.10	-8.69	10.07					
100.00	100.00	100.00	100.00	0.10	0.10	-120.41	-5.10	-8.69	10.07	9.87	0.20	49.248		
200.00	200.00	200.00	200.00	0.33	0.33	-120.41	-5.10	-8.69	10.07	9.42	0.65	15.401		
300.00	300.00	300.00	300.00	0.55	0.55	-120.41	-5.10	-8.69	10.07	8.97	1.10	9.127	CC, ES	
400.00	399.98	400.03	400.01	0.78	0.78	-152.61	-3.46	-9.29	11.43	9.88	1.55	7.357	SF	
450.00	449.93	450.00	449.93	0.89	0.90	-147.52	-1.41	-10.04	13.23	11.45	1.78	7.435		
500.00	499.86	499.93	499.80	1.01	1.01	-143.03	1.04	-10.94	15.49	13.49	2.01	7.725		
600.00	599.73	599.81	599.53	1.23	1.24	-137.15	5.95	-12.74	20.20	17.74	2.46	8.201		
700.00	699.59	699.68	699.27	1.47	1.47	-133.51	10.86	-14.54	25.04	22.12	2.93	8.555		
800.00	799.45	799.55	799.00	1.71	1.71	-131.06	15.76	-16.33	29.95	26.56	3.39	8.824		
900.00	899.31	899.42	898.74	1.94	1.95	-129.30	20.67	-18.13	34.90	31.04	3.86	9.032		
1,000.00	999.18	999.30	998.48	2.18	2.19	-127.98	25.58	-19.93	39.88	35.54	4.34	9.198		
1,100.00	1,099.04	1,099.17	1,098.21	2.42	2.43	-126.95	30.49	-21.73	44.87	40.06	4.81	9.333		
1,200.00	1,198.90	1,199.04	1,197.95	2.66	2.67	-126.13	35.39	-23.53	49.87	44.59	5.28	9.444		

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



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well BONANZA 1023-511BS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Reference Site:	Bonanza 1023-51	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	BONANZA 1023-511BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-511BS	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 4-28-10 RHS	Offset TVD Reference:	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 Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
1,300.00	1,298.77	1,298.92	1,297.68	2.90	2.91	-125.46	40.30	-25.33	54.88	49.12	5.75	9.538			
1,400.00	1,398.63	1,398.79	1,397.42	3.15	3.15	-124.90	45.21	-27.13	59.89	53.67	6.23	9.618			
1,500.00	1,498.49	1,498.66	1,497.15	3.39	3.39	-124.43	50.12	-28.93	64.91	58.21	6.70	9.687			
1,600.00	1,598.36	1,598.53	1,596.89	3.63	3.63	-124.02	55.02	-30.73	69.94	62.76	7.18	9.747			
1,700.00	1,698.22	1,698.41	1,696.63	3.87	3.88	-123.67	59.93	-32.52	74.97	67.32	7.65	9.799			
1,800.00	1,798.08	1,798.28	1,796.36	4.11	4.12	-123.36	64.84	-34.32	80.00	71.87	8.13	9.845			
1,900.00	1,897.94	1,898.15	1,896.10	4.35	4.36	-123.09	69.75	-36.12	85.03	76.43	8.60	9.887			
2,000.00	1,997.81	1,998.02	1,995.83	4.59	4.60	-122.85	74.66	-37.92	90.06	80.99	9.08	9.924			
2,092.32	2,090.00	2,090.22	2,087.91	4.82	4.82	-122.66	79.19	-39.58	94.71	85.20	9.51	9.955			
2,100.00	2,097.67	2,097.89	2,095.57	4.84	4.84	-122.64	79.56	-39.72	95.11	85.56	9.55	9.959			
2,200.00	2,197.32	2,195.79	2,193.21	5.10	5.09	-122.73	86.08	-42.11	102.56	92.52	10.04	10.219			
2,300.00	2,296.40	2,292.73	2,289.42	5.39	5.37	-122.58	97.11	-46.15	114.92	104.35	10.56	10.878			
2,400.00	2,394.64	2,388.66	2,383.93	5.73	5.68	-122.20	112.51	-51.80	132.13	120.99	11.14	11.857			
2,500.00	2,491.77	2,483.28	2,476.22	6.11	6.03	-121.67	132.06	-58.96	154.11	142.33	11.78	13.078			
2,600.00	2,587.52	2,576.31	2,565.85	6.56	6.42	-121.03	155.43	-67.52	180.73	168.23	12.50	14.460			
2,658.86	2,643.14	2,630.22	2,617.20	6.85	6.67	-120.62	170.84	-73.17	198.50	185.54	12.96	15.321			
2,700.00	2,681.80	2,667.56	2,652.49	7.07	6.86	-120.57	182.31	-77.38	211.61	198.31	13.31	15.902			
2,800.00	2,775.77	2,761.60	2,740.86	7.61	7.36	-120.15	212.48	-88.43	244.10	229.88	14.22	17.164			
2,900.00	2,869.74	2,856.15	2,829.71	8.17	7.88	-119.82	242.85	-99.56	276.61	261.44	15.17	18.233			
3,000.00	2,963.71	2,950.71	2,918.57	8.75	8.42	-119.56	273.22	-110.69	309.12	292.97	16.15	19.140			
3,100.00	3,057.68	3,045.27	3,007.42	9.35	8.97	-119.35	303.59	-121.82	341.64	324.49	17.16	19.915			
3,200.00	3,151.65	3,139.83	3,096.27	9.95	9.54	-119.17	333.96	-132.95	374.17	355.99	18.18	20.581			
3,300.00	3,245.63	3,234.38	3,185.13	10.57	10.12	-119.03	364.33	-144.08	406.70	387.47	19.22	21.156			
3,400.00	3,339.60	3,328.94	3,273.98	11.19	10.70	-118.90	394.70	-155.21	439.22	418.94	20.28	21.656			
3,500.00	3,433.57	3,423.50	3,362.83	11.82	11.29	-118.80	425.07	-166.34	471.75	450.40	21.35	22.094			
3,600.00	3,527.54	3,518.06	3,451.69	12.45	11.89	-118.70	455.43	-177.47	504.29	481.85	22.43	22.479			
3,700.00	3,621.51	3,612.61	3,540.54	13.09	12.49	-118.62	485.80	-188.59	536.82	513.29	23.52	22.819			
3,800.00	3,715.48	3,707.17	3,629.40	13.73	13.10	-118.55	516.17	-199.72	569.35	544.73	24.62	23.122			
3,900.00	3,809.45	3,801.73	3,718.25	14.37	13.71	-118.48	546.54	-210.85	601.89	576.16	25.73	23.392			
4,000.00	3,903.43	3,896.29	3,807.10	15.02	14.32	-118.42	576.91	-221.98	634.42	607.58	26.84	23.634			
4,100.00	3,997.40	3,990.84	3,895.96	15.67	14.94	-118.37	607.28	-233.11	666.96	639.00	27.96	23.852			
4,200.00	4,091.37	4,085.40	3,984.81	16.33	15.55	-118.32	637.65	-244.24	699.49	670.41	29.09	24.050			
4,300.00	4,185.34	4,179.96	4,073.66	16.98	16.18	-118.28	668.02	-255.37	732.03	701.82	30.21	24.229			
4,400.00	4,279.31	4,274.52	4,162.52	17.64	16.80	-118.24	698.38	-266.50	764.57	733.22	31.34	24.393			
4,500.00	4,373.28	4,369.07	4,251.37	18.30	17.42	-118.20	728.75	-277.63	797.10	764.62	32.48	24.542			
4,600.00	4,467.25	4,463.63	4,340.23	18.96	18.05	-118.17	759.12	-288.76	829.64	796.02	33.62	24.679			
4,700.00	4,561.23	4,558.19	4,429.08	19.62	18.68	-118.14	789.49	-299.89	862.18	827.42	34.76	24.805			
4,745.90	4,604.36	4,601.59	4,469.86	19.93	18.97	-118.12	803.43	-304.99	877.11	841.83	35.28	24.860			
4,800.00	4,655.37	4,652.82	4,518.00	20.24	19.31	-118.40	819.88	-311.02	894.49	858.58	35.91	24.910			
4,900.00	4,750.52	4,747.85	4,607.30	20.73	19.94	-118.74	850.40	-322.21	925.39	888.41	36.99	25.019			
5,000.00	4,846.68	4,856.99	4,710.33	21.17	20.55	-118.87	884.20	-334.59	954.18	916.16	38.02	25.099			
5,100.00	4,943.74	4,971.30	4,819.61	21.58	21.09	-118.97	915.68	-346.13	979.66	940.71	38.95	25.150			
5,200.00	5,041.58	5,087.37	4,931.84	21.95	21.58	-119.05	943.42	-356.30	1,001.72	961.91	39.81	25.164			
5,300.00	5,140.08	5,204.98	5,046.69	22.27	22.03	-119.10	967.16	-365.00	1,020.28	979.71	40.57	25.147			
5,400.00	5,239.12	5,323.89	5,163.77	22.54	22.41	-119.14	986.64	-372.14	1,035.27	994.04	41.24	25.106			
5,500.00	5,338.59	5,443.86	5,282.66	22.78	22.73	-119.16	1,001.65	-377.64	1,046.63	1,004.84	41.80	25.040			
5,600.00	5,438.35	5,564.61	5,402.90	22.96	23.00	-119.15	1,012.03	-381.44	1,054.32	1,012.07	42.26	24.951			
5,700.00	5,538.29	5,685.86	5,523.99	23.10	23.19	-119.13	1,017.66	-383.50	1,058.31	1,015.70	42.61	24.838			
5,745.71	5,584.00	5,741.37	5,579.49	23.15	23.26	-81.56	1,018.63	-383.86	1,058.90	1,016.16	42.73	24.779			
5,800.00	5,638.29	5,800.17	5,638.29	23.21	23.33	-81.55	1,018.73	-383.90	1,058.94	1,016.08	42.86	24.705			
5,900.00	5,738.29	5,900.17	5,738.29	23.32	23.44	-81.55	1,018.73	-383.90	1,058.94	1,015.84	43.10	24.567			
6,000.00	5,838.29	6,000.17	5,838.29	23.44	23.55	-81.55	1,018.73	-383.90	1,058.94	1,015.59	43.35	24.429			

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



Weatherford International Ltd.
Anticollision Report



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well BONANZA 1023-511BS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Reference Site:	Bonanza 1023-51	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	BONANZA 1023-511BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-511BS	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 4-28-10 RHS	Offset TVD Reference:	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		
6,100.00	5,938.29	6,100.17	5,938.29	23.55	23.67	-81.55	1,018.73	-383.90	1,058.94	1,015.35	43.59	24.291		
6,200.00	6,038.29	6,200.17	6,038.29	23.67	23.79	-81.55	1,018.73	-383.90	1,058.94	1,015.10	43.84	24.152		
6,300.00	6,138.29	6,300.17	6,138.29	23.79	23.90	-81.55	1,018.73	-383.90	1,058.94	1,014.84	44.10	24.013		
6,400.00	6,238.29	6,400.17	6,238.29	23.91	24.02	-81.55	1,018.73	-383.90	1,058.94	1,014.59	44.35	23.874		
6,500.00	6,338.29	6,500.17	6,338.29	24.03	24.15	-81.55	1,018.73	-383.90	1,058.94	1,014.33	44.61	23.735		
6,600.00	6,438.29	6,600.17	6,438.29	24.15	24.27	-81.55	1,018.73	-383.90	1,058.94	1,014.06	44.88	23.596		
6,700.00	6,538.29	6,700.17	6,538.29	24.28	24.39	-81.55	1,018.73	-383.90	1,058.94	1,013.80	45.14	23.458		
6,800.00	6,638.29	6,800.17	6,638.29	24.41	24.52	-81.55	1,018.73	-383.90	1,058.94	1,013.53	45.41	23.319		
6,900.00	6,738.29	6,900.17	6,738.29	24.53	24.65	-81.55	1,018.73	-383.90	1,058.94	1,013.26	45.68	23.181		
7,000.00	6,838.29	7,000.17	6,838.29	24.66	24.78	-81.55	1,018.73	-383.90	1,058.94	1,012.98	45.96	23.042		
7,100.00	6,938.29	7,100.17	6,938.29	24.79	24.91	-81.55	1,018.73	-383.90	1,058.94	1,012.71	46.23	22.904		
7,200.00	7,038.29	7,200.17	7,038.29	24.92	25.04	-81.55	1,018.73	-383.90	1,058.94	1,012.43	46.51	22.767		
7,300.00	7,138.29	7,300.17	7,138.29	25.06	25.17	-81.55	1,018.73	-383.90	1,058.94	1,012.15	46.79	22.629		
7,400.00	7,238.29	7,400.17	7,238.29	25.19	25.31	-81.55	1,018.73	-383.90	1,058.94	1,011.86	47.08	22.493		
7,500.00	7,338.29	7,500.17	7,338.29	25.33	25.44	-81.55	1,018.73	-383.90	1,058.94	1,011.57	47.37	22.356		
7,600.00	7,438.29	7,600.17	7,438.29	25.46	25.58	-81.55	1,018.73	-383.90	1,058.94	1,011.28	47.66	22.220		
7,700.00	7,538.29	7,700.17	7,538.29	25.60	25.72	-81.55	1,018.73	-383.90	1,058.94	1,010.99	47.95	22.085		
7,800.00	7,638.29	7,800.17	7,638.29	25.74	25.86	-81.55	1,018.73	-383.90	1,058.94	1,010.70	48.24	21.950		
7,900.00	7,738.29	7,900.17	7,738.29	25.88	26.00	-81.55	1,018.73	-383.90	1,058.94	1,010.40	48.54	21.815		
8,000.00	7,838.29	8,000.17	7,838.29	26.02	26.14	-81.55	1,018.73	-383.90	1,058.94	1,010.10	48.84	21.682		
8,100.00	7,938.29	8,100.17	7,938.29	26.17	26.28	-81.55	1,018.73	-383.90	1,058.94	1,009.80	49.14	21.549		
8,200.00	8,038.29	8,200.17	8,038.29	26.31	26.43	-81.55	1,018.73	-383.90	1,058.94	1,009.49	49.45	21.416		
8,300.00	8,138.29	8,300.17	8,138.29	26.46	26.57	-81.55	1,018.73	-383.90	1,058.94	1,009.19	49.75	21.284		
8,400.00	8,238.29	8,400.17	8,238.29	26.60	26.72	-81.55	1,018.73	-383.90	1,058.94	1,008.88	50.06	21.153		
8,500.00	8,338.29	8,500.17	8,338.29	26.75	26.86	-81.55	1,018.73	-383.90	1,058.94	1,008.57	50.37	21.023		
8,542.71	8,381.00	8,542.88	8,381.00	26.81	26.93	-81.55	1,018.73	-383.90	1,058.94	1,008.44	50.50	20.967		



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well BONANZA 1023-511BS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Reference Site:	Bonanza 1023-51	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	BONANZA 1023-511BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-511BS	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 4-28-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft	
Survey Program: 0-MWD													Offset Well Error:		0.00 ft
Bonanza 1023-51 - BONANZA 1023-511CS - BONANZA 1023-511CS - PLAN #1 4-28-10 RHS															
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	61.41	4.73	8.69	9.89						
100.00	100.00	100.00	100.00	0.10	0.10	61.41	4.73	8.69	9.89	9.69	0.20	48.371			
200.00	200.00	200.00	200.00	0.33	0.33	61.41	4.73	8.69	9.89	9.24	0.65	15.126			
300.00	300.00	300.00	300.00	0.55	0.55	61.41	4.73	8.69	9.89	8.79	1.10	8.965 CC, ES			
400.00	399.98	399.48	399.43	0.78	0.78	24.45	6.46	10.62	10.83	9.29	1.55	6.999			
450.00	449.93	449.18	449.02	0.89	0.90	25.07	8.61	13.03	12.01	10.24	1.77	6.774			
500.00	499.86	498.81	498.45	1.01	1.02	24.99	11.61	16.40	14.05	12.06	2.00	7.036			
600.00	599.73	597.60	596.39	1.23	1.28	22.42	20.13	25.96	21.92	19.46	2.46	8.901			
700.00	699.59	695.33	692.51	1.47	1.61	19.69	31.86	39.12	34.85	31.91	2.94	11.855			
800.00	799.45	791.52	786.11	1.71	2.00	17.71	46.58	55.65	52.80	49.37	3.43	15.409			
900.00	899.31	885.73	876.59	1.94	2.47	16.36	64.03	75.22	75.63	71.71	3.92	19.289			
1,000.00	999.18	978.17	964.02	2.18	3.01	15.41	83.98	97.61	103.15	98.72	4.43	23.307			
1,100.00	1,099.04	1,073.77	1,053.86	2.42	3.62	14.78	105.73	122.02	132.45	127.53	4.92	26.901			
1,200.00	1,198.90	1,169.37	1,143.70	2.66	4.25	14.37	127.49	146.42	161.77	156.35	5.42	29.849			
1,300.00	1,298.77	1,264.97	1,233.53	2.90	4.88	14.09	149.24	170.83	191.09	185.17	5.92	32.280			
1,400.00	1,398.63	1,360.57	1,323.37	3.15	5.52	13.89	170.99	195.24	220.42	213.99	6.43	34.289			
1,500.00	1,498.49	1,456.18	1,413.21	3.39	6.16	13.73	192.74	219.64	249.75	242.81	6.94	35.988			
1,600.00	1,598.36	1,551.78	1,503.05	3.63	6.81	13.61	214.49	244.05	279.07	271.62	7.45	37.440			
1,700.00	1,698.22	1,647.38	1,592.88	3.87	7.46	13.51	236.24	268.45	308.40	300.43	7.97	38.693			
1,800.00	1,798.08	1,742.98	1,682.72	4.11	8.11	13.42	257.99	292.86	337.73	329.24	8.49	39.784			
1,900.00	1,897.94	1,838.58	1,772.56	4.35	8.76	13.35	279.74	317.27	367.06	358.06	9.01	40.742			
2,000.00	1,997.81	1,934.18	1,862.40	4.59	9.41	13.29	301.49	341.67	396.40	386.86	9.53	41.590			
2,092.32	2,090.00	2,022.44	1,945.33	4.82	10.02	13.25	321.57	364.20	423.47	413.46	10.01	42.291			
2,100.00	2,097.67	2,029.79	1,952.24	4.84	10.07	13.23	323.24	366.08	425.71	415.66	10.06	42.331			
2,200.00	2,197.32	2,126.20	2,042.84	5.10	10.73	13.09	345.18	390.69	452.22	441.60	10.62	42.569			
2,300.00	2,296.40	2,223.82	2,134.58	5.39	11.39	13.12	367.39	415.62	473.78	462.59	11.19	42.348			
2,400.00	2,394.64	2,328.53	2,233.06	5.73	12.06	13.35	391.05	442.17	490.12	478.37	11.75	41.706			
2,500.00	2,491.77	2,445.75	2,344.38	6.11	12.66	13.83	415.48	469.57	498.65	486.34	12.31	40.507			
2,600.00	2,587.52	2,563.49	2,457.44	6.56	13.21	14.56	437.33	494.09	498.56	485.70	12.86	38.777			
2,658.86	2,643.14	2,632.52	2,524.25	6.85	13.51	15.12	448.87	507.05	494.51	481.33	13.18	37.533			
2,700.00	2,681.80	2,680.54	2,570.93	7.07	13.71	15.53	456.35	515.44	490.35	476.93	13.43	36.514			
2,800.00	2,775.77	2,796.54	2,684.35	7.61	14.16	16.59	472.53	533.60	477.87	463.82	14.05	34.012			
2,900.00	2,869.74	2,911.32	2,797.35	8.17	14.54	17.76	485.90	548.60	462.05	447.37	14.68	31.479			
3,000.00	2,963.71	3,024.62	2,909.52	8.75	14.86	19.09	496.51	560.50	443.00	427.68	15.32	28.918			
3,100.00	3,057.68	3,136.19	3,020.45	9.35	15.12	20.62	504.42	569.38	420.84	404.85	15.98	26.329			
3,200.00	3,151.65	3,245.83	3,129.79	9.95	15.33	22.42	509.75	575.35	395.71	379.02	16.69	23.716			
3,300.00	3,245.63	3,353.34	3,237.21	10.57	15.49	24.57	512.60	578.55	367.80	350.36	17.45	21.083			
3,400.00	3,339.60	3,455.74	3,339.60	11.19	15.60	27.14	513.20	579.22	337.48	319.19	18.29	18.456			
3,500.00	3,433.57	3,549.71	3,433.57	11.82	15.68	30.01	513.20	579.22	307.03	287.82	19.21	15.982			
3,600.00	3,527.54	3,643.68	3,527.54	12.45	15.78	33.48	513.20	579.22	277.45	257.16	20.30	13.669			
3,700.00	3,621.51	3,737.65	3,621.51	13.09	15.87	37.73	513.20	579.22	249.07	227.47	21.60	11.531			
3,800.00	3,715.48	3,831.62	3,715.48	13.73	15.97	42.98	513.20	579.22	222.32	199.15	23.17	9.595			
3,900.00	3,809.45	3,925.59	3,809.45	14.37	16.07	49.51	513.20	579.22	197.88	172.82	25.06	7.897			
4,000.00	3,903.43	4,019.57	3,903.43	15.02	16.17	57.61	513.20	579.22	176.70	149.45	27.25	6.485			
4,100.00	3,997.40	4,113.54	3,997.40	15.67	16.28	67.46	513.20	579.22	160.10	130.49	29.61	5.408			
4,200.00	4,091.37	4,207.51	4,091.37	16.33	16.38	78.94	513.20	579.22	149.59	117.81	31.78	4.707			
4,289.12	4,175.12	4,291.26	4,175.12	16.91	16.48	90.00	513.20	579.22	146.45	113.26	33.19	4.412			
4,300.00	4,185.34	4,301.48	4,185.34	16.98	16.49	91.37	513.20	579.22	146.50	113.18	33.32	4.397 SF			
4,400.00	4,279.31	4,395.45	4,279.31	17.64	16.60	103.67	513.20	579.22	151.28	117.36	33.92	4.460			
4,500.00	4,373.28	4,489.42	4,373.28	18.30	16.71	114.83	513.20	579.22	163.25	129.54	33.70	4.844			
4,600.00	4,467.25	4,583.39	4,467.25	18.96	16.82	124.30	513.20	579.22	180.97	147.95	33.02	5.480			
4,700.00	4,561.23	4,677.37	4,561.23	19.62	16.94	132.04	513.20	579.22	202.95	170.73	32.22	6.299			

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



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well BONANZA 1023-51BS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Reference Site:	Bonanza 1023-51	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	BONANZA 1023-51BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-51BS	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 4-28-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft	
Survey Program: 0-MWD												Offset Well Error:		0.00 ft
Bonanza 1023-51 - BONANZA 1023-51CS - BONANZA 1023-51CS - PLAN #1 4-28-10 RHS														
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		
4,745.90	4,604.36	4,720.49	4,604.36	19.93	16.99	135.06	513.20	579.22	214.12	182.25	31.87	6.719		
4,800.00	4,655.37	4,771.51	4,655.37	20.24	17.06	138.38	513.20	579.22	227.60	196.14	31.46	7.234		
4,900.00	4,750.52	4,866.66	4,750.52	20.73	17.18	143.25	513.20	579.22	251.92	221.06	30.86	8.163		
5,000.00	4,846.68	4,962.82	4,846.68	21.17	17.30	146.89	513.20	579.22	274.69	244.21	30.49	9.010		
5,100.00	4,943.74	5,059.88	4,943.74	21.58	17.43	149.63	513.20	579.22	295.32	265.03	30.29	9.750		
5,200.00	5,041.58	5,157.72	5,041.58	21.95	17.56	151.71	513.20	579.22	313.41	283.19	30.21	10.373		
5,300.00	5,140.08	5,256.22	5,140.08	22.27	17.69	153.26	513.20	579.22	328.73	298.50	30.23	10.875		
5,400.00	5,239.12	5,355.26	5,239.12	22.54	17.83	154.41	513.20	579.22	341.11	310.81	30.30	11.256		
5,500.00	5,338.59	5,454.73	5,338.59	22.78	17.96	155.22	513.20	579.22	350.44	320.02	30.42	11.518		
5,600.00	5,438.35	5,554.49	5,438.35	22.96	18.10	155.73	513.20	579.22	356.66	326.08	30.58	11.665		
5,700.00	5,538.29	5,654.43	5,538.29	23.10	18.24	155.97	513.20	579.22	359.70	328.95	30.75	11.698		
5,745.71	5,584.00	5,700.14	5,584.00	23.15	18.31	-166.45	513.20	579.22	360.04	329.20	30.84	11.676		
5,800.00	5,638.29	5,754.42	5,638.29	23.21	18.39	-166.45	513.20	579.22	360.04	329.02	31.01	11.609		
5,900.00	5,738.29	5,854.42	5,738.29	23.32	18.53	-166.45	513.20	579.22	360.04	328.68	31.35	11.483		
6,000.00	5,838.29	5,954.42	5,838.29	23.44	18.68	-166.45	513.20	579.22	360.04	328.34	31.70	11.359		
6,100.00	5,938.29	6,054.42	5,938.29	23.55	18.83	-166.45	513.20	579.22	360.04	328.00	32.04	11.236		
6,200.00	6,038.29	6,154.42	6,038.29	23.67	18.98	-166.45	513.20	579.22	360.04	327.65	32.39	11.116		
6,300.00	6,138.29	6,254.42	6,138.29	23.79	19.13	-166.45	513.20	579.22	360.04	327.30	32.74	10.997		
6,400.00	6,238.29	6,354.42	6,238.29	23.91	19.28	-166.45	513.20	579.22	360.04	326.94	33.09	10.879		
6,500.00	6,338.29	6,454.42	6,338.29	24.03	19.43	-166.45	513.20	579.22	360.04	326.59	33.45	10.764		
6,600.00	6,438.29	6,554.42	6,438.29	24.15	19.59	-166.45	513.20	579.22	360.04	326.23	33.81	10.650		
6,700.00	6,538.29	6,654.42	6,538.29	24.28	19.74	-166.45	513.20	579.22	360.04	325.87	34.17	10.538		
6,800.00	6,638.29	6,754.42	6,638.29	24.41	19.90	-166.45	513.20	579.22	360.04	325.51	34.53	10.427		
6,900.00	6,738.29	6,854.42	6,738.29	24.53	20.06	-166.45	513.20	579.22	360.04	325.15	34.89	10.319		
7,000.00	6,838.29	6,954.42	6,838.29	24.66	20.22	-166.45	513.20	579.22	360.04	324.78	35.26	10.212		
7,100.00	6,938.29	7,054.42	6,938.29	24.79	20.38	-166.45	513.20	579.22	360.04	324.41	35.63	10.106		
7,200.00	7,038.29	7,154.42	7,038.29	24.92	20.54	-166.45	513.20	579.22	360.04	324.04	35.99	10.003		
7,300.00	7,138.29	7,254.42	7,138.29	25.06	20.71	-166.45	513.20	579.22	360.04	323.67	36.37	9.900		
7,400.00	7,238.29	7,354.42	7,238.29	25.19	20.87	-166.45	513.20	579.22	360.04	323.30	36.74	9.800		
7,500.00	7,338.29	7,454.42	7,338.29	25.33	21.04	-166.45	513.20	579.22	360.04	322.92	37.11	9.701		
7,600.00	7,438.29	7,554.42	7,438.29	25.46	21.21	-166.45	513.20	579.22	360.04	322.55	37.49	9.604		
7,700.00	7,538.29	7,654.42	7,538.29	25.60	21.37	-166.45	513.20	579.22	360.04	322.17	37.87	9.508		
7,800.00	7,638.29	7,754.42	7,638.29	25.74	21.54	-166.45	513.20	579.22	360.04	321.79	38.25	9.413		
7,900.00	7,738.29	7,854.42	7,738.29	25.88	21.71	-166.45	513.20	579.22	360.04	321.41	38.63	9.320		
8,000.00	7,838.29	7,954.42	7,838.29	26.02	21.89	-166.45	513.20	579.22	360.04	321.03	39.01	9.229		
8,100.00	7,938.29	8,054.42	7,938.29	26.17	22.06	-166.45	513.20	579.22	360.04	320.64	39.40	9.139		
8,200.00	8,038.29	8,154.42	8,038.29	26.31	22.23	-166.45	513.20	579.22	360.04	320.26	39.78	9.051		
8,300.00	8,138.29	8,254.42	8,138.29	26.46	22.40	-166.45	513.20	579.22	360.04	319.87	40.17	8.964		
8,400.00	8,238.29	8,354.42	8,238.29	26.60	22.58	-166.45	513.20	579.22	360.04	319.48	40.55	8.878		
8,500.00	8,338.29	8,454.42	8,338.29	26.75	22.76	-166.45	513.20	579.22	360.04	319.09	40.94	8.793		
8,523.54	8,361.82	8,477.96	8,361.82	26.79	22.80	-166.45	513.20	579.22	360.04	319.00	41.04	8.774		
8,542.71	8,381.00	8,486.14	8,370.00	26.81	22.81	-166.45	513.20	579.22	360.21	319.12	41.09	8.767		



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well BONANZA 1023-51BS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Reference Site:	Bonanza 1023-51	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	BONANZA 1023-51BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-51BS	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 4-28-10 RHS	Offset TVD Reference:	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			
0.00	0.00	0.00	0.00	0.00	0.00	61.41	9.47	17.37	19.79						
100.00	100.00	100.00	100.00	0.10	0.10	61.41	9.47	17.37	19.79	19.59	0.20	99.475			
200.00	200.00	200.00	200.00	0.33	0.32	61.41	9.47	17.37	19.79	19.14	0.65	30.515			
300.00	300.00	300.00	300.00	0.55	0.55	61.41	9.47	17.37	19.79	18.69	1.10	18.022 CC, ES			
400.00	399.98	399.00	398.96	0.78	0.76	28.40	9.79	19.92	20.67	19.13	1.54	13.464			
450.00	449.93	448.41	448.26	0.89	0.88	33.51	10.18	23.09	21.94	20.18	1.76	12.493			
500.00	499.86	497.72	497.37	1.01	0.99	39.05	10.73	27.52	24.31	22.33	1.98	12.296 SF			
600.00	599.73	595.76	594.58	1.23	1.26	47.03	12.28	40.05	33.41	30.97	2.44	13.690			
700.00	699.59	692.62	689.86	1.47	1.59	50.87	14.42	57.28	47.92	45.00	2.92	16.417			
800.00	799.45	787.83	782.54	1.71	1.99	52.35	17.09	78.87	67.47	64.06	3.41	19.791			
900.00	899.31	883.65	874.87	1.94	2.46	52.82	20.25	104.33	90.94	87.03	3.91	23.267			
1,000.00	999.18	980.77	968.34	2.18	2.98	53.08	23.49	130.48	114.79	110.39	4.39	26.120			
1,100.00	1,099.04	1,077.88	1,061.81	2.42	3.50	53.25	26.73	156.63	138.64	133.75	4.89	28.364			
1,200.00	1,198.90	1,175.00	1,155.28	2.66	4.04	53.37	29.98	182.77	162.48	157.10	5.39	30.163			
1,300.00	1,298.77	1,272.11	1,248.75	2.90	4.58	53.46	33.22	208.92	186.33	180.44	5.89	31.638			
1,400.00	1,398.63	1,369.23	1,342.22	3.15	5.12	53.53	36.46	235.07	210.18	203.78	6.40	32.858			
1,500.00	1,498.49	1,466.34	1,435.70	3.39	5.67	53.59	39.70	261.22	234.03	227.12	6.91	33.887			
1,600.00	1,598.36	1,563.45	1,529.17	3.63	6.21	53.63	42.95	287.37	257.88	250.46	7.42	34.766			
1,700.00	1,698.22	1,660.57	1,622.64	3.87	6.76	53.67	46.19	313.52	281.73	273.80	7.93	35.524			
1,800.00	1,798.08	1,757.68	1,716.11	4.11	7.31	53.70	49.43	339.67	305.58	297.13	8.44	36.185			
1,900.00	1,897.94	1,854.80	1,809.58	4.35	7.86	53.73	52.67	365.82	329.42	320.46	8.96	36.765			
2,000.00	1,997.81	1,951.91	1,903.05	4.59	8.42	53.75	55.91	391.97	353.27	343.80	9.48	37.278			
2,092.32	2,090.00	2,041.57	1,989.34	4.82	8.93	53.77	58.91	416.11	375.29	365.34	9.95	37.702			
2,100.00	2,097.67	2,049.03	1,996.53	4.84	8.97	53.73	59.16	418.12	377.11	367.12	9.99	37.732			
2,200.00	2,197.32	2,147.74	2,091.54	5.10	9.52	53.57	62.45	444.68	399.21	388.67	10.54	37.864			
2,300.00	2,296.40	2,259.77	2,199.96	5.39	10.02	54.25	65.92	472.67	416.39	405.25	11.14	37.382			
2,400.00	2,394.64	2,372.81	2,310.26	5.73	10.46	55.75	68.96	497.17	427.41	415.63	11.78	36.277			
2,500.00	2,491.77	2,485.84	2,421.34	6.11	10.84	58.06	71.52	517.87	432.62	420.11	12.51	34.587			
2,600.00	2,587.52	2,597.83	2,532.05	6.56	11.17	61.21	73.60	534.62	432.60	419.25	13.35	32.399			
2,658.86	2,643.14	2,662.87	2,596.59	6.85	11.34	63.47	74.59	542.62	430.49	416.58	13.92	30.931			
2,700.00	2,681.80	2,707.94	2,641.40	7.07	11.45	65.13	75.19	547.41	428.44	414.11	14.33	29.893			
2,800.00	2,775.77	2,816.71	2,749.78	7.61	11.67	69.33	76.31	556.46	422.65	407.26	15.38	27.472			
2,900.00	2,869.74	2,924.15	2,857.07	8.17	11.85	73.80	76.98	561.89	416.03	399.54	16.49	25.224			
3,000.00	2,963.71	3,030.07	2,962.97	8.75	11.98	78.57	77.22	563.81	409.04	391.40	17.64	23.188			
3,100.00	3,057.68	3,124.78	3,057.68	9.35	12.09	83.09	77.22	563.82	403.26	384.51	18.75	21.511			
3,200.00	3,151.65	3,218.75	3,151.65	9.95	12.20	87.66	77.22	563.82	400.33	380.48	19.85	20.170			
3,250.87	3,199.46	3,266.56	3,199.46	10.26	12.25	90.00	77.22	563.82	399.95	379.55	20.40	19.605			
3,300.00	3,245.63	3,312.72	3,245.63	10.57	12.31	92.26	77.22	563.82	400.30	379.38	20.92	19.133			
3,400.00	3,339.60	3,406.69	3,339.60	11.19	12.42	96.83	77.22	563.82	403.19	381.24	21.95	18.372			
3,500.00	3,433.57	3,500.67	3,433.57	11.82	12.54	101.32	77.22	563.82	408.92	386.02	22.90	17.854			
3,600.00	3,527.54	3,594.64	3,527.54	12.45	12.66	105.67	77.22	563.82	417.39	393.60	23.79	17.548			
3,700.00	3,621.51	3,688.61	3,621.51	13.09	12.78	109.84	77.22	563.82	428.42	403.84	24.59	17.426			
3,800.00	3,715.48	3,782.58	3,715.48	13.73	12.90	113.81	77.22	563.82	441.84	416.53	25.31	17.460			
3,900.00	3,809.45	3,876.55	3,809.45	14.37	13.03	117.54	77.22	563.82	457.42	431.47	25.95	17.627			
4,000.00	3,903.43	3,970.52	3,903.43	15.02	13.16	121.04	77.22	563.82	474.95	448.43	26.53	17.904			
4,100.00	3,997.40	4,064.49	3,997.40	15.67	13.29	124.30	77.22	563.82	494.24	467.19	27.05	18.272			
4,200.00	4,091.37	4,158.47	4,091.37	16.33	13.42	127.33	77.22	563.82	515.07	487.55	27.52	18.715			
4,300.00	4,185.34	4,252.44	4,185.34	16.98	13.56	130.13	77.22	563.82	537.28	509.32	27.96	19.218			
4,400.00	4,279.31	4,346.41	4,279.31	17.64	13.69	132.72	77.22	563.82	560.69	532.33	28.36	19.769			
4,500.00	4,373.28	4,440.38	4,373.28	18.30	13.83	135.10	77.22	563.82	585.16	556.42	28.74	20.358			
4,600.00	4,467.25	4,534.35	4,467.25	18.96	13.97	137.31	77.22	563.82	610.57	581.46	29.11	20.974			
4,700.00	4,561.23	4,628.32	4,561.23	19.62	14.11	139.34	77.22	563.82	636.81	607.34	29.47	21.611			

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



Weatherford International Ltd.
Anticollision Report



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well BONANZA 1023-51BS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Reference Site:	Bonanza 1023-51	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	BONANZA 1023-51BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-51BS	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 4-28-10 RHS	Offset TVD Reference:	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			
4,745.90	4,604.36	4,671.45	4,604.36	19.93	14.18	140.22	77.22	563.82	649.09	619.47	29.63	21.909			
4,800.00	4,655.37	4,722.47	4,655.37	20.24	14.26	141.38	77.22	563.82	663.38	633.56	29.82	22.249			
4,900.00	4,750.52	4,817.61	4,750.52	20.73	14.40	143.26	77.22	563.82	688.17	658.05	30.12	22.849			
5,000.00	4,846.68	4,913.78	4,846.68	21.17	14.55	144.83	77.22	563.82	710.66	680.24	30.42	23.361			
5,100.00	4,943.74	5,010.84	4,943.74	21.58	14.71	146.14	77.22	563.82	730.66	699.94	30.72	23.782			
5,200.00	5,041.58	5,108.68	5,041.58	21.95	14.86	147.20	77.22	563.82	748.02	717.00	31.02	24.113			
5,300.00	5,140.08	5,207.18	5,140.08	22.27	15.02	148.06	77.22	563.82	762.63	731.32	31.31	24.355			
5,400.00	5,239.12	5,306.22	5,239.12	22.54	15.18	148.72	77.22	563.82	774.39	742.79	31.59	24.510			
5,500.00	5,338.59	5,405.68	5,338.59	22.78	15.35	149.20	77.22	563.82	783.23	751.36	31.86	24.580			
5,600.00	5,438.35	5,505.45	5,438.35	22.96	15.51	149.51	77.22	563.82	789.10	756.98	32.12	24.567			
5,700.00	5,538.29	5,605.39	5,538.29	23.10	15.68	149.67	77.22	563.82	791.98	759.62	32.36	24.472			
5,745.71	5,584.00	5,651.10	5,584.00	23.15	15.76	-172.77	77.22	563.82	792.30	759.83	32.47	24.402			
5,800.00	5,638.29	5,705.38	5,638.29	23.21	15.85	-172.77	77.22	563.82	792.30	759.66	32.64	24.275			
5,900.00	5,738.29	5,805.38	5,738.29	23.32	16.02	-172.77	77.22	563.82	792.30	759.33	32.97	24.034			
6,000.00	5,838.29	5,905.38	5,838.29	23.44	16.19	-172.77	77.22	563.82	792.30	759.00	33.30	23.796			
6,100.00	5,938.29	6,005.38	5,938.29	23.55	16.36	-172.77	77.22	563.82	792.30	758.67	33.63	23.560			
6,200.00	6,038.29	6,105.38	6,038.29	23.67	16.54	-172.77	77.22	563.82	792.30	758.34	33.96	23.328			
6,300.00	6,138.29	6,205.38	6,138.29	23.79	16.71	-172.77	77.22	563.82	792.30	758.00	34.30	23.098			
6,400.00	6,238.29	6,305.38	6,238.29	23.91	16.89	-172.77	77.22	563.82	792.30	757.66	34.64	22.870			
6,500.00	6,338.29	6,405.38	6,338.29	24.03	17.07	-172.77	77.22	563.82	792.30	757.31	34.99	22.646			
6,600.00	6,438.29	6,505.38	6,438.29	24.15	17.25	-172.77	77.22	563.82	792.30	756.97	35.33	22.425			
6,700.00	6,538.29	6,605.38	6,538.29	24.28	17.43	-172.77	77.22	563.82	792.30	756.62	35.68	22.206			
6,800.00	6,638.29	6,705.38	6,638.29	24.41	17.61	-172.77	77.22	563.82	792.30	756.27	36.03	21.990			
6,900.00	6,738.29	6,805.38	6,738.29	24.53	17.79	-172.77	77.22	563.82	792.30	755.92	36.38	21.778			
7,000.00	6,838.29	6,905.38	6,838.29	24.66	17.97	-172.77	77.22	563.82	792.30	755.56	36.74	21.568			
7,100.00	6,938.29	7,005.38	6,938.29	24.79	18.16	-172.77	77.22	563.82	792.30	755.21	37.09	21.360			
7,200.00	7,038.29	7,105.38	7,038.29	24.92	18.34	-172.77	77.22	563.82	792.30	754.85	37.45	21.156			
7,300.00	7,138.29	7,205.38	7,138.29	25.06	18.53	-172.77	77.22	563.82	792.30	754.49	37.81	20.954			
7,400.00	7,238.29	7,305.38	7,238.29	25.19	18.71	-172.77	77.22	563.82	792.30	754.13	38.17	20.756			
7,500.00	7,338.29	7,405.38	7,338.29	25.33	18.90	-172.77	77.22	563.82	792.30	753.76	38.54	20.560			
7,600.00	7,438.29	7,505.38	7,438.29	25.46	19.09	-172.77	77.22	563.82	792.30	753.40	38.90	20.366			
7,700.00	7,538.29	7,605.38	7,538.29	25.60	19.28	-172.77	77.22	563.82	792.30	753.03	39.27	20.176			
7,800.00	7,638.29	7,705.38	7,638.29	25.74	19.47	-172.77	77.22	563.82	792.30	752.66	39.64	19.988			
7,900.00	7,738.29	7,805.38	7,738.29	25.88	19.66	-172.77	77.22	563.82	792.30	752.29	40.01	19.803			
8,000.00	7,838.29	7,905.38	7,838.29	26.02	19.85	-172.77	77.22	563.82	792.30	751.92	40.38	19.620			
8,100.00	7,938.29	8,005.38	7,938.29	26.17	20.04	-172.77	77.22	563.82	792.30	751.54	40.76	19.440			
8,200.00	8,038.29	8,105.38	8,038.29	26.31	20.23	-172.77	77.22	563.82	792.30	751.17	41.13	19.262			
8,300.00	8,138.29	8,205.38	8,138.29	26.46	20.43	-172.77	77.22	563.82	792.30	750.79	41.51	19.088			
8,400.00	8,238.29	8,305.38	8,238.29	26.60	20.62	-172.77	77.22	563.82	792.30	750.41	41.89	18.915			
8,500.00	8,338.29	8,405.38	8,338.29	26.75	20.81	-172.77	77.22	563.82	792.30	750.03	42.27	18.745			
8,510.21	8,348.50	8,415.60	8,348.50	26.77	20.83	-172.77	77.22	563.82	792.30	749.99	42.31	18.728			
8,542.71	8,381.00	8,424.10	8,357.00	26.81	20.85	-172.77	77.22	563.82	792.66	750.28	42.38	18.703			



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well BONANZA 1023-511BS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Reference Site:	Bonanza 1023-51	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	BONANZA 1023-511BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-511BS	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 4-28-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft		
Survey Program: 0-MWD												Offset Well Error:	0.00 ft		
Reference												Distance		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.00	0.00	0.00	0.00	0.00	0.00	-119.51	-9.83	-17.37	19.96						
100.00	100.00	100.00	100.00	0.10	0.10	-119.51	-9.83	-17.37	19.96	19.76	0.20	97.607			
200.00	200.00	200.00	200.00	0.33	0.33	-119.51	-9.83	-17.37	19.96	19.31	0.65	30.523			
300.00	300.00	300.00	300.00	0.55	0.55	-119.51	-9.83	-17.37	19.96	18.86	1.10	18.090 CC, ES			
400.00	399.98	399.33	399.31	0.78	0.77	-156.37	-9.72	-19.09	23.02	21.48	1.55	14.889 SF			
450.00	449.93	448.81	448.75	0.89	0.87	-155.73	-9.59	-21.23	26.85	25.07	1.77	15.126			
500.00	499.86	498.59	498.46	1.01	0.98	-155.17	-9.42	-23.83	31.45	29.46	1.99	15.779			
600.00	599.73	598.17	597.89	1.23	1.21	-154.44	-9.09	-29.03	40.67	38.24	2.43	16.735			
700.00	699.59	697.74	697.33	1.47	1.44	-153.97	-8.76	-34.23	49.89	47.02	2.87	17.361			
800.00	799.45	797.31	796.77	1.71	1.68	-153.65	-8.43	-39.43	59.11	55.79	3.32	17.797			
900.00	899.31	896.88	896.20	1.94	1.92	-153.42	-8.10	-44.63	68.34	64.57	3.77	18.118			
1,000.00	999.18	996.46	995.64	2.18	2.16	-153.24	-7.77	-49.83	77.56	73.34	4.22	18.362			
1,100.00	1,099.04	1,096.03	1,095.08	2.42	2.40	-153.10	-7.44	-55.03	86.79	82.11	4.68	18.553			
1,200.00	1,198.90	1,195.60	1,194.51	2.66	2.64	-152.99	-7.11	-60.24	96.02	90.88	5.13	18.708			
1,300.00	1,298.77	1,295.18	1,293.95	2.90	2.88	-152.89	-6.78	-65.44	105.24	99.66	5.59	18.835			
1,400.00	1,398.63	1,394.75	1,393.39	3.15	3.12	-152.82	-6.45	-70.64	114.47	108.43	6.04	18.941			
1,500.00	1,498.49	1,494.32	1,492.82	3.39	3.37	-152.75	-6.11	-75.84	123.70	117.20	6.50	19.031			
1,600.00	1,598.36	1,593.90	1,592.26	3.63	3.61	-152.69	-5.78	-81.04	132.93	125.97	6.96	19.108			
1,700.00	1,698.22	1,693.47	1,691.70	3.87	3.85	-152.64	-5.45	-86.24	142.15	134.74	7.41	19.175			
1,800.00	1,798.08	1,793.04	1,791.14	4.11	4.10	-152.60	-5.12	-91.44	151.38	143.51	7.87	19.233			
1,900.00	1,897.94	1,892.62	1,890.57	4.35	4.34	-152.56	-4.79	-96.64	160.61	152.28	8.33	19.285			
2,000.00	1,997.81	1,992.19	1,990.01	4.59	4.58	-152.52	-4.46	-101.84	169.84	161.05	8.79	19.331			
2,092.32	2,090.00	2,084.12	2,081.81	4.82	4.81	-152.50	-4.16	-106.64	178.35	169.15	9.21	19.369			
2,100.00	2,097.67	2,091.76	2,089.44	4.84	4.83	-152.49	-4.13	-107.04	179.08	169.83	9.24	19.375			
2,200.00	2,197.32	2,183.85	2,181.29	5.10	5.07	-152.41	-3.71	-113.58	192.63	182.96	9.67	19.915			
2,300.00	2,296.40	2,273.03	2,269.84	5.39	5.33	-152.23	-3.05	-124.10	214.80	204.70	10.10	21.266			
2,400.00	2,394.64	2,359.18	2,354.82	5.73	5.61	-151.96	-2.15	-138.16	245.31	234.78	10.52	23.310			
2,500.00	2,491.77	2,441.52	2,435.38	6.11	5.92	-151.59	-1.07	-155.16	283.77	272.83	10.94	25.938			
2,600.00	2,587.52	2,519.43	2,510.85	6.56	6.24	-151.11	0.15	-174.42	329.73	318.38	11.35	29.048			
2,658.86	2,643.14	2,563.02	2,552.71	6.85	6.44	-150.78	0.92	-186.53	360.08	348.49	11.59	31.064			
2,700.00	2,681.80	2,600.00	2,588.01	7.07	6.61	-150.91	1.62	-197.55	382.43	370.60	11.83	32.333			
2,800.00	2,775.77	2,662.46	2,647.10	7.61	6.94	-150.96	2.90	-217.71	438.35	426.00	12.35	35.502			
2,900.00	2,869.74	2,742.94	2,722.74	8.17	7.40	-150.90	4.65	-245.17	495.89	482.96	12.93	38.356			
3,000.00	2,963.71	2,824.72	2,799.58	8.75	7.88	-150.86	6.42	-273.08	553.44	539.92	13.52	40.936			
3,100.00	3,057.68	2,906.50	2,876.43	9.35	8.37	-150.82	8.20	-300.99	610.99	596.87	14.13	43.255			
3,200.00	3,151.65	2,988.28	2,953.28	9.95	8.88	-150.79	9.97	-328.91	668.54	653.80	14.74	45.342			
3,300.00	3,245.63	3,070.06	3,030.13	10.57	9.40	-150.76	11.75	-356.82	726.09	710.72	15.37	47.227			
3,400.00	3,339.60	3,151.83	3,106.97	11.19	9.93	-150.74	13.52	-384.73	783.64	767.63	16.01	48.933			
3,500.00	3,433.57	3,233.61	3,183.82	11.82	10.46	-150.72	15.29	-412.65	841.19	824.53	16.66	50.482			
3,600.00	3,527.54	3,315.39	3,260.67	12.45	11.00	-150.70	17.07	-440.56	898.74	881.43	17.32	51.893			
3,700.00	3,621.51	3,397.17	3,337.52	13.09	11.55	-150.69	18.84	-468.47	956.30	938.31	17.98	53.179			
3,800.00	3,715.48	3,478.95	3,414.36	13.73	12.10	-150.67	20.62	-496.39	1,013.85	995.19	18.65	54.354			
3,900.00	3,809.45	3,560.73	3,491.21	14.37	12.66	-150.66	22.39	-524.30	1,071.40	1,052.07	19.33	55.433			
4,000.00	3,903.43	3,642.51	3,568.06	15.02	13.22	-150.65	24.16	-552.21	1,128.95	1,108.94	20.01	56.424			
4,100.00	3,997.40	3,724.29	3,644.91	15.67	13.78	-150.64	25.94	-580.12	1,186.50	1,165.81	20.69	57.338			
4,200.00	4,091.37	3,806.07	3,721.75	16.33	14.34	-150.63	27.71	-608.04	1,244.05	1,222.67	21.38	58.182			
4,300.00	4,185.34	3,887.85	3,798.60	16.98	14.91	-150.62	29.49	-635.95	1,301.60	1,279.53	22.08	58.962			
4,400.00	4,279.31	3,969.63	3,875.45	17.64	15.48	-150.62	31.26	-663.86	1,359.15	1,336.38	22.77	59.686			
4,500.00	4,373.28	4,051.41	3,952.30	18.30	16.05	-150.61	33.03	-691.78	1,416.71	1,393.23	23.47	60.359			
4,600.00	4,467.25	4,133.18	4,029.14	18.96	16.62	-150.60	34.81	-719.69	1,474.26	1,450.08	24.17	60.985			
4,700.00	4,561.23	4,214.96	4,105.99	19.62	17.20	-150.60	36.58	-747.60	1,531.81	1,506.93	24.88	61.570			
4,745.90	4,604.36	4,252.50	4,141.26	19.93	17.46	-150.59	37.40	-760.42	1,558.22	1,533.02	25.20	61.825			

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



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well BONANZA 1023-51BS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Reference Site:	Bonanza 1023-51	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	BONANZA 1023-51BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-51BS	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 4-28-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft	
Survey Program: 0-MWD												Offset Well Error:		0.00 ft
Bonanza 1023-51 - BONANZA 1023-5J3AS - BONANZA 1023-5J3AS - PLAN #1 4-28-10 RHS														
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	4,655.37	4,297.00	4,183.08	20.24	17.77	-150.95	38.36	-775.60	1,588.99	1,563.33	25.66	61.919		
4,900.00	4,750.52	4,380.54	4,261.58	20.73	18.36	-151.50	40.17	-804.12	1,643.92	1,617.45	26.47	62.107		
5,000.00	4,846.68	4,465.67	4,341.58	21.17	18.97	-151.94	42.02	-833.18	1,696.26	1,669.00	27.26	62.224		
5,100.00	4,943.74	4,552.29	4,422.97	21.58	19.58	-152.28	43.90	-862.74	1,745.96	1,717.93	28.03	62.286		
5,200.00	5,041.58	4,656.30	4,520.76	21.95	20.29	-152.49	46.15	-898.10	1,792.92	1,764.09	28.83	62.190		
5,300.00	5,140.08	4,860.54	4,715.65	22.27	21.33	-152.42	50.01	-958.95	1,833.61	1,803.77	29.84	61.444		
5,400.00	5,239.12	5,078.62	4,927.96	22.54	22.19	-152.40	53.16	-1,008.44	1,865.43	1,834.67	30.76	60.647		
5,500.00	5,338.59	5,307.73	5,154.39	22.78	22.85	-152.43	55.35	-1,042.93	1,887.69	1,856.14	31.55	59.823		
5,600.00	5,438.35	5,544.12	5,390.12	22.96	23.27	-152.53	56.40	-1,059.47	1,899.89	1,867.70	32.20	59.009		
5,700.00	5,538.29	5,692.29	5,538.29	23.10	23.43	-152.62	56.48	-1,060.66	1,903.30	1,870.71	32.59	58.404		
5,745.71	5,584.00	5,738.01	5,584.00	23.15	23.48	-115.07	56.48	-1,060.66	1,903.62	1,870.90	32.72	58.178		
5,800.00	5,638.29	5,792.29	5,638.29	23.21	23.54	-115.07	56.48	-1,060.66	1,903.62	1,870.74	32.88	57.895		
5,900.00	5,738.29	5,892.29	5,738.29	23.32	23.65	-115.07	56.48	-1,060.66	1,903.62	1,870.44	33.19	57.361		
6,000.00	5,838.29	5,992.29	5,838.29	23.44	23.77	-115.07	56.48	-1,060.66	1,903.62	1,870.13	33.50	56.831		
6,100.00	5,938.29	6,092.29	5,938.29	23.55	23.88	-115.07	56.48	-1,060.66	1,903.62	1,869.81	33.81	56.306		
6,200.00	6,038.29	6,192.29	6,038.29	23.67	24.00	-115.07	56.48	-1,060.66	1,903.62	1,869.50	34.12	55.785		
6,300.00	6,138.29	6,292.29	6,138.29	23.79	24.11	-115.07	56.48	-1,060.66	1,903.62	1,869.18	34.44	55.270		
6,400.00	6,238.29	6,392.29	6,238.29	23.91	24.23	-115.07	56.48	-1,060.66	1,903.62	1,868.86	34.76	54.759		
6,500.00	6,338.29	6,492.29	6,338.29	24.03	24.35	-115.07	56.48	-1,060.66	1,903.62	1,868.53	35.09	54.253		
6,600.00	6,438.29	6,592.29	6,438.29	24.15	24.47	-115.07	56.48	-1,060.66	1,903.62	1,868.21	35.41	53.752		
6,700.00	6,538.29	6,692.29	6,538.29	24.28	24.60	-115.07	56.48	-1,060.66	1,903.62	1,867.88	35.74	53.256		
6,800.00	6,638.29	6,792.29	6,638.29	24.41	24.72	-115.07	56.48	-1,060.66	1,903.62	1,867.55	36.08	52.766		
6,900.00	6,738.29	6,892.29	6,738.29	24.53	24.85	-115.07	56.48	-1,060.66	1,903.62	1,867.21	36.41	52.281		
7,000.00	6,838.29	6,992.29	6,838.29	24.66	24.97	-115.07	56.48	-1,060.66	1,903.62	1,866.87	36.75	51.801		
7,100.00	6,938.29	7,092.29	6,938.29	24.79	25.10	-115.07	56.48	-1,060.66	1,903.62	1,866.53	37.09	51.327		
7,200.00	7,038.29	7,192.29	7,038.29	24.92	25.23	-115.07	56.48	-1,060.66	1,903.62	1,866.19	37.43	50.858		
7,300.00	7,138.29	7,292.29	7,138.29	25.06	25.36	-115.07	56.48	-1,060.66	1,903.62	1,865.85	37.77	50.395		
7,400.00	7,238.29	7,392.29	7,238.29	25.19	25.50	-115.07	56.48	-1,060.66	1,903.62	1,865.50	38.12	49.937		
7,500.00	7,338.29	7,492.29	7,338.29	25.33	25.63	-115.07	56.48	-1,060.66	1,903.62	1,865.15	38.47	49.485		
7,600.00	7,438.29	7,592.29	7,438.29	25.46	25.76	-115.07	56.48	-1,060.66	1,903.62	1,864.80	38.82	49.038		
7,700.00	7,538.29	7,692.29	7,538.29	25.60	25.90	-115.07	56.48	-1,060.66	1,903.62	1,864.45	39.17	48.596		
7,800.00	7,638.29	7,792.29	7,638.29	25.74	26.04	-115.07	56.48	-1,060.66	1,903.62	1,864.10	39.53	48.161		
7,900.00	7,738.29	7,892.29	7,738.29	25.88	26.18	-115.07	56.48	-1,060.66	1,903.62	1,863.74	39.88	47.730		
8,000.00	7,838.29	7,992.29	7,838.29	26.02	26.32	-115.07	56.48	-1,060.66	1,903.62	1,863.38	40.24	47.305		
8,100.00	7,938.29	8,092.29	7,938.29	26.17	26.46	-115.07	56.48	-1,060.66	1,903.62	1,863.02	40.60	46.886		
8,200.00	8,038.29	8,192.29	8,038.29	26.31	26.60	-115.07	56.48	-1,060.66	1,903.62	1,862.66	40.96	46.471		
8,300.00	8,138.29	8,292.29	8,138.29	26.46	26.74	-115.07	56.48	-1,060.66	1,903.62	1,862.30	41.33	46.063		
8,400.00	8,238.29	8,392.29	8,238.29	26.60	26.89	-115.07	56.48	-1,060.66	1,903.62	1,861.93	41.69	45.659		
8,500.00	8,338.29	8,492.29	8,338.29	26.75	27.04	-115.07	56.48	-1,060.66	1,903.62	1,861.56	42.06	45.261		
8,542.71	8,381.00	8,535.01	8,381.00	26.81	27.10	-115.07	56.48	-1,060.66	1,903.62	1,861.41	42.22	45.092		



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well BONANZA 1023-51BS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Reference Site:	Bonanza 1023-51	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	BONANZA 1023-51BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-51BS	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 4-28-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 514-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	9.00	9.00	0.00	0.01	79.39	5.83	31.11	31.65					
100.00	100.00	109.00	109.00	0.10	0.12	79.35	5.85	31.11	31.65	31.43	0.22	143.581		
200.00	200.00	208.99	208.99	0.33	0.23	79.26	5.90	31.12	31.67	31.12	0.55	57.209		
300.00	300.00	308.99	308.99	0.55	0.34	79.12	5.99	31.14	31.71	30.82	0.89	35.752		
400.00	399.98	408.97	408.97	0.78	0.44	43.55	6.11	31.16	30.47	29.25	1.22	24.974		
450.00	449.93	458.92	458.92	0.89	0.50	46.41	6.18	31.18	28.95	27.56	1.39	20.856		
500.00	499.86	508.85	508.85	1.01	0.55	50.23	6.26	31.19	27.23	25.67	1.55	17.519		
600.00	599.73	608.71	608.71	1.23	0.76	59.39	6.42	31.25	24.25	22.26	1.99	12.196		
700.00	699.59	708.57	708.57	1.47	0.97	70.72	6.56	31.37	22.12	19.68	2.44	9.079		
800.00	799.45	808.43	808.43	1.71	1.19	83.78	6.68	31.55	21.07	18.18	2.89	7.292		
835.49	834.90	843.87	843.87	1.79	1.26	88.63	6.72	31.63	20.99	17.94	3.05	6.880 CC		
900.00	899.31	908.29	908.29	1.94	1.40	97.36	6.78	31.79	21.25	17.91	3.34	6.356 ES		
1,000.00	999.18	1,008.15	1,008.15	2.18	1.61	109.92	6.86	32.09	22.62	18.83	3.79	5.963		
1,100.00	1,099.04	1,108.00	1,108.00	2.42	1.82	120.51	6.89	32.45	25.00	20.77	4.23	5.905 SF		
1,200.00	1,198.90	1,207.83	1,207.83	2.66	2.03	128.91	6.80	32.90	28.21	23.54	4.67	6.041		
1,300.00	1,298.77	1,307.66	1,307.66	2.90	2.24	135.38	6.60	33.42	32.03	26.92	5.10	6.275		
1,400.00	1,398.63	1,407.50	1,407.49	3.15	2.45	140.36	6.28	33.99	36.28	30.74	5.53	6.555		
1,500.00	1,498.49	1,507.33	1,507.32	3.39	2.65	144.63	5.89	34.30	40.82	34.86	5.96	6.850		
1,600.00	1,598.36	1,607.14	1,607.13	3.63	2.85	148.43	5.44	34.29	45.64	39.26	6.38	7.149		
1,700.00	1,698.22	1,706.92	1,706.91	3.87	3.05	151.84	4.93	33.95	50.73	43.92	6.81	7.451		
1,800.00	1,798.08	1,806.67	1,806.65	4.11	3.26	154.56	4.29	33.65	56.10	48.86	7.24	7.750		
1,900.00	1,897.94	1,906.26	1,906.24	4.35	3.46	156.56	3.42	33.55	61.74	54.07	7.67	8.049		
2,000.00	1,997.81	2,006.06	2,006.04	4.59	3.67	158.09	2.12	33.51	67.83	59.72	8.11	8.367		
2,092.32	2,090.00	2,097.90	2,097.87	4.82	3.87	158.98	0.95	33.85	73.36	64.85	8.51	8.619		
2,100.00	2,097.67	2,105.47	2,105.43	4.84	3.88	159.04	0.82	33.88	73.87	65.33	8.54	8.646		
2,200.00	2,197.32	2,202.11	2,202.02	5.10	4.09	160.29	-2.09	33.91	84.48	75.51	8.97	9.422		
2,300.00	2,296.40	2,296.70	2,296.35	5.39	4.30	162.15	-9.01	32.35	104.58	95.20	9.37	11.156		
2,400.00	2,394.64	2,390.68	2,389.90	5.73	4.51	163.63	-17.79	30.84	131.49	121.72	9.77	13.460		
2,500.00	2,491.77	2,480.00	2,478.52	6.11	4.73	164.43	-28.83	29.75	165.80	155.66	10.14	16.345		
2,600.00	2,587.52	2,566.70	2,564.10	6.56	4.95	164.53	-42.74	29.60	207.59	197.08	10.51	19.755		
2,658.86	2,643.14	2,618.57	2,615.17	6.85	5.10	164.48	-51.74	29.93	234.79	224.07	10.72	21.904		
2,700.00	2,681.80	2,654.51	2,650.55	7.07	5.19	164.59	-58.09	30.30	254.39	243.47	10.91	23.314		
2,800.00	2,775.77	2,740.01	2,734.68	7.61	5.43	164.83	-73.34	30.93	302.28	290.91	11.38	26.572		
2,900.00	2,869.74	2,825.48	2,818.62	8.17	5.68	165.02	-89.40	31.13	351.13	339.27	11.85	29.619		
3,000.00	2,963.71	2,914.49	2,906.08	8.75	5.93	165.16	-105.93	31.51	399.73	387.39	12.34	32.394		
3,100.00	3,057.68	3,003.03	2,993.14	9.35	6.19	165.36	-122.04	31.29	448.27	435.45	12.82	34.954		
3,200.00	3,151.65	3,093.77	3,082.52	9.95	6.46	165.58	-137.73	31.08	496.07	482.75	13.32	37.240		
3,300.00	3,245.63	3,176.39	3,163.89	10.57	6.71	165.76	-152.06	30.64	544.05	530.24	13.81	39.397		
3,400.00	3,339.60	3,255.52	3,241.66	11.19	6.97	166.01	-166.52	28.89	593.38	579.08	14.30	41.504		
3,500.00	3,433.57	3,343.61	3,328.17	11.82	7.27	166.27	-182.95	26.50	643.21	628.40	14.80	43.446		
3,600.00	3,527.54	3,441.67	3,424.68	12.45	7.59	166.48	-200.26	24.78	691.87	676.54	15.33	45.126		
3,700.00	3,621.51	3,521.20	3,502.97	13.09	7.84	166.68	-214.07	22.87	740.57	724.75	15.82	46.810		
3,800.00	3,715.48	3,618.96	3,599.30	13.73	8.16	166.98	-230.44	19.66	789.12	772.78	16.34	48.287		
3,900.00	3,809.45	3,707.44	3,686.58	14.37	8.44	167.23	-244.64	16.86	837.07	820.22	16.85	49.682		
4,000.00	3,903.43	3,792.49	3,770.46	15.02	8.72	167.40	-258.57	14.58	885.12	867.76	17.36	50.981		
4,100.00	3,997.40	3,870.83	3,847.57	15.67	9.00	167.48	-272.27	13.22	933.70	915.83	17.87	52.242		
4,200.00	4,091.37	3,961.14	3,936.27	16.33	9.31	167.45	-289.28	12.82	982.85	964.44	18.42	53.370		
4,300.00	4,185.34	4,061.53	4,035.04	16.98	9.65	167.42	-307.23	12.76	1,031.08	1,012.10	18.98	54.332		
4,400.00	4,279.31	4,135.49	4,107.83	17.64	9.91	167.38	-320.34	13.22	1,078.99	1,059.50	19.49	55.363		
4,500.00	4,373.28	4,201.07	4,172.04	18.30	10.16	167.30	-333.60	13.73	1,128.75	1,108.76	19.99	56.464		
4,600.00	4,467.25	4,280.74	4,249.95	18.96	10.46	167.24	-350.26	13.55	1,179.46	1,158.93	20.53	57.456		
4,700.00	4,561.23	4,370.07	4,337.39	19.62	10.79	167.25	-368.44	12.00	1,230.30	1,209.23	21.07	58.390		

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



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well BONANZA 1023-51BS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Reference Site:	Bonanza 1023-51	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	BONANZA 1023-51BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-51BS	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 4-28-10 RHS	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft	
Survey Program: 514-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			
4,745.90	4,604.36	4,417.16	4,383.57	19.93	10.96	167.28	-377.66	10.87	1,253.47	1,232.14	21.33	58.766			
4,800.00	4,655.37	4,476.24	4,441.56	20.24	11.17	167.44	-388.84	9.63	1,280.02	1,258.32	21.70	58.993			
4,900.00	4,750.52	4,614.89	4,578.36	20.73	11.63	167.74	-411.15	6.84	1,324.33	1,301.94	22.39	59.159			
5,000.00	4,846.68	4,741.56	4,703.95	21.17	12.01	168.03	-427.45	4.30	1,362.98	1,339.97	23.02	59.216			
5,100.00	4,943.74	4,920.03	4,881.85	21.58	12.45	168.34	-441.14	2.91	1,392.79	1,369.07	23.71	58.734			
5,200.00	5,041.58	5,045.18	5,006.87	21.95	12.71	168.58	-446.65	2.35	1,417.09	1,392.83	24.26	58.401			
5,300.00	5,140.08	5,145.41	5,107.05	22.27	12.91	168.77	-449.72	1.42	1,437.09	1,412.36	24.73	58.118			
5,400.00	5,239.12	5,274.27	5,235.89	22.54	13.15	168.96	-451.53	0.80	1,451.94	1,426.73	25.21	57.602			
5,500.00	5,338.59	5,372.52	5,334.13	22.78	13.32	169.08	-452.33	0.42	1,462.95	1,437.36	25.59	57.168			
5,600.00	5,438.35	5,479.86	5,441.47	22.96	13.51	169.16	-453.07	0.06	1,470.43	1,444.47	25.96	56.650			
5,700.00	5,538.29	5,585.08	5,546.69	23.10	13.69	169.20	-453.12	-0.17	1,473.85	1,447.57	26.28	56.082			
5,745.71	5,584.00	5,628.93	5,590.55	23.15	13.76	-153.25	-453.22	-0.02	1,474.23	1,447.82	26.41	55.822			
5,800.00	5,638.29	5,677.95	5,639.56	23.21	13.85	-153.26	-453.49	0.13	1,474.42	1,447.82	26.60	55.436			
5,900.00	5,738.29	5,784.72	5,746.33	23.32	14.04	-153.25	-453.86	-0.18	1,474.87	1,447.89	26.98	54.663			
6,000.00	5,838.29	5,892.00	5,853.60	23.44	14.21	-153.22	-452.93	-0.71	1,474.29	1,446.93	27.36	53.876			
6,100.00	5,938.29	5,987.00	5,948.59	23.55	14.38	-153.25	-453.10	0.12	1,474.06	1,446.32	27.74	53.140			
6,101.31	5,939.59	5,987.00	5,948.59	23.55	14.38	-153.25	-453.10	0.12	1,474.06	1,446.32	27.74	53.135			
6,200.00	6,038.29	6,088.41	6,049.99	23.67	14.56	-153.30	-453.95	1.22	1,474.32	1,446.19	28.13	52.412			
6,256.04	6,094.32	6,141.74	6,103.32	23.74	14.66	-153.32	-454.04	1.53	1,474.27	1,445.93	28.34	52.027			
6,300.00	6,138.29	6,184.70	6,146.28	23.79	14.73	-153.32	-454.05	1.48	1,474.29	1,445.79	28.50	51.728			
6,400.00	6,238.29	6,294.47	6,256.05	23.91	14.92	-153.29	-453.41	0.94	1,473.99	1,445.10	28.89	51.014			
6,500.00	6,338.29	6,397.16	6,358.74	24.03	15.09	-153.26	-452.41	0.59	1,473.27	1,443.99	29.28	50.318			
6,600.00	6,438.29	6,492.87	6,454.44	24.15	15.26	-153.25	-451.77	0.85	1,472.56	1,442.90	29.66	49.656			
6,664.01	6,502.30	6,549.72	6,511.29	24.23	15.36	-153.25	-451.64	0.89	1,472.40	1,442.51	29.89	49.265			
6,700.00	6,538.29	6,583.04	6,544.61	24.28	15.42	-153.25	-451.65	0.85	1,472.44	1,442.42	30.02	49.047			
6,800.00	6,638.29	6,678.04	6,639.61	24.41	15.59	-153.26	-452.09	0.89	1,472.83	1,442.43	30.40	48.448			
6,900.00	6,738.29	6,778.41	6,739.98	24.53	15.78	-153.29	-452.90	1.30	1,473.37	1,442.57	30.79	47.846			
7,000.00	6,838.29	6,880.03	6,841.58	24.66	15.96	-153.23	-452.64	-0.13	1,473.78	1,442.59	31.18	47.265			
7,100.00	6,938.29	6,979.95	6,941.49	24.79	16.14	-153.19	-452.48	-1.36	1,474.18	1,442.61	31.57	46.700			
7,200.00	7,038.29	7,075.57	7,037.11	24.92	16.32	-153.15	-452.46	-2.34	1,474.63	1,442.68	31.95	46.157			
7,300.00	7,138.29	7,185.77	7,147.30	25.06	16.52	-153.11	-452.57	-3.79	1,475.34	1,442.99	32.36	45.598			
7,400.00	7,238.29	7,305.87	7,267.39	25.19	16.73	-153.08	-451.43	-3.94	1,474.54	1,441.75	32.79	44.974			
7,500.00	7,338.29	7,398.37	7,359.88	25.33	16.90	-153.08	-450.42	-3.54	1,473.37	1,440.20	33.17	44.424			
7,600.00	7,438.29	7,494.87	7,456.38	25.46	17.07	-153.10	-450.06	-2.73	1,472.66	1,439.10	33.56	43.883			
7,700.00	7,538.29	7,601.77	7,563.28	25.60	17.27	-153.14	-449.75	-1.40	1,471.84	1,437.86	33.98	43.318			
7,800.00	7,638.29	7,701.88	7,663.37	25.74	17.46	-153.19	-449.38	0.33	1,470.72	1,436.34	34.38	42.772			
7,900.00	7,738.29	7,790.00	7,751.48	25.88	17.62	-153.23	-449.16	1.43	1,469.96	1,435.19	34.76	42.285			
7,999.15	7,837.43	7,885.00	7,846.48	26.02	17.80	-153.26	-449.33	2.32	1,469.70	1,434.55	35.15	41.809			
8,000.00	7,838.29	7,885.00	7,846.48	26.02	17.80	-153.26	-449.33	2.32	1,469.70	1,434.55	35.15	41.807			
8,100.00	7,938.29	7,974.28	7,935.75	26.17	17.97	-153.31	-450.19	3.30	1,470.07	1,434.53	35.54	41.362			
8,200.00	8,038.29	8,077.65	8,039.10	26.31	18.18	-153.39	-451.74	4.75	1,470.79	1,434.82	35.96	40.898			
8,300.00	8,138.29	8,182.34	8,143.77	26.46	18.39	-153.46	-452.89	6.09	1,471.20	1,434.82	36.38	40.438			
8,400.00	8,238.29	8,290.74	8,252.15	26.60	18.59	-153.52	-453.62	7.67	1,471.15	1,434.34	36.81	39.967			
8,472.26	8,310.55	8,359.00	8,320.41	26.71	18.72	-153.56	-453.79	8.77	1,470.80	1,433.70	37.10	39.648			
8,500.00	8,338.29	8,359.00	8,320.41	26.75	18.72	-153.56	-453.79	8.77	1,471.05	1,433.89	37.15	39.595			
8,542.71	8,381.00	8,359.00	8,320.41	26.81	18.72	-153.56	-453.79	8.77	1,472.45	1,435.21	37.24	39.541			



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well BONANZA 1023-51BS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Reference Site:	Bonanza 1023-51	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	BONANZA 1023-51BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-51BS	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 4-28-10 RHS	Offset TVD Reference:	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	116.92	-9.11	17.93	24.51					
100.00	100.00	86.07	86.07	0.10	0.11	116.76	-8.99	17.82	19.96	19.75	0.22	92.184		
200.00	200.00	186.06	186.06	0.33	0.36	116.12	-8.63	17.60	19.61	18.92	0.68	28.733		
260.55	260.55	246.55	246.55	0.46	0.48	115.54	-8.41	17.60	19.50	18.56	0.94	20.688		
300.00	300.00	285.96	285.95	0.55	0.55	115.17	-8.31	17.69	19.55	18.44	1.11	17.674		
400.00	399.98	386.02	386.02	0.78	0.76	81.74	-8.06	17.91	19.32	17.78	1.54	12.576		
450.00	449.93	436.00	435.99	0.89	0.89	87.79	-7.85	17.87	18.97	17.20	1.77	10.709		
490.56	490.44	476.51	476.50	0.98	0.99	93.87	-7.68	17.83	18.86	16.89	1.97	9.575	CC	
500.00	499.86	485.93	485.93	1.01	1.02	95.30	-7.64	17.82	18.87	16.85	2.02	9.358	ES	
600.00	599.73	585.74	585.74	1.23	1.28	110.08	-7.37	17.76	19.78	17.27	2.51	7.878		
700.00	699.59	685.60	685.60	1.47	1.51	122.48	-7.30	17.90	22.11	19.14	2.97	7.443		
800.00	799.45	785.50	785.49	1.71	1.71	131.59	-7.10	18.28	25.18	21.78	3.41	7.390	SF	
900.00	899.31	885.33	885.32	1.94	1.95	138.88	-6.95	18.52	28.79	24.92	3.87	7.436		
1,000.00	999.18	985.28	985.28	2.18	2.20	144.73	-6.82	18.62	32.78	28.43	4.35	7.532		
1,100.00	1,099.04	1,085.12	1,085.11	2.42	2.42	148.70	-6.58	19.09	36.88	32.09	4.80	7.687		
1,200.00	1,198.90	1,184.98	1,184.97	2.66	2.61	151.29	-6.54	19.96	41.26	36.05	5.21	7.917		
1,300.00	1,298.77	1,284.87	1,284.86	2.90	2.80	153.36	-6.52	20.83	45.73	40.10	5.63	8.120		
1,400.00	1,398.63	1,385.02	1,385.00	3.15	3.03	155.32	-6.22	21.54	50.01	43.93	6.09	8.217		
1,500.00	1,498.49	1,484.78	1,484.76	3.39	3.28	157.43	-5.60	21.87	54.12	47.56	6.57	8.240		
1,600.00	1,598.36	1,584.63	1,584.61	3.63	3.54	159.35	-5.19	22.03	58.55	51.50	7.05	8.300		
1,700.00	1,698.22	1,684.96	1,684.93	3.87	3.81	160.87	-4.54	22.42	62.75	55.20	7.54	8.317		
1,800.00	1,798.08	1,784.41	1,784.38	4.11	4.06	162.06	-3.79	23.01	66.80	58.78	8.02	8.328		
1,900.00	1,897.94	1,884.23	1,884.20	4.35	4.31	163.12	-3.58	23.40	71.47	62.97	8.50	8.412		
2,000.00	1,997.81	1,984.16	1,984.13	4.59	4.56	164.12	-3.28	23.71	76.10	67.12	8.98	8.474		
2,092.32	2,090.00	2,076.37	2,076.33	4.82	4.81	164.99	-2.96	23.95	80.37	70.93	9.43	8.521		
2,100.00	2,097.67	2,084.04	2,084.00	4.84	4.83	165.06	-2.93	23.97	80.74	71.27	9.47	8.527		
2,200.00	2,197.32	2,183.41	2,183.38	5.10	5.08	166.32	-2.73	24.16	88.46	78.54	9.92	8.914		
2,300.00	2,296.40	2,282.20	2,282.17	5.39	5.24	167.96	-2.85	24.22	101.67	91.40	10.27	9.896		
2,400.00	2,394.64	2,380.36	2,380.33	5.73	5.33	169.55	-3.23	24.41	120.20	109.68	10.52	11.426		
2,500.00	2,491.77	2,477.39	2,477.35	6.11	5.40	171.01	-3.62	24.58	143.88	133.14	10.73	13.405		
2,600.00	2,587.52	2,573.10	2,573.06	6.56	5.49	172.23	-4.08	24.83	172.66	161.71	10.95	15.774		
2,658.86	2,643.14	2,628.69	2,628.65	6.85	5.56	172.79	-4.43	25.14	191.93	180.85	11.07	17.333		
2,700.00	2,681.80	2,667.30	2,667.26	7.07	5.61	173.19	-4.68	25.36	206.00	194.77	11.23	18.340		
2,800.00	2,775.77	2,759.87	2,759.83	7.61	5.71	173.96	-5.41	25.77	240.42	228.82	11.60	20.718		
2,900.00	2,869.74	2,853.04	2,852.99	8.17	5.81	174.55	-6.60	25.84	275.45	263.48	11.97	23.008		
3,000.00	2,963.71	2,946.24	2,946.18	8.75	5.91	174.89	-8.07	26.48	310.42	298.06	12.36	25.124		
3,100.00	3,057.68	3,039.02	3,038.93	9.35	6.03	175.13	-9.91	27.01	345.77	333.02	12.75	27.113		
3,200.00	3,151.65	3,133.51	3,133.41	9.95	6.15	175.37	-11.57	27.40	381.03	367.88	13.16	28.964		
3,300.00	3,245.63	3,227.81	3,227.70	10.57	6.27	175.62	-12.88	27.68	416.07	402.50	13.57	30.671		
3,400.00	3,339.60	3,321.31	3,321.19	11.19	6.40	175.81	-14.20	28.05	451.08	437.09	13.99	32.239		
3,500.00	3,433.57	3,414.89	3,414.75	11.82	6.55	175.94	-15.67	28.58	486.13	471.71	14.43	33.699		
3,600.00	3,527.54	3,509.04	3,508.90	12.45	6.71	176.05	-17.18	29.23	521.14	506.26	14.88	35.015		
3,700.00	3,621.51	3,603.26	3,603.10	13.09	6.87	176.14	-18.64	29.98	556.06	540.71	15.34	36.243		
3,800.00	3,715.48	3,697.18	3,697.00	13.73	7.05	176.22	-20.00	30.70	590.91	575.10	15.81	37.367		
3,900.00	3,809.45	3,791.12	3,790.93	14.37	7.22	176.31	-21.21	31.26	625.74	609.45	16.29	38.421		
4,000.00	3,903.43	3,883.99	3,883.80	15.02	7.39	176.41	-22.35	31.65	660.61	643.85	16.75	39.434		
4,100.00	3,997.40	3,976.65	3,976.45	15.67	7.55	176.51	-23.53	31.86	695.61	678.40	17.22	40.401		
4,200.00	4,091.37	4,071.59	4,071.38	16.33	7.70	176.62	-24.65	31.90	730.65	712.98	17.67	41.347		
4,300.00	4,185.34	4,167.48	4,167.27	16.98	7.85	176.75	-25.38	31.81	765.43	747.31	18.12	42.241		
4,400.00	4,279.31	4,262.20	4,261.99	17.64	7.99	176.89	-25.77	31.64	799.99	781.42	18.57	43.073		
4,500.00	4,373.28	4,356.26	4,356.05	18.30	8.14	177.00	-26.16	31.53	834.53	815.50	19.03	43.860		
4,600.00	4,467.25	4,450.10	4,449.89	18.96	8.29	177.11	-26.55	31.48	869.04	849.56	19.48	44.609		

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



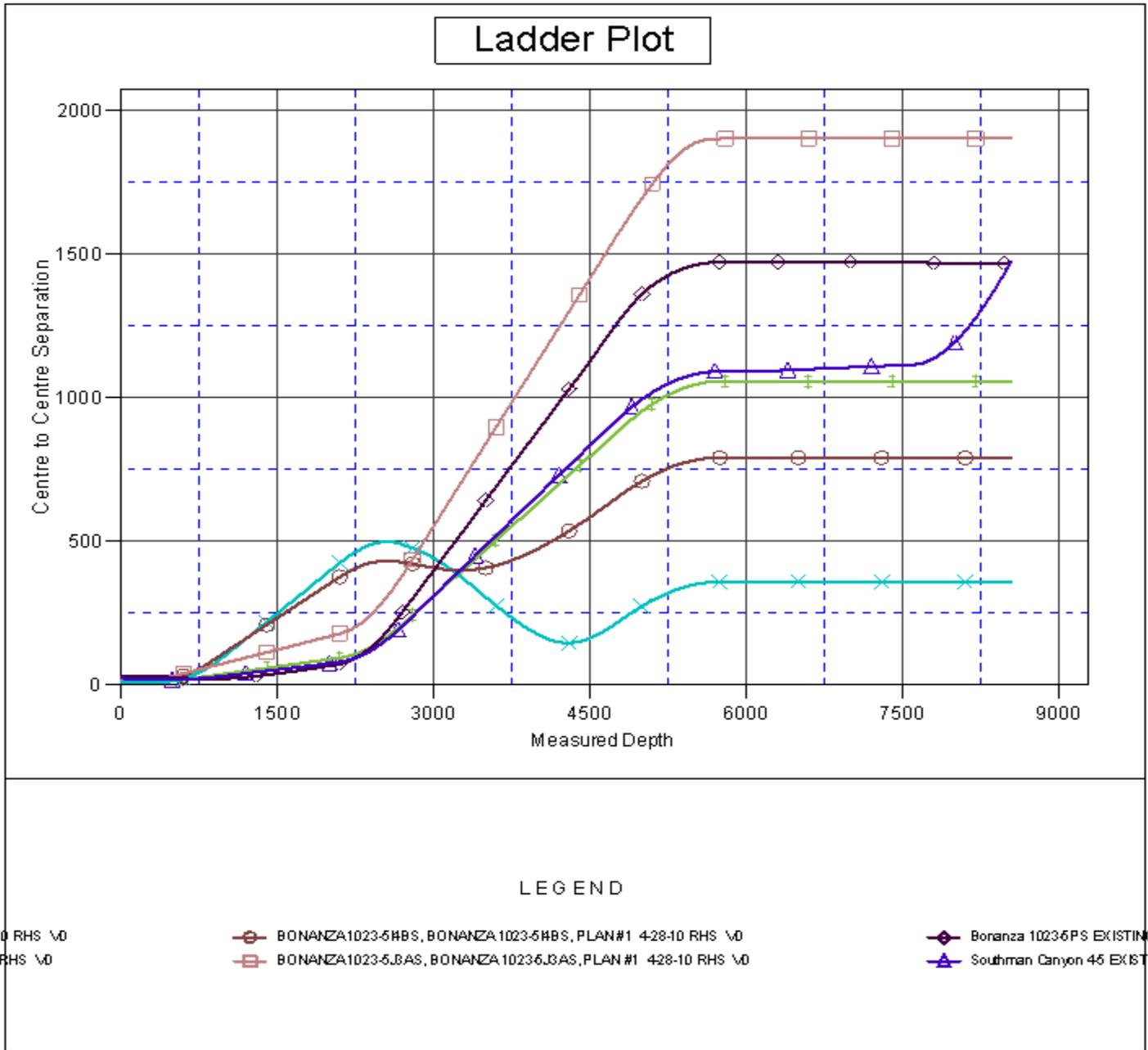
Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well BONANZA 1023-51BS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Reference Site:	Bonanza 1023-51	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	BONANZA 1023-51BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-51BS	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 4-28-10 RHS	Offset TVD Reference:	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			
4,700.00	4,561.23	4,543.72	4,543.51	19.62	8.44	177.21	-26.90	31.32	903.57	883.64	19.94	45.324			
4,745.90	4,604.36	4,586.68	4,586.47	19.93	8.50	177.26	-27.04	31.20	919.43	899.29	20.14	45.642			
4,800.00	4,655.37	4,638.41	4,638.20	20.24	8.57	177.34	-27.17	31.03	937.64	917.20	20.44	45.879			
4,900.00	4,750.52	4,735.61	4,735.40	20.73	8.69	177.47	-27.21	30.72	968.58	947.66	20.92	46.291			
5,000.00	4,846.68	4,832.77	4,832.55	21.17	8.81	177.58	-27.02	30.40	996.00	974.61	21.39	46.559			
5,100.00	4,943.74	4,928.50	4,928.28	21.58	8.97	177.67	-27.02	30.27	1,020.10	998.25	21.85	46.684			
5,200.00	5,041.58	5,025.23	5,025.02	21.95	9.13	177.72	-27.33	30.36	1,040.93	1,018.64	22.29	46.695			
5,300.00	5,140.08	5,123.41	5,123.19	22.27	9.34	177.75	-27.73	30.49	1,058.39	1,035.65	22.74	46.544			
5,400.00	5,239.12	5,222.42	5,222.21	22.54	9.55	177.77	-28.15	30.60	1,072.43	1,049.27	23.16	46.314			
5,500.00	5,338.59	5,322.94	5,322.72	22.78	9.78	177.78	-28.54	30.76	1,082.94	1,059.40	23.55	45.992			
5,600.00	5,438.35	5,423.34	5,423.12	22.96	10.00	177.78	-28.88	31.03	1,089.89	1,065.99	23.90	45.600			
5,700.00	5,538.29	5,522.48	5,522.26	23.10	10.23	177.77	-29.24	31.27	1,093.38	1,069.16	24.22	45.142			
5,745.71	5,584.00	5,567.82	5,567.60	23.15	10.33	-144.69	-29.41	31.35	1,093.83	1,069.48	24.36	44.912			
5,800.00	5,638.29	5,621.79	5,621.57	23.21	10.46	-144.70	-29.63	31.44	1,093.96	1,069.39	24.57	44.525			
5,900.00	5,738.29	5,721.52	5,721.30	23.32	10.68	-144.72	-30.04	31.57	1,094.22	1,069.25	24.98	43.809			
6,000.00	5,838.29	5,820.94	5,820.71	23.44	10.90	-144.74	-30.47	31.68	1,094.51	1,069.13	25.39	43.114			
6,100.00	5,938.29	5,919.17	5,918.95	23.55	11.13	-144.77	-31.15	31.95	1,094.92	1,069.12	25.80	42.442			
6,200.00	6,038.29	6,016.87	6,016.64	23.67	11.35	-144.82	-32.17	32.43	1,095.49	1,069.28	26.21	41.798			
6,300.00	6,138.29	6,112.10	6,111.85	23.79	11.57	-144.87	-33.46	32.75	1,096.41	1,069.80	26.61	41.201			
6,400.00	6,238.29	6,207.73	6,207.48	23.91	11.78	-144.92	-35.01	32.70	1,097.76	1,070.74	27.01	40.636			
6,500.00	6,338.29	6,308.32	6,308.05	24.03	12.00	-144.96	-36.76	32.56	1,099.26	1,071.84	27.42	40.084			
6,600.00	6,438.29	6,408.66	6,408.37	24.15	12.22	-145.01	-38.51	32.52	1,100.71	1,072.88	27.84	39.544			
6,700.00	6,538.29	6,506.47	6,506.16	24.28	12.44	-145.07	-40.34	32.50	1,102.26	1,074.01	28.25	39.022			
6,800.00	6,638.29	6,604.45	6,604.13	24.41	12.66	-145.13	-42.38	32.44	1,104.00	1,075.34	28.66	38.521			
6,900.00	6,738.29	6,706.58	6,706.23	24.53	12.89	-145.19	-44.48	32.37	1,105.73	1,076.64	29.09	38.016			
7,000.00	6,838.29	6,808.53	6,808.17	24.66	13.12	-145.24	-46.35	32.32	1,107.27	1,077.75	29.51	37.519			
7,100.00	6,938.29	6,908.53	6,908.15	24.79	13.36	-145.30	-48.21	32.44	1,108.72	1,078.78	29.94	37.028			
7,200.00	7,038.29	7,008.48	7,008.08	24.92	13.59	-145.38	-50.25	32.84	1,110.18	1,079.80	30.38	36.549			
7,300.00	7,138.29	7,107.97	7,107.55	25.06	13.83	-145.46	-52.37	33.31	1,111.66	1,080.85	30.81	36.077			
7,400.00	7,238.29	7,207.86	7,207.41	25.19	14.08	-145.54	-54.50	33.73	1,113.19	1,081.93	31.25	35.619			
7,500.00	7,338.29	7,312.59	7,312.12	25.33	14.33	-145.63	-56.63	34.42	1,114.49	1,082.78	31.71	35.148			
7,600.00	7,438.29	7,400.00	7,399.51	25.46	14.55	-145.72	-58.25	35.37	1,115.50	1,083.38	32.12	34.727			
7,700.00	7,538.29	7,400.00	7,399.51	25.60	14.55	-145.72	-58.25	35.37	1,122.18	1,089.86	32.32	34.720			
7,800.00	7,638.29	7,400.00	7,399.51	25.74	14.55	-145.72	-58.25	35.37	1,137.65	1,105.13	32.52	34.983			
7,900.00	7,738.29	7,400.00	7,399.51	25.88	14.55	-145.72	-58.25	35.37	1,161.55	1,128.83	32.72	35.500			
8,000.00	7,838.29	7,400.00	7,399.51	26.02	14.55	-145.72	-58.25	35.37	1,193.38	1,160.46	32.92	36.251			
8,100.00	7,938.29	7,400.00	7,399.51	26.17	14.55	-145.72	-58.25	35.37	1,232.53	1,199.40	33.12	37.212			
8,200.00	8,038.29	7,400.00	7,399.51	26.31	14.55	-145.72	-58.25	35.37	1,278.31	1,244.99	33.32	38.361			
8,300.00	8,138.29	7,400.00	7,399.51	26.46	14.55	-145.72	-58.25	35.37	1,330.05	1,296.52	33.52	39.673			
8,400.00	8,238.29	7,400.00	7,399.51	26.60	14.55	-145.72	-58.25	35.37	1,387.08	1,353.35	33.73	41.126			
8,500.00	8,338.29	7,400.00	7,399.51	26.75	14.55	-145.72	-58.25	35.37	1,448.77	1,414.84	33.93	42.698			
8,542.71	8,381.00	7,400.00	7,399.51	26.81	14.55	-145.72	-58.25	35.37	1,476.40	1,442.39	34.02	43.402			



Company:	ANADARKO PETROLEUM CORP.	Local Co-ordinate Reference:	Well BONANZA 1023-511BS
Project:	UINTAH COUNTY, UTAH (nad 27)	TVD Reference:	WELL @ 5311.00ft (Original Well Elev)
Reference Site:	Bonanza 1023-51	MD Reference:	WELL @ 5311.00ft (Original Well Elev)
Site Error:	0.00ft	North Reference:	True
Reference Well:	BONANZA 1023-511BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-511BS	Database:	EDM 2003.21 Single User Db
Reference Design:	PLAN #1 4-28-10 RHS	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 5311.00ft (Original Well Elev) Coordinates are relative to: BONANZA 1023-511BS
 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°

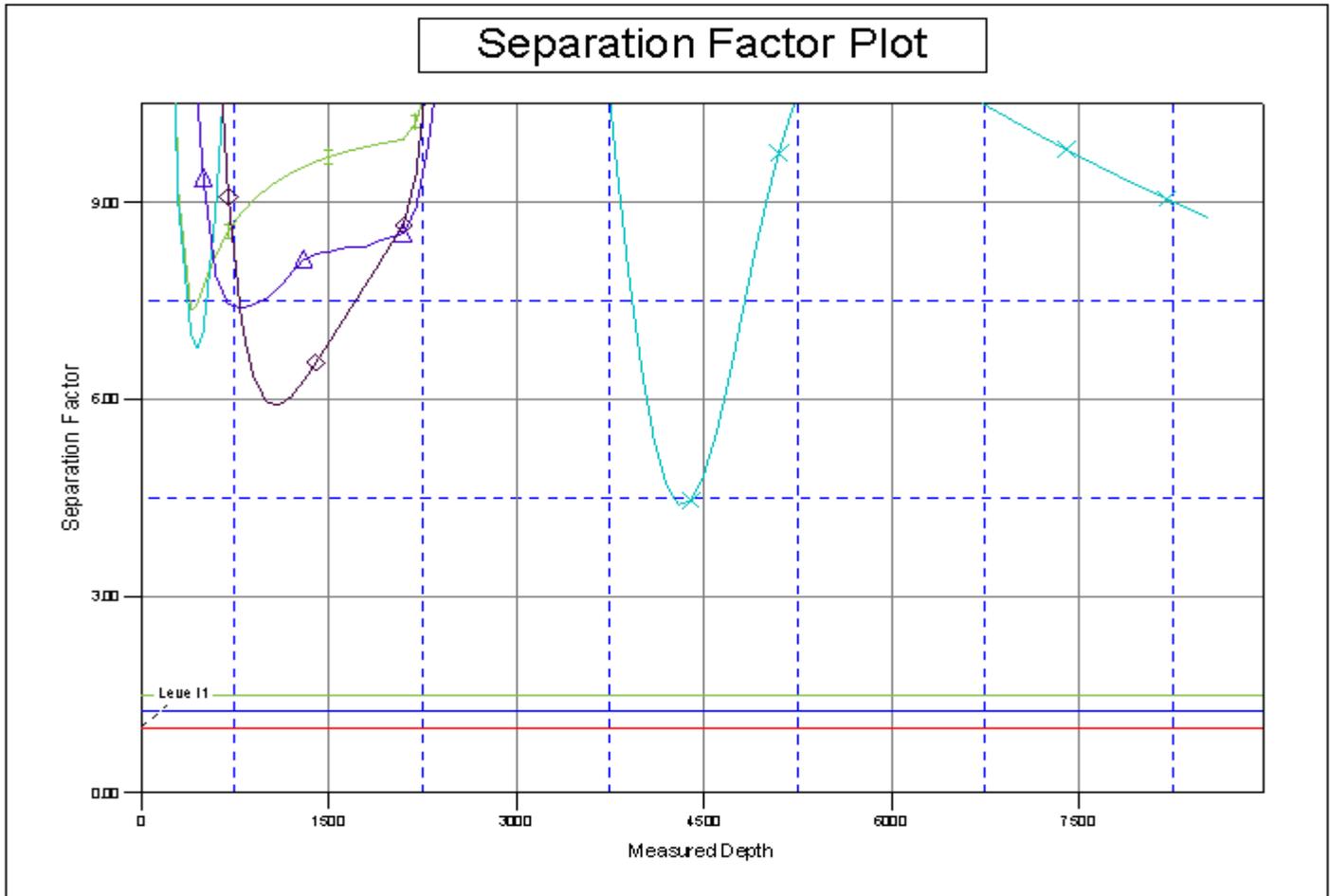


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Reference Well:	BONANZA 1023-511BS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00ft	Output errors are at	2.00 sigma
Reference Wellbore	BONANZA 1023-511BS	Database:	EDM 2003.21 Single User Db
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 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

3-10 RHS \0
0 RHS \0

—○— BONANZA1023-511BS, BONANZA1023-511BS, PLAN#1 4-28-10 RHS \0
—□— BONANZA1023-511BS, BONANZA1023-511BS, PLAN#1 4-28-10 RHS \0

—◇— Bonanza 1023-6PS EXISTING,
—△— Southman Canyon 45 EXISTING

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Bonanza 1023-5I Pad

<u>API #</u>	<u>BONANZA 1023-5G4DS</u>		
	Surface: 1625 FSL / 1048 FEL	NESE	Lot
	BHL: 2643 FNL / 1424 FEL	SWNE	Lot
<u>API #</u>	<u>BONANZA 1023-5I1BS</u>		
	Surface: 1629 FSL / 1039 FEL	NESE	Lot
	BHL: 2491 FSL / 376 FEL	NESE	Lot
<u>API #</u>	<u>BONANZA 1023-5I1CS</u>		
	Surface: 1634 FSL / 1030 FEL	NESE	Lot
	BHL: 2141 FSL / 460 FEL	NESE	Lot
<u>API #</u>	<u>BONANZA 1023-5I4BS</u>		
	Surface: 1639 FSL / 1021 FEL	NESE	Lot
	BHL: 1705 FSL / 475 FEL	NESE	Lot
<u>API #</u>	<u>BONANZA 1023-5J3AS</u>		
	Surface: 1620 FSL / 1056 FEL	NESE	Lot
	BHL: 1690 FSL / 2100 FEL	NWSE	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 18, 2010. Present were:

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

A. Existing Roads:

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

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

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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

±225' (0.1 miles) – Section 5 T10S R23E (NE/4 SE/4) – On-lease UTU33433, from the proposed road re-route at the 1023-5I intersection to tie-in to the the county road intersection.

B. New or Reconstructed Access Roads:

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

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

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

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

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

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

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating

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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.

±320' (0.06 miles) – Section 5 T10S R23E (SE/4 SE/4) – On-lease UTU33433, from existing road traveling Northwest to re-route around the Bonanza 1023-5I pad to tie-in to the existing county road intersection.

** Please refer to Topo B

C. Location of Existing Wells:

A) Refer to Topo Map C.

D. Location of Existing and/or Proposed Facilities:

This pad will expand the existing pad for the Bonanza 1023-5PS, which is a producing gas well, and the Southman Canyon 4-5, which is a plugged and abandoned well according to the 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 ±820' and the individual segments are broken up as follows:

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

±680' (0.1 miles) – Section 5 T10S R23E (NE/4 SE/4) – On-lease UTU33433, BLM surface, New 6" buried gas gathering pipeline from the first meter house to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.

±30' (0.01 miles) – Section 5 T10S R23E (NE/4 SE/4) – On-lease UTU33433, BLM surface, New 6" buried gas gathering pipeline from the edge of the pad to tie-in to the proposed 8" gas gathering pipeline at the 1023-5P intersection. Please refer to Topo D and Exhibit A, Line 10

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±110' (0.02 miles) – Section 5 T10S R23E (NE/4 SE/4) – On-lease UTU33433, BLM surface, New 8" buried gas gathering pipeline from the 1023-5P intersection to the existing 16" buried pipeline. Please refer to Exhibit A, Line 9. This pipeline will be used concurrently with the Bonanza 1023-5P Pad.

LIQUID GATHERING

The total liquid gathering pipeline distance from the separator to the tie in point is ±1,710' and the individual segments are broken up as follows:

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

- ±680' (0.1 miles) – Section 5 T10S R23E (NE/4 SE/4) – On-lease UTU33433, BLM surface, New 6" buried liquid gathering pipeline from the first meter house to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
- ±30' (0.01 miles) – Section 5 T10S R23E (NE/4 SE/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 gathering pipeline at the 1023-5P intersection. Please refer to Topo D and Exhibit B, Line 11.
- ±1,000' (0.2 miles) – Section 5 T10S R23E (NE/4 SE/4) – Lease UTU33433, BLM surface, New 6" buried liquid gathering pipeline from the proposed 6" buried liquid at the 1023-5I intersection to the tie-in at the compressor station. Please refer to Exhibit B, Line 10. This pipeline will be used concurrently with the Bonanza 1023-5P Pad.

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.

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

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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).

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

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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

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.

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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.

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

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Bonanza 1023-5I4BS/ 1023-5J3AS
Kerr-McGee Oil Gas Onshore, L.P.

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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.

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:

Bonanza 1023-5G4DS/ 1023-5I1BS/ 1023-5I1CS
Bonanza 1023-5I4BS/ 1023-5J3AS
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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.

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

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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.

Measures Common to Interim and Final Reclamation

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

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

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

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

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage. Soil amendments such as "Sustain" (an organic fertilizer that will be applied at the rate 1,800 – 2,100 lbs/acre with seed) may also be dry broadcast or applied with hydro-seeding equipment.

Weed Control

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

Monitoring

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

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

K. Surface/Mineral Ownership:

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

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L. Other Information:

Onsite Specifics:

- Facilities: Will be painted Shadow Grey
- Top Soil: Need to save 6" topsoil

Cultural and Paleontological Resources

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

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 UT10-14314-13.

Biological field survey was completed on April 21, 2010 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-205.

Proposed Action Annual Emissions Tables:

Pollutant	Development	Production	Total
NO _x	3.8	0.12	3.92
CO	2.2	0.11	2.31
VOC	0.1	4.9	5
SO ₂	0.005	0.0043	0.0093
PM ₁₀	1.7	0.11	1.81
PM _{2.5}	0.4	0.025	0.425
Benzene	2.2E-03	0.044	0.046
Toluene	1.6E-03	0.103	0.105
Ethylbenzene	3.4E-04	0.005	0.005
Xylene	1.1E-03	0.076	0.077
n-Hexane	1.7E-04	0.145	0.145
Formaldehyde	1.3E-02	8.64E-05	1.31E-02

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

Species	Proposed Action Production Emissions (ton/yr)	2012 Uintah Basin Emission Inventory ^a (ton/yr)	Percentage of Proposed Action to WRAP Phase III
NO _x	19.6	16,547	0.12%
VOC	25	127,495	0.02%

^a http://www.wrapair.org/forums/ogwg/PhaseIII_Inventory.html

Uintah Basin Data

10/12/2011

RECEIVED: October 17, 2011

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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 12, 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 1023-5I1BS
T10S- R23E
Section 5: NESE/NESE
1629' FSL, 1039' FEL (surface)
2491' FSL, 376' 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 1023-5I1BS 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

WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 10/17/2011**API NO. ASSIGNED:** 43047520590000**WELL NAME:** BONANZA 1023-5I1BS**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)**PHONE NUMBER:** 720 929-6086**CONTACT:** Gina Becker**PROPOSED LOCATION:** NESE 05 100S 230E**Permit Tech Review:** **SURFACE:** 1629 FSL 1039 FEL**Engineering Review:** **BOTTOM:** 2491 FSL 0376 FEL**Geology Review:** **COUNTY:** UINTAH**LATITUDE:** 39.97517**LONGITUDE:** -109.34507**UTM SURF EASTINGS:** 641319.00**NORTHINGS:** 4426313.00**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 1023-511BS
API Well Number: 43047520590000
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



UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

JUL 22 2011

APPLICATION FOR PERMIT TO DRILL OR REENTER **BLM**

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	3b. Phone No. (include area code) Ph: 720-929-6086 Fx: 720-929-7086	8. Lease Name and Well No. BONANZA 1023-511BS
4. Location of Well (Report location clearly and in accordance with any State requirements.)* At surface NESE 1629FSL 1039FEL 39.975194 N Lat, 109.345033 W Lon At proposed prod. zone NESE 2491FSL 376FEL 39.977564 N Lat, 109.342665 W Lon		9. API Well No. 43-047-52059
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 48 MILES SOUTHEAST OF VERNAL, UTAH		10. Field and Pool, or Exploratory BONANZA
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 376	16. No. of Acres in Lease 1923.00	11. Sec., T., R., M., or Blk. and Survey or Area Sec 5 T10S R23E Mer SLB
17. Spacing Unit dedicated to this well	18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. 2491	12. County or Parish UINTAH
19. Proposed Depth 8543 MD 8381 TVD	20. BLM/BIA Bond No. on file WYB000291	13. State UT
21. Elevations (Show whether DF, KB, RT, GL, etc.) 5299 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 07/05/2011
Title REGULATORY ANALYST II		
Approved by (Signature) 	Name (Printed/Typed) Jerry Kenczka	Date MAR 02 2012
Title Assistant Field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

CONDITIONS OF APPROVAL 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 #112243 verified by the BLM Well Information System
For KERR-MCGEE OIL & GAS ONSHORE, sent to the Vernal

NOTICE OF APPROVAL
RECEIVED

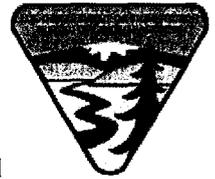
MAR 14 2012

DIV. OF OIL, GAS & MINING

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



UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VERNAL FIELD OFFICE
170 South 500 East VERNAL, UT 84078 (435) 781-4401



CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company:	Kerr McGee Oil & Gas Onshore, LP	Location:	NESE, Sec. 5, T10S, R23E (S) NESE, Sec. 5, T10S, R23E (B)
Well No:	Bonanza 1023-511BS	Lease No:	UTU-33433
API No:	43-047-52059	Agreement:	N/A

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: ut_vn_opreport@blm.gov .
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 gms of NO_x per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO_x per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.

SITE SPECIFIC COAs

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horse power must not emit more than 2 grams of NO_x 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 NO_x 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: Re-initiation 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 DRILLING PLAN COA's:

- 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 UT_VN_Wellogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at www.ONRR.gov.
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
 - Operator name, address, and telephone number.
 - Well name and number.
 - Well location (¼¼, Sec., Twn, Rng, and P.M.).
 - Date well was placed in a producing status (date of first production for which royalty will be paid).
 - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
 - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
 - Unit agreement and/or participating area name and number, if applicable.
 - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

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

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 1023-5I1BS
 Qtr/Qtr NESE Section 5 Township 10S Range 23E
 Lease Serial Number UTU33433
 API Number 4304752059

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

Date/Time 05/21/2012 07:00 HRS AM PM

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

- Surface Casing
 Intermediate Casing
 Production Casing
 Liner
 Other

Date/Time 06/05/2012 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

MAY 18 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

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9 5. LEASE DESIGNATION AND SERIAL NUMBER: UTU33433
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: 7. UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: BONANZA 1023-51BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047520590000
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	PHONE NUMBER: 720 929-6514
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1629 FSL 1039 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 05 Township: 10.0S Range: 23.0E Meridian: S	9. FIELD and POOL or WILDCAT: NATURAL BUTTES COUNTY: UINTAH STATE: UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 5/16/2012 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <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: May 24, 2012

By: *Derek Quist*

NAME (PLEASE PRINT) Cara Mahler	PHONE NUMBER 720 929-6029	TITLE Regulatory Analyst I
SIGNATURE N/A	DATE 5/16/2012	

Kerr-McGee Oil & Gas Onshore. L.P.**BONANZA 1023-511BS**

Surface: 1629 FSL / 1039 FEL NESE
 BHL: 2491 FSL / 376 FEL NESE

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	1,234'	
Birds Nest	1,483'	Water
Mahogany	1,840'	Water
Wasatch	4,198'	Gas
Mesaverde	6,216'	Gas
Sego	8,381'	Gas
TVD	8,381'	
TD	8,543'	

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 8381' TVD, approximately equals
 5,364 psi 0.64 psi/ft = actual bottomhole gradient

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

Maximum anticipated surface pressure equals approximately 3,508 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
							COLLAPSE	TENSION	
CONDUCTOR	14"	0-40'				3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,290	28.00	IJ-55	LTC	2.36	1.75	6.20	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	1.17		3.33
						7,780	6,350	223,000	267,035
	4-1/2"	5,000 to 8,543'	11.60	I-80	LTC	1.11	1.17	6.71	

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	1,790'	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	3,693'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	290	35%	12.00	3.38
	TAIL	4,850'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,150	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

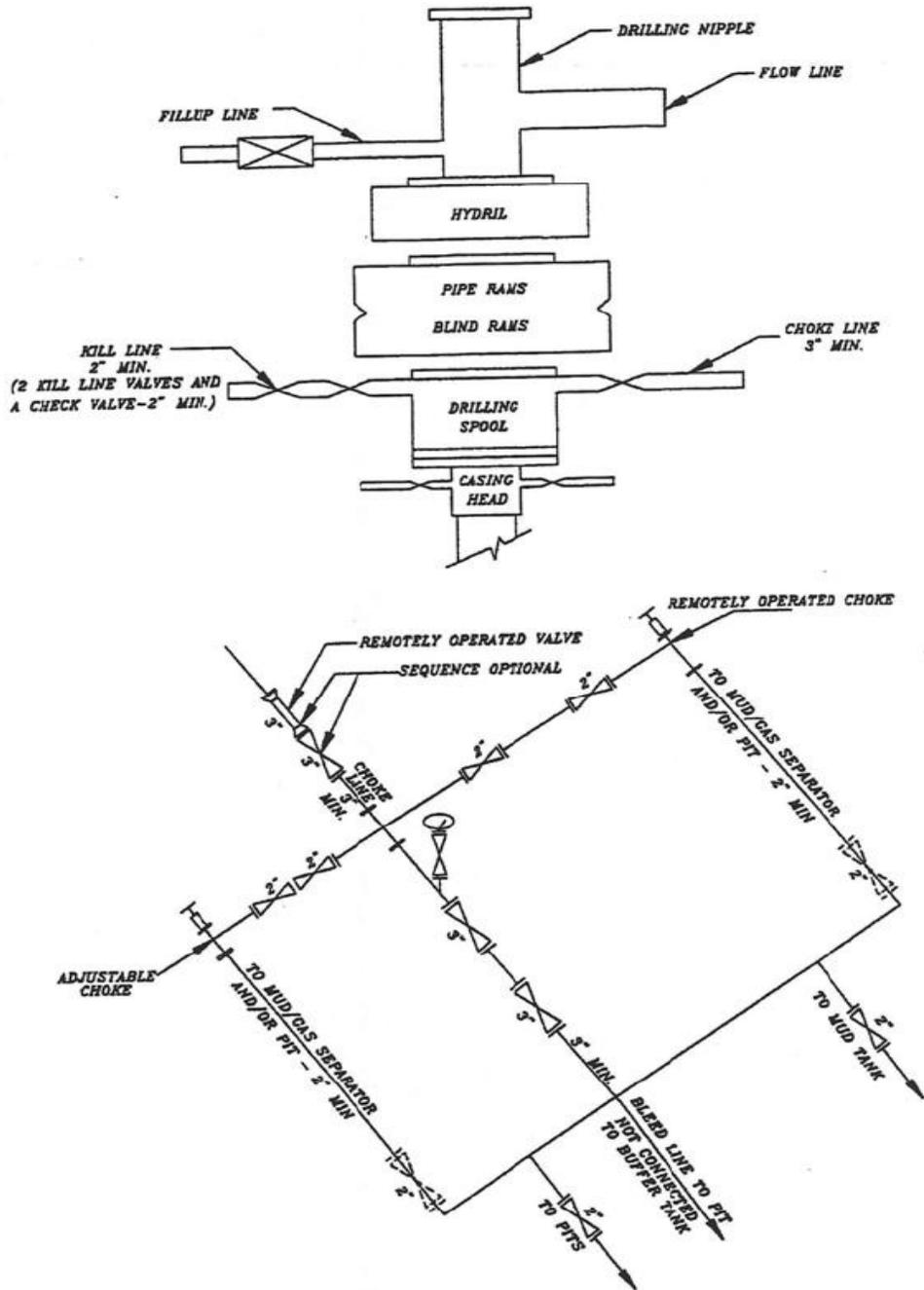
DATE: _____

DRILLING SUPERINTENDENT:

Kenny Gathings / Lovel Young

DATE: _____

EXHIBIT A BONANZA 1023-511BS



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 9 5. LEASE DESIGNATION AND SERIAL NUMBER: UTU33433
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: 7. UNIT or CA AGREEMENT NAME:
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: BONANZA 1023-5I1BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047520590000
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: MOUNTAIN BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1629 FSL 1039 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE 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 checked="" type="checkbox"/> SPUD REPORT Date of Spud: 5/21/2012	<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 TRIPPLE A BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'.
 RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD
 WELL ON 05/21/2012 AT 1300 HRS.

Accepted by the
Utah Division of
Oil, Gas and Mining
FOR RECORD ONLY
 May 24, 2012

NAME (PLEASE PRINT) Sheila Wopsock	PHONE NUMBER 435 781-7024	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 5/24/2012	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9
5. LEASE DESIGNATION AND SERIAL NUMBER: UTU33433	
SUNDRY NOTICES AND REPORTS ON WELLS	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	
6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	
7. UNIT or CA AGREEMENT NAME: PONDEROSA	
1. TYPE OF WELL Gas Well	
8. WELL NAME and NUMBER: BONANZA 1023-5I1BS	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	
9. API NUMBER: 43047520590000	
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: MATHEW BUTTES	
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1629 FSL 1039 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE 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: 5/31/2012	<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 5/29/2012. DRILLED SURFACE HOLE TO 2460'. 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 01, 2012

NAME (PLEASE PRINT) Cara Mahler	PHONE NUMBER 720 929-6029	TITLE Regulatory Analyst I
SIGNATURE N/A	DATE 6/1/2012	

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: 1368 SOUTH 1200 EAST
city VERNAL
state UT zip 84078 Phone Number: (435) 781-7024

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752061	BONANZA 1023-514BS		NESE	5	10S	23E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
B	99999	18519	5/21/2012		5/30/2012		
Comments: MIRU TRIPPLE A BUCKET RIG. <i>Ponderosa unit</i> SPUD WELL ON 05/21/2012 AT 0800 HRS. <i>wsmvd</i> <i>BHL: ne se</i>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752060	BONANZA 1023-511CS		NESE	5	10S	23E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
B	99999	18519	5/21/2012		5/30/2012		
Comments: MIRU TRIPPLE A BUCKET RIG. <i>Ponderosa unit</i> SPUD WELL ON 05/21/2012 AT 1100 HRS. <i>wsmvd</i> <i>BHL: ne se</i>							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304752059	BONANZA 1023-511BS		NESE	5	10S	23E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
B	99999	18519	5/21/2012		5/30/2012		
Comments: MIRU TRIPPLE A BUCKET RIG. <i>Ponderosa unit</i> SPUD WELL ON 05/21/2012 AT 1300 HRS. <i>wsmvd</i> <i>BHL: ne se</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)

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

5/24/2012

Title

RECEIVED

Date

(5/2000)

MAY 28 2012

Div. of Oil, Gas & Mining

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU33433
SUNDRY NOTICES AND REPORTS ON WELLS		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
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.		7. UNIT or CA AGREEMENT NAME: PONDEROSA
1. TYPE OF WELL Gas Well		8. WELL NAME and NUMBER: BONANZA 1023-5I1BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		9. API NUMBER: 43047520590000
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: MATERIAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1629 FSL 1039 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE 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"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 6/20/2012	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <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 type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
MIRU ROTARY RIG. FINISHED DRILLING FROM 2460' TO 8557' ON 6/18/2012. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED XTREME 12 RIG ON 6/20/2012 @ 13:00 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 June 21, 2012
NAME (PLEASE PRINT) Cara Mahler	PHONE NUMBER 720 929-6029	TITLE Regulatory Analyst I
SIGNATURE N/A		DATE 6/21/2012

State of Utah - Notification Form

Operator KERR MCGEE OIL AND GAS Rig Name/# XTREME 12
Submitted By DALTON KING Phone Number 435- 828-0985
Well Name/Number BONANZA 1023-5I1BS
Qtr/Qtr NE/SE Section 5 Township 10S Range 23E
Lease Serial Number UTU-33433
API Number 43-047-52059

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 6/15/2012 15:00 AM PM

RECEIVED

JUN 14 2012

DIV. OF OIL, GAS & MINING

Rig Move

Location To: BONANZA 1023-5I1BS

Date/Time 6/15/2012 013:00 AM PM

Remarks TIME IS ESTIMATED

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9 5. LEASE DESIGNATION AND SERIAL NUMBER: UTU33433
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: 7. UNIT or CA AGREEMENT NAME: PONDEROSA
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: BONANZA 1023-5I1BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047520590000
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: 1629 FSL 1039 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 05 Township: 10.0S Range: 23.0E Meridian: S	COUNTY: UINTAH STATE: UTAH

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<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: 8/2/2012	<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 July 2012. Well TD at 8,557'.

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

NAME (PLEASE PRINT) Cara Mahler	PHONE NUMBER 720 929-6029	TITLE Regulatory Analyst I
SIGNATURE N/A	DATE 8/2/2012	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9 5. LEASE DESIGNATION AND SERIAL NUMBER: UTU33433
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: 7. UNIT or CA AGREEMENT NAME: PONDEROSA
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: BONANZA 1023-5I1BS
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	9. API NUMBER: 43047520590000
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: 1629 FSL 1039 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE 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

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<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
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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.

No Activity for the month of August 2012. Well TD at 8,557

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

FOR RECORD ONLY

September 05, 2012

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

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	FORM 9
5. LEASE DESIGNATION AND SERIAL NUMBER: UTU33433	
SUNDRY NOTICES AND REPORTS ON WELLS	
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6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	
7. UNIT or CA AGREEMENT NAME: PONDEROSA	
1. TYPE OF WELL Gas Well	
8. WELL NAME and NUMBER: BONANZA 1023-5I1BS	
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.	
9. API NUMBER: 43047520590000	
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: MATHEW BUTTES	
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1629 FSL 1039 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: NESE Section: 05 Township: 10.0S Range: 23.0E Meridian: S	
COUNTY: UINTAH	
STATE: 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
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<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: 9/19/2012	<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"/> 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.

THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 09/19/2012. 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
 September 28, 2012

NAME (PLEASE PRINT) Lindsey Frazier	PHONE NUMBER 720 929-6857	TITLE Regulatory Analyst II
SIGNATURE N/A	DATE 9/24/2012	

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

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

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.
UTU88209A

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

8. Lease Name and Well No.
BONANZA 1023-511BS

3. Address PO BOX 173779
DENVER, CO 80217

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

9. API Well No.
43-047-52059

4. Location of Well (Report location clearly and in accordance with Federal requirements)*
At surface NESE 1629FSL 1039FEL 39.975193 N Lat, 109.345033 W Lon
At top prod interval reported below NESE 2502FSL 389FEL
At total depth NESE 2473FSL 365FEL **BHL by HSM**

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
05/21/2012

15. Date T.D. Reached
06/18/2012

16. Date Completed
 D & A Ready to Prod.
09/19/2012

17. Elevations (DF, KB, RT, GL)*
5297 GL

18. Total Depth: MD 8557
TVD 8384

19. Plug Back T.D.: MD 8479
TVD 8306

20. Depth Bridge Plug Set: MD
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	2441		575		0	
7.875	4.500 I-80	11.6	0	8527		1493		1660	

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	7972							

25. Producing Intervals

26. Perforation Record

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	7575	8448	7575 TO 8448	0.360	96	OPEN
B)						
C)						
D)						

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

Depth Interval	Amount and Type of Material
7765 TO 8448	PUMP 3,898 BBLs SLICK H2O & 77,500 LBS 30/50 OTTAWA SAND

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
09/19/2012	09/21/2012	24	→	0.0	1150.0	0.0			FLOWS FROM WELL
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
20/64	781	1342.0	→	0	1150	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. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

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

ELECTRONIC SUBMISSION #154501 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

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

RECEIVED
OCT 16 2012
DIV. OF OIL, GAS & MINING

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	1170
				BIRD'S NEST	1355
				MAHOGANY	1894
				WASATCH	4375
				MESAVERDE	6406

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 5012 ft; LTC csg was run from 5,012 ft to 8,527 ft. Attached is the chronological well history, perforation report & final survey.

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 #154501 Verified by the BLM Well Information System.
For KERR MCGEE OIL & GAS ONSHORE,L, sent to the Vernal**

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

Signature (Electronic Submission) Date 10/12/2012

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 1023-51BS YELLOW

Spud Date: 5/29/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-51 PAD

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

Event: DRILLING

Start Date: 5/16/2012

End Date: 6/20/2012

Active Datum: RKB @5,312.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/23/E/5/0/0/26/PM/S/1629/E/0/1039/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
5/29/2012	9:30 - 11:30	2.00	DRLSUR	01	C	P		SKID RIG TO WELL 3/5 BON 1023-51BS
	11:30 - 13:00	1.50	DRLSUR	02	C	P		SPUD 05/29/2012 11:30 hrs. DRILL 12.25" HOLE 44'-210' (166', 110'/PER HOUR). 12.25 in. BIT ON 53 th RUN. WEIGHT ON BIT 5-15 K. STROKES PER MINUTE 120 GALLONS PER MINUTE 491. PRESSURE ON/OFF (BOTTOM) 800/600. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROTATE 20/20/20 K. DRAG 0 K.
	13:00 - 15:00	2.00	DRLSUR	06	A	P		CIRCULATE CLOSED LOOP SYSTEM WITH 8.5# WATER. DRILL DOWN TO 210' WITH 6" DRILL COLLARS. CIRC 15 MINUTES AND, TRIP OUT TO CHANGE ASSEMBLY. PRE JOB SAFETY MEETING, LAY DOWN 6" DRILL COLLARS, BREAK 12 1/4" BIT. MAKE UP Q506F 11" BIT (4 TH RUN) (SN 7029640) PICK UP 8" DIRECTIONAL ASSEMBLY. INSTALL EM TOOL. TRIP IN HOLE.
5/29/2012	15:00 - 0:00	9.00	DRLSUR	02	C	P		DRILL 11" SURFACE HOLE 210'- 1320' (1110' AT 123 FT HR) WEIGHT ON BIT 15-25 K. STROKES PER MINUTE 120 GALLONS PER MINUTE 491. PRESSURE ON/OFF(BOTTOM) 1090/880. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROTATE 59/43/53 K. DRAG 7 K.
								SLIDING 15'-20 PER 90'OF ROTATION GETTING 1.8 DEGREE BUILD RATES
								CIRCULATE CLOSED LOOP SYSTEM WITH 8.6# WATER. RUNNING VOLUME OVER BOTH SHAKERS 200 API SCREENS ON SHAKERS NO HOLE ISSUES.
5/30/2012	0:00 - 0:30	0.50	DRLSUR	08	B	Z		WORK ON MWD TOOL

US ROCKIES REGION
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Spud Date: 5/29/2012

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

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UWI: NE/SE/0/10/S/23/E/5/0/0/26/PM/S/1629/E/0/1039/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	0:30 - 14:00	13.50	DRLSUR	02	C	P		<p>DRILL 11" SURFACE HOLE 1320' - 2460' T.D. (1140' AT 84 FT HR) WEIGHT ON BIT 15-25 K. STROKES PER MINUTE 120 GALLONS PER MINUTE 491. PRESSURE ON/OFF(BOTTOM) 1090/880. ROTARY RPM 55, MOTOR RPM 83, TOTAL RPM 138. UP/DOWN/ ROTATE 85/60/70 K. DRAG 16 K. TOTAL DRILLING HOURS 24</p> <p>SLIDING 15'-20 PER 90'OF ROTATION GETTING 1.8 DEGREE BUILD RATES LAST SURVEY 19.52 DEG AT 35.76 AZI LANDED WELL 4' LOW 4' RIGHT SLIDING 540' AT 21.9%</p> <p>CIRCULATE CLOSED LOOP SYSTEM WITH 8.6# WATER. RUNNING VOLUME OVER BOTH SHAKERS 200 API SCREENS ON SHAKERS NO HOLE ISSUES.</p>
	14:00 - 14:30	0.50	DRLSUR	05	C	P		<p>CIRCULATE AND CONDITION MUD PRIOR TO LDDS WELL NUMBER 2/5 STARTED TO COMMUNICATE STOPPED CIRCULATING</p>
	14:30 - 18:30	4.00	DRLSUR	06	A	P		<p>TOOH LAYING DOWN DRILL STRING. L/D MWD TOOL, BIT MUD MOTOR AND ALL DIRECTIONAL TOOLS</p>
	18:30 - 22:00	3.50	DRLSUR	12	C	P		<p>RIG UP AND RUN 55 JOINTS 8.625" J 55 28# SURFACE CASING SHOE AT 2424' BAFFLE AT 2380' NO PROBLEMS GETTING CASING TO BOTTOM. RUN 200' OF 1" PIPE DOWN BACK SIDE</p>
	22:00 - 0:00	2.00	DRLSUR	12	E	P		<p>PRESSURE TEST CEMENT LINES AND BEGIN CEMENT JOB AS PER PROG</p>

US ROCKIES REGION
Operation Summary Report

Well: BONANZA 1023-51BS YELLOW

Spud Date: 5/29/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-51 PAD

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

Event: DRILLING

Start Date: 5/16/2012

End Date: 6/20/2012

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UWI: NE/SE/0/10/S/23/E/5/0/0/26/PM/S/1629/E/0/1039/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
5/31/2012	0:00 - 8:30	8.50	DRLSUR	12	E	P		SHUT DOWN AND CLEAN TRUCK. WAIT 1.5 HOURS MIX AND PUMP (125 SX) 22.4 BBLs OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE NO CEMENT TO SURFACE. WAIT 1.5 HOURS MIX AND PUMP (125 SX) 22.4 BBLs OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE NO CEMENT TO SURFACE PRESSURE TEST LINES TO 2000 PSI. PUMP 135 BBLs OF WATER AHEAD. CATCH PSI. PUMP 20 BBLs OF 8.3# GEL WATER AHEAD. MIX AND PUMP (300 SX) 61.4 BBLs OF 15.8# 1.15 YD 5 GAL/SK PREMIUM CEMENT W/ 2% CALC. DROP PLUG ON FLY. DISPLACE W/ 143 BBLs OF H2O. NO CIRC THROUGH OUT. FINAL LIFT OF 210 PSI AT 4 BBL/MIN. BUMP PLUG WITH 500 PSI FOR 5 MIN. FLOAT HELD. MIX AND PUMP (150 SX) 30.7 BBLs OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE, NO CEMENT TO SURFACE. SHUT DOWN AND CLEAN TRUCK. WAIT 1.5 HOURS MIX AND PUMP (125 SX) 22.4 BBLs OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE NO CEMENT TO SURFACE. NO CEMENT TO SURFACE. SHUT DOWN AND CLEAN TRUCK. WAIT 1.5 HOURS MIX AND PUMP (125 SX) 22.4 BBLs OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE NO CEMENT TO SURFACE. WAIT 1.5 HOURS MIX AND PUMP (125 SX) 22.4 BBLs OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE CEMENT TO SURFACE FELL BACK 30' TOTAL 4 TOP OUT JOBS AT 500 SX WAIT ON CEMENT RELEASE RIG @ 0930
6/15/2012	8:30 - 9:30	1.00	DRLSUR	13	A	P		
	11:30 - 12:00	0.50	MIRU	01	C	P		PULL CAT WALK FORWARD. INSTALL SKID RAILS. PREPARE RIG FOR SKID AND SKID RIG FORWARD 10'. RESET CATWALK. ADD ELECTRICAL EXTENSION TO RIG. CENTER AND LEVEL RIG OVER HOLE.
	12:00 - 12:30	0.50	MIRU	01	B	P		PRE SPUD INSPECTION
	12:30 - 13:30	1.00	MIRU	14	A	P		NIPPLE UP BOPE. TIGHTEN CAMERON QUICK FLANGE. ADD EXTENSION TO FLOW LINES.
	13:30 - 18:30	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 ANNULAR TO 2500 PSI FOR 10 MIN AND 250 PSI FOR 5 MINUTES. TESTING CASING TO 1500 PSI FOR 30 MINUTES. INSTALL WEAR BUSHING.
	18:30 - 19:00	0.50	MIRU	14	B	P		INSTALL THE WEAR BUSHING
	19:00 - 21:30	2.50	DRLPRC	06	A	P		P/U WEATHERFORD 1.5 BH .16 RPG MOTOR (SN 625-3946). MADE UP SMITH MDI 616 BIT W/ 6-15'S (SN JF6818). SCRIBED MOTOR. P/U DOUBLE PIN, NON MAG TOOL CARRIER AND EM SUB. INSTALL EM TOOL. P/U MONEL AND CROSSOVER TO HWD. TRIP IN HOLE WITH HEAVY WEIGHT DRILL PIPE @ 950', INSTALL NEW ROTATING HEAD RUBBER.

US ROCKIES REGION

Operation Summary Report

Well: BONANZA 1023-51HBS YELLOW

Spud Date: 5/29/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-51 PAD

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

Event: DRILLING

Start Date: 5/16/2012

End Date: 6/20/2012

Active Datum: RKB @5,312.00usft (above Mean Sea Level)

UWI: NE/SE/O/10/S/23/E/5/0/0/26/PM/S/1629/E/0/1039/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
6/16/2012	21:30 - 22:30	1.00	MAINT	09	A	P		SLIP AND CUT 43' OF DRILL LINE.
	22:30 - 0:00	1.50	DRLPRC	06	A	P		TRIP IN HOLE WITH DRILL PIPE. TAG CEMENT 2295'
	0:00 - 1:00	1.00	DRLPRC	02	F	P		DRILLING THE CEMENT AND FLOAT EQUIPMENT
	1:00 - 5:30	4.50	DRLPRC	02	D	P		DRILL SLIDE 2471'- 3112' (641' @ 142.4'/HR) WEIGHT ON BIT 19-23K. AVERAGE WEIGHT ON BIT 21K. ROTARY RPM 60. MUD MOTOR RPM 83. STROKES PER MINUTE 115 GALLONS PER MINUTE 517. ON/OFF PSI 1485/1225. DIFFERENTIAL 260. TORQUE HIGH/LOW 8600/7100. OFF BOTTOM TORQUE 4020 STRING WEIGHT UP/DOWN/ROT 76/68/70. DRAG 6K. BIT POSITION 18' HIGH, 1' RIGHT OF THE LINE SLIDE 82' AT 65.6'/HR. SLIDE 30% ROTATE 70%. RUNNING 2 CENTRIFUGES AND DE WATERING.(WT 8.4 VIS 26.) USED 50 BBLS DRILL WATER FOR HOLE VOLUME. LOSS 40 BBLS DRILL WATER INTO FORMATION. (LOSING 10 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 SHALES. NO FLARE. RIG SERVICE
5:30 - 6:00	0.50	MAINT	07	A	P			
6:00 - 17:30	11.50	DRLPRC	02	D	P		DRILL SLIDE 3112'-4473' (1361' @ 118.3'/HR) WEIGHT ON BIT 19-23K. AVERAGE WEIGHT ON BIT 21K. ROTARY RPM 60. MUD MOTOR RPM 83. STROKES PER MINUTE 115 GALLONS PER MINUTE 517. ON/OFF PSI 1770/1550. DIFFERENTIAL 220. TORQUE HIGH/LOW 8600/7500. OFF BOTTOM TORQUE 4350 STRING WEIGHT UP/DOWN/ROT 90/65/74. DRAG 16K. BIT POSITION 5'S, 10'W OF CENTER SLIDE 182' AT 87.5'/HR. SLIDE 17.36% ROTATE 82.64%. RUNNING 2 CENTRIFUGES AND DE WATERING.(WT 8.4 VIS 26.) USED 150 BBLS DRILL WATER / 100 BBL. FRESH WATER FOR HOLE VOLUME. LOST 160 BBLS DRILL WATER INTO FORMATION. (LOSING 12 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 SHALES. NO FLARE. RIG SERVICE	
17:30 - 18:00	0.50	MAINT	07	A	P			

US ROCKIES REGION

Operation Summary Report

Well: BONANZA 1023-51BS YELLOW

Spud Date: 5/29/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-51 PAD

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

Event: DRILLING

Start Date: 5/16/2012

End Date: 6/20/2012

Active Datum: RKB @5,312.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/23/E/5/0/0/26/PM/S/1629/E/0/1039/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 0:00	6.00	DRLPRC	02	D	P		DRILL SLIDE 4473'- 5108' (635' @ 105.8'/HR) WEIGHT ON BIT 19-23K. AVERAGE WEIGHT ON BIT 21K. ROTARY RPM 60. MUD MOTOR RPM 83. STROKES PER MINUTE 115 GALLONS PER MINUTE 517. ON/OFF PSI 1830/1575. DIFFERENTIAL 255. TORQUE HIGH/LOW 8600/7500. OFF BOTTOM TORQUE 4350 STRING WEIGHT UP/DOWN/ROT 110/87/99. DRAG 11K. BIT POSITION 5104' 14'N 2'E OF CENTER SLIDE 60' AT 72.3'/HR. SLIDE 13% ROTATE 87%. RUNNING 2 CENTRIFUGES AND DE WATERING.(WT 8.4 VIS 26.) USED 100 BBLS DRILL WATER / 0 BBL. FRESH WATER FOR HOLE VOLUME. LOST 108 BBLS DRILL WATER INTO FORMATION. (LOSING 18 BBLS HR LOSSES INCREASED @ 4700') 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 SHALES. NO FLARE.
6/17/2012	0:00 - 5:30	5.50	DRLPRC	02	D	P		DRILL SLIDE 5108'- 5754' (646' @ 117.4'/HR) WEIGHT ON BIT 19-23K. AVERAGE WEIGHT ON BIT 21K. ROTARY RPM 60. MUD MOTOR RPM 79. STROKES PER MINUTE 110 GALLONS PER MINUTE 495. ON/OFF PSI 1830/1575. DIFFERENTIAL 255. TORQUE HIGH/LOW 8600/7500. OFF BOTTOM TORQUE 4350 STRING WEIGHT UP/DOWN/ROT 135/102/111. DRAG 24K. BIT POSITION 5104' 14'N 2'E OF CENTER SLIDE 60' AT 72.3'/HR. SLIDE 13% ROTATE 87%. RUNNING 2 CENTRIFUGES AND DE WATERING.(WT 8.4 VIS 26.) USED 100 BBLS DRILL WATER / 0 BBL. FRESH WATER FOR HOLE VOLUME. LOST 108 BBLS DRILL WATER INTO FORMATION. (LOSING 18 BBLS HR LOSSES INCREASED @ 4700') 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 SHALES. NO FLARE.
	5:30 - 6:00	0.50	MAINT	07	A	P		RIG SERVICE

US ROCKIES REGION

Operation Summary Report

Well: BONANZA 1023-5HBS YELLOW

Spud Date: 5/29/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-5I PAD

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

Event: DRILLING

Start Date: 5/16/2012

End Date: 6/20/2012

Active Datum: RKB @5,312.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/23/E/5/0/0/26/PM/S/1629/E/0/1039/0/0

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		DRILL SLIDE 5754'- 6924' (1170' @ 101.7'/HR) WEIGHT ON BIT 19-23K. AVERAGE WEIGHT ON BIT 21K. ROTARY RPM 60. MUD MOTOR RPM 79. STROKES PER MINUTE 110 GALLONS PER MINUTE 495. ON/OFF PSI 2075//1675. DIFFERENTIAL 400. TORQUE HIGH/LOW 11800/9200. OFF BOTTOM TORQUE 8070 STRING WEIGHT UP/DOWN/ROT 160/110/130. DRAG 30K. BIT POSITION 5104' 16'N 5'W OF CENTER SLIDE 86' AT 43'/HR. SLIDE 16.33% ROTATE 83.67%. RUNNING 2 CENTRIFUGES AND DE WATERING.(WT 8.4 VIS 26.) USED 200 BBL DRILL WATER / 0 BBL. FRESH WATER FOR HOLE VOLUME. LOST 140 BBL DRILL WATER INTO FORMATION. (12 BBL HR LOSSES) PUMP 5% LCM SWEEPS TO HELP WITH LOSSES. (ADD 50 BBL OF 32 VIS DRILL WATER TO PITS FOR SWEEPS) ADDING POLYMER TO SYSTEM HELP STABILIZE SHALES. NO FLARE.
	17:30 - 18:00	0.50	MAINT	07	A	P		RIG SERVICE
	18:00 - 0:00	6.00	DRLPRC	02	D	P		DRILL SLIDE 6924'- 7650' (726' @ 121'/HR) WEIGHT ON BIT 19-23K. AVERAGE WEIGHT ON BIT 21K. ROTARY RPM 60. MUD MOTOR RPM 79. STROKES PER MINUTE 110 GALLONS PER MINUTE 495. ON/OFF PSI 2250/1760. DIFFERENTIAL 2490. TORQUE HIGH/LOW 13100/10200. OFF BOTTOM TORQUE 8850 STRING WEIGHT UP/DOWN/ROT 175/119/138. DRAG 37K. BIT POSITION 5104' 9'N 14'E OF CENTER SLIDE 28' AT 42.4'/HR. SLIDE 10% ROTATE 90%. RUNNING 2 CENTRIFUGES AND DE WATERING.(WT 8.4 VIS 26.) NOV WENT GONVENTIONAL @ 7100' LIGHT MUD UP @ 7500' USED 75 BBL. FRESH WATER FOR HOLE VOLUME. LOST 50 BBL DRILL WATER INTO FORMATION. (6 BBL HR LOSSES) PUMP 5% LCM SWEEPS TO HELP WITH LOSSES. ADDING POLYMER TO SYSTEM HELP STABILIZE SHALES. NO FLARE.

US ROCKIES REGION

Operation Summary Report

Well: BONANZA 1023-51HS YELLOW

Spud Date: 5/29/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-51 PAD

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

Event: DRILLING

Start Date: 5/16/2012

End Date: 6/20/2012

Active Datum: RKB @5,312.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/23/E/5/0/0/26/PM/S/1629/E/0/1039/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
6/18/2012	0:00 - 5:30	5.50	DRLPRC	02	D	P		DRILL SLIDE 7650'- 8194'(544' @ 98.9'/HR) WEIGHT ON BIT 19-23K. AVERAGE WEIGHT ON BIT 21K. ROTARY RPM 60. MUD MOTOR RPM 79. STROKES PER MINUTE 110 GALLONS PER MINUTE 495. ON/OFF PSI 2250/1760. DIFFERENTIAL 490. TORQUE HIGH/LOW 13100 / 10200. OFF BOTTOM TORQUE 8850 STRING WEIGHT UP/DOWN/ROT 175/119/138. DRAG 37K. BIT POSITION 8099' 4'S 4'W OF CENTER SLIDE 28' AT 42.4'/HR. SLIDE 10% ROTATE 90%. RUNNING 2 CENTRIFUGES CONVENTIONAL LIGHT MUD 31 VIS 8.7 MW USED 75 BBL. FRESH WATER FOR HOLE VOLUME. LOST 50 BBL DRILL WATER INTO FORMATION. (6 BBL HR LOSSES) PUMP 5% LCM SWEEPS TO HELP WITH LOSSES. ADDING POLYMER TO SYSTEM HELP STABILIZE SHALES. 5-10' INTERMITTENT FLARE. RIG SERVICE
	5:30 - 6:00	0.50	MAINT	07	A	P		
	6:00 - 11:30	5.50	DRLPRC	02	D	P		DRILL SLIDE 8194'-8557' (363' @ 66'/HR) WEIGHT ON BIT 19-23K. AVERAGE WEIGHT ON BIT 21K. ROTARY RPM 60. MUD MOTOR RPM 79. STROKES PER MINUTE 110 GALLONS PER MINUTE 495. ON/OFF PSI 2250/1760. DIFFERENTIAL 490. TORQUE HIGH/LOW 13100 / 10200. OFF BOTTOM TORQUE 8850 STRING WEIGHT UP/DOWN/ROT 184/115/144. DRAG 40K. BIT POSITION 8557' 20'S 11'E OF CENTER SLIDE 0' AT 0'/HR. SLIDE 0% ROTATE 100%. MUD 41 VIS 11.1 MW USED 0 BBL. FRESH WATER FOR HOLE VOLUME. LOST 0 BBL DRILL WATER INTO FORMATION. (0 BBL HR LOSSES) PUMP LCM SWEEPS TO HELP WITH LOSSES. NO FLARE. CIRCULATE AND CONDITION FOR A WIPER TRIP
	11:30 - 14:00	2.50	DRLPRC	05	C	P		WIPER TRIP TO THE CASING SHOE PUMPED 14 SINGLES OUT PUMPED A 13# PILL AND TRIPPED OUT
	14:00 - 17:30	3.50	DRLPRC	06	E	P		TIGHT AT 7400-7600', 6430'-6560', 6020' (40-60K OVERPULL)
	17:30 - 18:00	0.50	MAINT	07	A	P		RIG SERVICE

US ROCKIES REGION
Operation Summary Report

Well: BONANZA 1023-5HBS YELLOW

Spud Date: 5/29/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-5I PAD

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

Event: DRILLING

Start Date: 5/16/2012

End Date: 6/20/2012

Active Datum: RKB @5,312.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/23/E/5/0/0/26/PM/S/1629/E/0/1039/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 0:00	6.00	DRLPRC	06	E	P		WIPER TRIP TO THE CASING SHOE TIGHT AT 5100', 4714', (40-60K OVERPULL) ON THE TRIP BACK IN WE HAD TO WASH THROUGH A BRIDGE @ 5612' IT TOOK 12K WEIGHT TO REAM THROUGH. HAD 30' OF FILL ON BOTTOM.
6/19/2012	0:00 - 2:00	2.00	DRLPRC	05	C	P		CIRCULATED AND CONDITIONED FOR A 2ND WIPER TRIP 11.2 MW 44 VIS NO FLARE
	2:00 - 8:00	6.00	DRLPRC	06	E	P		MADE A WIPER TRIP TO 4500' WE HAD A FEW SPOTS WITH LIGHT OVERPULL IN THE SAME AREAS AS THE 1ST TRIP. NO FILL ON BOTTOM
	8:00 - 10:00	2.00	DRLPRC	05	C	P		CIRCULATED AND CONDITIONED FOR LOGS 11.2 MW 44 VIS NO FLARE
	10:00 - 16:30	6.50	DRLPRC	06	A	P		TRIP OUT OF THE HOLE FOR LOGS
	16:30 - 17:00	0.50	DRLPRC	14	B	P		PULLED THE WEAR BUSHING
	17:00 - 22:00	5.00	DRLPRC	11	D	P		HELD A SAFETY MEETING WITH HALLIBURTON RIGGED UP AND RAN TRIPLE COMBO LOG DRILLERS TD 8557' LOGGERS TD 8546'
	22:00 - 0:00	2.00	DRLPRC	12	C	P		HELD A SAFETY MEETING, RIGGED UP KIMSEY AND STARTED RUNNING CASING. CASING DEPTH @ MIDNIGHT 600'
6/20/2012	0:00 - 6:00	6.00	CSGPRO	12	C	P		RAN 80 (79 JOINTS + 1 MARKER) 4.5" / 11.6# / I-80 / LTC AND 118 (117 JOINTS + 1 CROSSOVER) OF 4.5" / 11.6# / I-80 / DQX = TOTAL 198 JOINTS OF CASING. LANDED @ 8526.95', FLOAT COLLAR @ 8479.65', MESA VERDE MARKER @ 6383.73', DQX CROSS OVER @ 4990.39
	6:00 - 8:00	2.00	CSGPRO	05	D	P		CIRCULATED THE CASING @ 80 STROKES 360 GALLONS PER MINUTE 650 PSI NO FLARE .2 MUD CUT ON BOTTOMS UP

US ROCKIES REGION

Operation Summary Report

Well: BONANZA 1023-511BS YELLOW

Spud Date: 5/29/2012

Project: UTAH-UINTAH

Site: BONANZA 1023-51 PAD

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

Event: DRILLING

Start Date: 5/16/2012

End Date: 6/20/2012

Active Datum: RKB @5,312.00usft (above Mean Sea Level)

UWI: NE/SE/0/10/S/23/E/5/0/0/26/PM/S/1629/E/0/1039/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	8:00 - 11:00	3.00	CSGPRO	12	E	P		PRESSURE TEST TO 3600 PSI. PUPED THE BOTTOM PLUG, PUMP 25 BBLs OF FRESH WATER. PUMP 170 BBLs (426 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 249 BBLs (1067 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/ 132 BBLs OF FRESH WATER TREATED WITH CLAYFIX AND MAGNACIDE. LOST RETURNS WITH 88 BBL. OF DISPLACEMENT AWAY, SLOWED THE RATE DOWN (WE HAD SOME CELLO FLAKE TO SURFACE AT THIS POINT) AND NO CEMENT. LIFT PSI OF 2319 / BUMP PLUG 2927 PSI. . PRESSURE HELD 5 MINS. FLOAT DID NOT HOLD. BUMPED THE PLUG AGAIN AND HELD FOR 3 MINUTES. THE LOAT HELD AND RETURNED BACK 1.5 BBLs. EST. TOC FOR LEAD 700', EST TOC FOR TAIL 3600'. RIG DOWN CEMENTERS.
	11:00 - 12:00	1.00	CSGPRO	12	A	P		PULLED THE LANDING JOINT AND SET THE PACK OFF
	12:00 - 13:00	1.00	CSGPRO	14	A	P		NIPPLED DOWN THE BOP AND PREPPED TO SKID THE RIG RIG RELEASED @ 13:00

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	BONANZA 1023-5I1BS YELLOW	Wellbore No.	OH
Well Name	BONANZA 1023-5I1BS	Wellbore Name	BONANZA 1023-5I1BS
Report No.	1	Report Date	9/5/2012
Project	UTAH-UINTAH	Site	BONANZA 1023-5I PAD
Rig Name/No.		Event	COMPLETION
Start Date	9/5/2012	End Date	9/19/2012
Spud Date	5/29/2012	Active Datum	RKB @5,312.00usft (above Mean Sea Level)
UWI	NE/SE/0/10/S/23/E/5/0/0/26/PM/S/1629/E/0/1039/0/0		

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	7,575.0 (usft)-8,448.0 (usft)	Start Date/Time	9/5/2012 12:00AM
No. of Intervals	16	End Date/Time	9/5/2012 12:00AM
Total Shots	96	Net Perforation Interval	24.00 (usft)
Avg Shot Density	4.00 (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	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/5/2012 12:00AM	MESAVERDE/			7,575.0	7,576.0	4.00		0.360	EXP/	3.375	90.00		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
9/5/2012 12:00AM	MESAVERDE/			7,599.0	7,600.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/5/2012 12:00AM	MESAVERDE/			7,670.0	7,671.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/5/2012 12:00AM	MESAVERDE/			7,698.0	7,699.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/5/2012 12:00AM	MESAVERDE/			7,718.0	7,720.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/5/2012 12:00AM	MESAVERDE/			7,765.0	7,766.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/5/2012 12:00AM	MESAVERDE/			7,843.0	7,844.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/5/2012 12:00AM	MESAVERDE/			7,877.0	7,878.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/5/2012 12:00AM	MESAVERDE/			7,945.0	7,947.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/5/2012 12:00AM	MESAVERDE/			7,977.0	7,978.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/5/2012 12:00AM	MESAVERDE/			8,019.0	8,020.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/5/2012 12:00AM	MESAVERDE/			8,037.0	8,038.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/5/2012 12:00AM	MESAVERDE/			8,082.0	8,084.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/5/2012 12:00AM	MESAVERDE/			8,163.0	8,165.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/5/2012 12:00AM	MESAVERDE/			8,282.0	8,286.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/5/2012 12:00AM	MESAVERDE/			8,446.0	8,448.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

3 Plots

US ROCKIES REGION
Operation Summary Report

Well: BONANZA 1023-5I1BS YELLOW		Spud Date: 5/29/2012	
Project: UTAH-UINTAH		Site: BONANZA 1023-5I PAD	Rig Name No: GWS 1/1
Event: COMPLETION		Start Date: 9/5/2012	End Date: 9/19/2012
Active Datum: RKB @5,312.00usft (above Mean Sea Level)		UWI: NE/SE/0/10/S/23/E/5/0/0/26/PM/S/1629/E/0/1039/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
5/29/2012	-							
5/30/2012	-							
9/5/2012	10:30 - 12:00	1.50	FRAC	33	C	P		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 13 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 37 PSI. 1ST PSI TEST T/ 7000 PSI. HELD FOR 30 MIN LOST 64 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. MOVE T/ NEXT WELL. SWIFW
9/7/2012	7:00 - 10:00	3.00	COMP	37		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. SWIFW
9/11/2012	8:00 - 18:00	10.00	COMP	36	B	P		FRAC STG 1)WHP 1,402 PSI, BRK 3,225 PSI @ 4.6 BPM. ISIP 2,496 PSI, FG .73. CALC HOLES OPEN @ 50.2 BPM @ 4,109 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2,366 PSI, FG .72, NPI -130 PSI. MP 4,507 PSI, MR 50.2 BPM, AP 4,142 PSI, AR 50.1 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL PERF STG 2)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 8195' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW SWIFN.

US ROCKIES REGION

Operation Summary Report

Well: BONANZA 1023-51BS YELLOW Spud Date: 5/29/2012

Project: UTAH-UINTAH Site: BONANZA 1023-51 PAD Rig Name No: GWS 1/1

Event: COMPLETION Start Date: 9/5/2012 End Date: 9/19/2012

Active Datum: RKB @5,312.00usft (above Mean Sea Level) UWI: NE/SE/0/10/S/23/E/5/0/0/26/PM/S/1629/E/0/1039/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
9/12/2012	7:00 - 18:00	11.00	COMP	36	B	P		<p>FRAC STG 2)WHP 1810 PSI, BRK 3377 PSI @ 4.9 BPM. ISIP 2470 PSI, FG .74. CALC HOLES OPEN @ 52.8 BPM @ 4860 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2399 PSI, FG .73, NPI -81 PSI. MP 5232 PSI, MR 53.5 BPM, AP 4915 PSI, AR 52.5 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 3)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 8008' P/U PERF AS PER DESIGN. POOH, XO T/ FRAC.</p> <p>FRAC STG 3)WHP 1785 PSI, BRK 2990 PSI @ 4.9 BPM. ISIP 2197 PSI, FG .71. CALC HOLES OPEN @ 52.5 BPM @ 4860 PSI = 92% HOLES OPEN. (22/24 HOLES OPEN) ISIP 2149 PSI, FG .71, NPI -48 PSI. MP 5037 PSI, MR 54.9 BPM, AP 4652 PSI, AR 54.7 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 4)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH T/ SET CBP & PERF. STACK OUT @ 6005'. P/U 30' BACAME STUCK @ 5975'. WORK WL. COULD NOT WORK FREE. SET CBP @ 5975', POOH. SWI. CALL FOR CUTTERS BRAIDED LINE FISHING WL TRUCK. MIRU BRAIDED LINE TRUCK. PU 3" CHIZZEL TOOL. RIH TAG CBP @ 5979'. BEAT DOWN ON CBP FOR 5 HRS. POOH, TRUCK HYDRAULICS PUMP BROKE. MAKE REPAIRS. CONT POOH. RDMO WL TRUCK. SWMFN. SET A 2ND KILL PLUG 5" ABOVE STUCK PLUG.</p> <p>4 STG'S LEFT T/ FRAC ON THIS WELL.</p> <p>TOTAL SAND = 77,500 LBS TOTAL CLFL = 3898 BBL</p>
9/19/2012	7:00 - 7:15	0.25	DRLOUT	48		P		<p>(((CBP STUCK @ 5975'))) HSM, SLIPS, TRIPS & FALLS, RIGGING UP, PU TBG, D/O PLUGS</p>

US ROCKIES REGION

Operation Summary Report

Well: BONANZA 1023-51BS YELLOW Spud Date: 5/29/2012

Project: UTAH-UINTAH Site: BONANZA 1023-51 PAD Rig Name No: GWS 1/1

Event: COMPLETION Start Date: 9/5/2012 End Date: 9/19/2012

Active Datum: RKB @5,312.00usft (above Mean Sea Level) UWI: NE/SE/0/10/S/23/E/5/0/0/26/PM/S/1629/E/0/1039/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 18:30	11.25	DRLOUT	31	I	P		<p>MIRU, SPOT EQUIP, ND WH, NU BOP, RU FLOOR & TBG EQUIP, SPOT TBG TRAILER INSTAL HAND RAILS, PU BHA & TALLY & PU TBG, RU P/S, FILL TBG & BREAK CIRC, P/T BOP TO 3,000 PSI, TEST GOOD, SURFACE CSG VALVE OPEN & LOCKED, D/O PLUGS.</p> <p>C/O 0' SAND, TAG 1ST & 2ND PLUG'S ((KILL PLUG & STUCK PLUG)) @ 5,970' & 5,975', DRL PLUG IN 25 MIN. 700 PSI INCREASE RIH, CSG PRESS 100 PSI.</p> <p>C/O 25' SAND, TAG 3RD PLUG @ 8,008' DRL PLUG IN 15 MIN. 800 PSI INCREASE RIH, CSG PRESS 200 PSI.</p> <p>C/O 30' SAND, TAG 4TH PLUG @ 8,195' DRL PLUG IN 12 MIN. 500 PSI INCREASE RIH, CSG PRESS 350 PSI.</p> <p>PBTD @ 8,480', BTM PERF @ 8,448', RIH TAGGED @ 8,460', C/O TO PBTD @ 8,480', 32' PAST BTM PERF W/ 267 JTS 2 3/8" L-80 TBG, LD 18 JTS, PU & STRIP IN TBG HANGER & LAND TBG W/ 251 JTS 2 3/8" L-80, EOT 7,972.05'.</p> <p>RD POWER SWIVEL, FLOOR & TBG EQUIP, ND BOPS, NU WH, DROP BALL TO SHEAR OFF BIT W/ 2,300 PSI, LET BIT FALL FOR 20 MIN. P/T FLOW LINE FROM WH TO HAL 9000 TO 3,000 PSI W/ RIG PUMP, NO VISIBLE LEAKS.</p> <p>TURN OVER TO DELSCO FLOW BACK CREW, WILL RD & MOVE IN AM, SDFN.</p> <p>KB= 15' 4 1/16" CAMERON HANGER = .83' TBG DELIVERED 283 JTS 251 JTS 2 3/8" L-80 = 7,954.02' TBG USED 251 JTS POBS= 2.20' TBG RETURNED 32 JTS EOT @ 7,972.05'</p> <p>TWTR= 3,898 BBLs TWR= 1,500 BBLs TWLTR= 2,398 BBLs WELL TURNED TO SALES @ 1745 HR ON 9/19/2012. 800 MCFD, 1920 BWPD, FCP 2200#, FTP 1500#, 20/64" CK.</p>
	18:30 - 18:30	0.00	DRLOUT	50				

Project: UTAH - UTM (feet), NAD27, Zone 12N
 Site: UINTAH_BONANZA 1023-51 PAD
 Well: BONANZA 1023-51BS
 Wellbore: BONANZA 1023-51BS
 Section:
 SHL:
 Design: BONANZA 1023-51BS (wp01)
 Latitude: 39.975228
 Longitude: -109.344355
 GL: 5297.00
 KB: 5297' GL + 15' RKB @ 5312.00ft

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
4191.00	4359.97	WASATCH
4791.00	4960.66	top of cylinder
6216.00	6385.68	MESAVERDE
8388.00	8557.72	SEGO

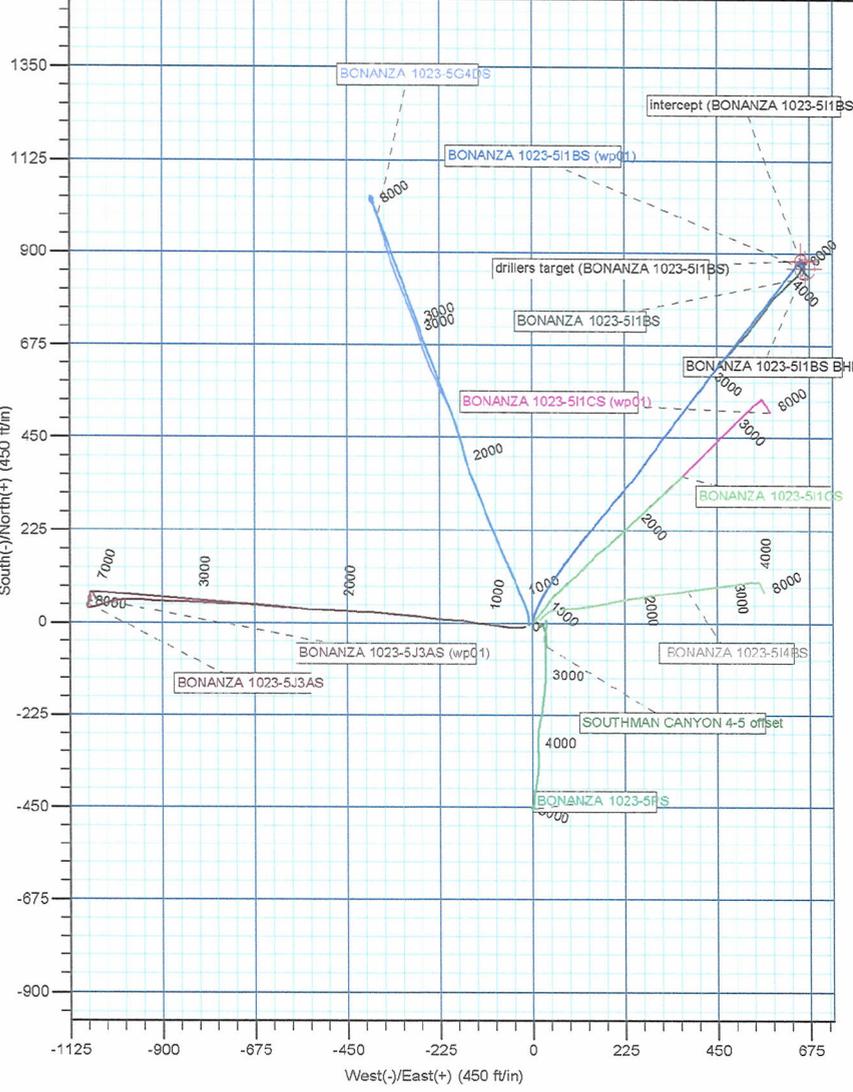
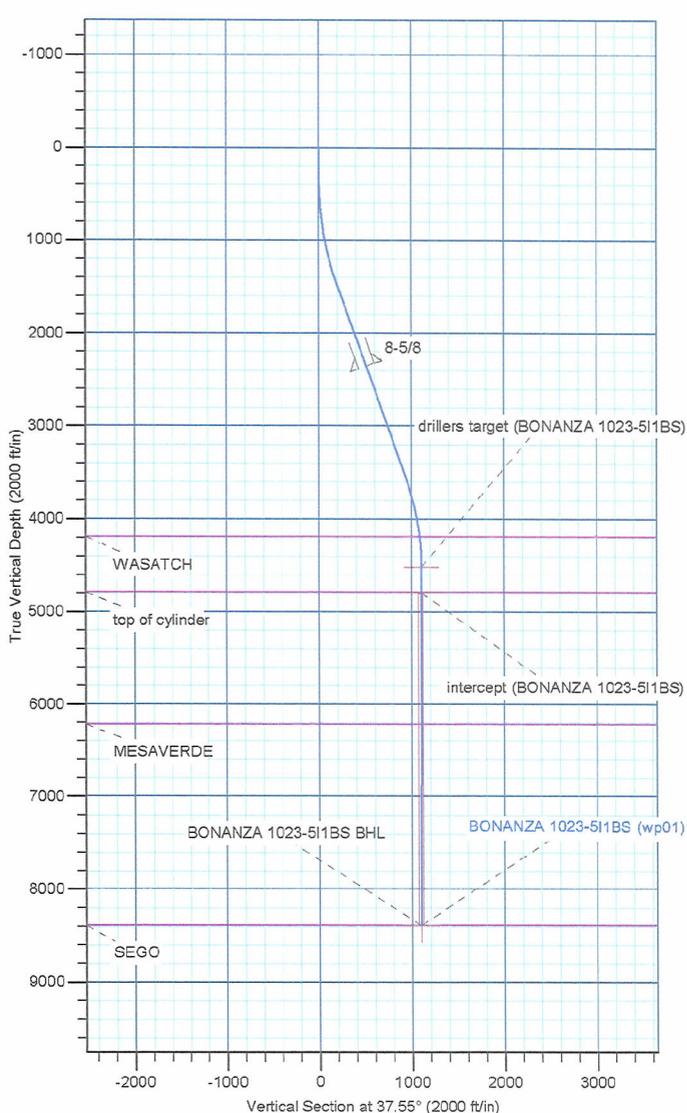
WELL DETAILS: BONANZA 1023-51BS							
+N/-S	+E/-W	Northing	Ground Level: Easting	5297.00 Latitude	5297.00 Longitude	5297.00 Slot	
0.00	0.00	14521330.40	2104272.71	39.975228	-109.344355		

CASING DETAILS			
TVD	MD	Name	Size
2359.27	2437.16	8-5/8	8-5/8

Azimuths to True North
 Magnetic North: 10.88°
 Magnetic Field
 Strength: 52237.5nT
 Dip Angle: 65.85°
 Date: 6/5/2012
 Model: IGRF2010

DESIGN TARGET DETAILS									
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
drillers target (BONANZA 1023-51BS)	4513.00	883.22	653.56	14522225.60	2104909.76	39.977653	-109.342023	Circle (Radius: 15.00)	
intercept (BONANZA 1023-51BS)	4791.00	882.06	654.14	14522224.45	2104910.36	39.977650	-109.342021	Point	
BONANZA 1023-51BS BHL	8388.00	863.22	663.56	14522205.79	2104920.13	39.977598	-109.341987	Circle (Radius: 25.00)	

SECTION DETAILS								
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
2418.00	19.52	35.76	2341.21	411.17	290.76	0.00	0.00	503.19
2568.00	19.52	35.76	2482.59	451.84	320.05	0.00	0.00	553.28
2703.82	19.52	37.79	2610.60	488.18	347.22	0.50	90.98	598.66
3707.17	19.52	37.79	3556.28	753.11	552.66	0.00	0.00	933.90
4683.16	0.00	0.00	4513.50	883.22	653.56	2.00	180.00	1098.55
4795.01	0.34	153.44	4625.35	882.93	653.71	0.30	153.44	1098.41
8557.72	0.34	153.44	8388.00	863.22	663.56	0.00	0.00	1088.79



US ROCKIES REGION PLANNING

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

UINTAH_BONANZA 1023-5I PAD

BONANZA 1023-5I1BS

BONANZA 1023-5I1BS

Design: BONANZA 1023-5I1BS

Standard Survey Report

10 July, 2012

Anadarko Petroleum Corp

Survey Report

Company: US ROCKIES REGION PLANNING	Local Co-ordinate Reference: Well BONANZA 1023-511BS
Project: UTAH - UTM (feet), NAD27, Zone 12N	TVD Reference: 5297' GL + 15' RKB @ 5312.00ft
Site: UINTAH_BONANZA 1023-5I PAD	MD Reference: 5297' GL + 15' RKB @ 5312.00ft
Well: BONANZA 1023-511BS	North Reference: True
Wellbore: BONANZA 1023-511BS	Survey Calculation Method: Minimum Curvature
Design: BONANZA 1023-511BS	Database: edmp

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

Site	UINTAH_BONANZA 1023-5I PAD		
Site Position:		Northing:	14,521,340.20 usft
From:	Lat/Long	Easting:	2,104,289.90 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "
		Latitude:	39.975254
		Longitude:	-109.344293
		Grid Convergence:	1.06 °

Well	BONANZA 1023-511BS		
Well Position	+N-S	0.00 ft	Northing: 14,521,330.41 usft
	+E-W	0.00 ft	Easting: 2,104,272.71 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	39.975228
		Longitude:	-109.344355
		Ground Level:	5,297.00 ft

Wellbore	BONANZA 1023-511BS		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	6/5/2012	10.88
			Dip Angle (°)
			65.85
			Field Strength (nT)
			52,238

Design	BONANZA 1023-511BS		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	11.00
Vertical Section:	Depth From (TVD) (ft)	+N-S (ft)	+E-W (ft)
	0.00	0.00	0.00
			Direction (°)
			38.63

Survey Program	Date 7/10/2012		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
180.00	2,418.00	Survey #1 (BONANZA 1023-511BS)	MWD
2,472.00	8,557.00	Survey #2 (BONANZA 1023-511BS)	MWD
			Description
			MWD - STANDARD
			MWD - STANDARD

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)
11.00	0.00	0.00	11.00	0.00	0.00	0.00	0.00	0.00	0.00
180.00	0.70	211.01	180.00	-0.88	-0.53	-1.02	0.41	0.41	0.00
265.00	0.18	328.52	264.99	-1.22	-0.87	-1.49	0.94	-0.61	138.25
348.00	1.06	2.10	347.99	-0.34	-0.91	-0.83	1.10	1.06	40.46
438.00	2.02	12.91	437.95	2.04	-0.52	1.27	1.11	1.07	12.01
528.00	3.34	17.74	527.85	6.08	0.63	5.15	1.49	1.47	5.37
618.00	4.31	18.62	617.65	11.79	2.51	10.77	1.08	1.08	0.98
708.00	5.89	16.86	707.29	19.41	4.93	18.24	1.76	1.76	-1.96
798.00	7.30	21.61	796.70	29.15	8.37	28.00	1.68	1.57	5.28
888.00	9.15	23.10	885.77	41.05	13.29	40.36	2.07	2.06	1.66

Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well BONANZA 1023-511BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	TVD Reference:	5297' GL + 15' RKB @ 5312.00ft
Site:	UINTAH_BONANZA 1023-51 PAD	MD Reference:	5297' GL + 15' RKB @ 5312.00ft
Well:	BONANZA 1023-511BS	North Reference:	True
Wellbore:	BONANZA 1023-511BS	Survey Calculation Method:	Minimum Curvature
Design:	BONANZA 1023-511BS	Database:	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)
978.00	10.64	25.65	974.43	55.12	19.69	55.35	1.73	1.66	2.83
1,068.00	12.22	28.73	1,062.64	70.96	27.87	72.83	1.88	1.76	3.42
1,158.00	13.77	33.69	1,150.33	88.23	38.39	92.89	2.12	1.72	5.51
1,248.00	15.57	34.63	1,237.40	107.08	51.19	115.61	2.02	2.00	1.04
1,338.00	17.06	36.90	1,323.77	127.58	65.99	140.86	1.80	1.66	2.52
1,428.00	19.08	37.08	1,409.33	149.87	82.78	168.76	2.25	2.24	0.20
1,518.00	19.26	36.29	1,494.34	173.57	100.44	198.30	0.35	0.20	-0.88
1,608.00	18.91	39.80	1,579.39	196.74	118.56	227.71	1.33	-0.39	3.90
1,698.00	20.05	40.07	1,664.24	219.75	137.83	257.72	1.27	1.27	0.30
1,788.00	19.88	39.18	1,748.83	243.42	157.42	288.44	0.39	-0.19	-0.99
1,878.00	19.35	38.48	1,833.61	266.96	176.37	318.65	0.64	-0.59	-0.78
1,968.00	19.43	40.51	1,918.50	290.01	195.37	348.52	0.75	0.09	2.26
2,058.00	19.70	41.21	2,003.31	312.80	215.09	378.64	0.40	0.30	0.78
2,148.00	20.66	39.63	2,087.78	336.44	235.21	409.67	1.23	1.07	-1.76
2,238.00	20.49	36.81	2,172.04	361.28	254.78	441.29	1.12	-0.19	-3.13
2,328.00	19.96	35.32	2,256.50	386.43	273.10	472.37	0.82	-0.59	-1.66
2,418.00	19.52	35.76	2,341.21	411.17	290.76	502.72	0.52	-0.49	0.49
FIRST MWD SURVEY									
2,472.00	18.66	35.13	2,392.24	425.55	301.01	520.36	1.64	-1.59	-1.17
2,562.00	18.69	36.21	2,477.50	448.96	317.81	549.13	0.39	0.03	1.20
2,653.00	20.52	38.00	2,563.22	473.30	336.24	579.65	2.12	2.01	1.97
2,744.00	21.75	37.67	2,648.10	499.21	356.37	612.46	1.36	1.35	-0.36
2,835.00	22.50	39.05	2,732.40	526.08	377.64	646.73	1.00	0.82	1.52
2,925.00	23.31	37.55	2,815.30	553.57	399.34	681.76	1.11	0.90	-1.67
3,016.00	21.94	36.17	2,899.30	581.57	420.35	716.74	1.61	-1.51	-1.52
3,107.00	22.63	37.30	2,983.50	609.22	440.99	751.23	0.89	0.76	1.24
3,198.00	20.75	39.42	3,068.05	635.61	461.84	784.86	2.24	-2.07	2.33
3,289.00	20.13	41.42	3,153.32	659.80	482.44	816.62	1.03	-0.68	2.20
3,379.00	20.56	41.42	3,237.71	683.27	503.14	847.87	0.48	0.48	0.00
3,470.00	19.75	40.42	3,323.14	706.95	523.68	879.20	0.97	-0.89	-1.10
3,561.00	19.19	37.92	3,408.93	730.46	542.84	909.52	1.10	-0.62	-2.75
3,652.00	15.75	36.42	3,495.72	752.20	559.37	936.83	3.81	-3.78	-1.65
3,742.00	14.63	34.17	3,582.58	771.43	573.01	960.36	1.41	-1.24	-2.50
3,833.00	13.06	42.80	3,670.94	788.49	586.45	982.08	2.85	-1.73	9.48
3,924.00	13.00	44.80	3,759.60	803.30	600.65	1,002.51	0.50	-0.07	2.20
4,015.00	11.56	46.55	3,848.52	816.83	614.48	1,021.72	1.63	-1.58	1.92
4,105.00	11.44	47.30	3,936.71	829.09	627.59	1,039.47	0.21	-0.13	0.83
4,196.00	9.31	44.67	4,026.22	840.44	639.39	1,055.72	2.40	-2.34	-2.89
4,287.00	6.88	36.80	4,116.31	850.04	647.84	1,068.49	2.93	-2.67	-8.65
4,378.00	6.00	29.92	4,206.73	858.53	653.47	1,078.64	1.28	-0.97	-7.56
4,468.00	4.44	28.92	4,296.36	865.66	657.50	1,086.72	1.74	-1.73	-1.11
4,559.00	2.72	34.58	4,387.17	870.52	660.43	1,092.35	1.93	-1.89	6.22
4,650.00	1.31	47.05	4,478.12	873.00	662.42	1,095.53	1.61	-1.55	13.70

Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well BONANZA 1023-511BS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	TVD Reference:	5297' GL + 15' RKB @ 5312.00ft
Site:	UINTAH_BONANZA 1023-51 PAD	MD Reference:	5297' GL + 15' RKB @ 5312.00ft
Well:	BONANZA 1023-511BS	North Reference:	True
Wellbore:	BONANZA 1023-511BS	Survey Calculation Method:	Minimum Curvature
Design:	BONANZA 1023-511BS	Database:	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)
4,741.00	1.31	63.17	4,569.09	874.18	664.11	1,097.50	0.40	0.00	17.71
4,832.00	1.44	66.30	4,660.07	875.11	666.08	1,099.46	0.16	0.14	3.44
4,922.00	0.13	76.92	4,750.06	875.59	667.22	1,100.54	1.46	-1.46	11.80
5,013.00	1.06	317.67	4,841.05	876.23	666.75	1,100.76	1.24	1.02	-131.04
5,104.00	0.88	306.05	4,932.04	877.27	665.62	1,100.86	0.29	-0.20	-12.77
5,195.00	0.81	315.42	5,023.03	878.14	664.61	1,100.90	0.17	-0.08	10.30
5,285.00	0.56	312.42	5,113.02	878.89	663.83	1,101.01	0.28	-0.28	-3.33
5,376.00	0.31	303.80	5,204.02	879.32	663.30	1,101.02	0.28	-0.27	-9.47
5,467.00	0.25	286.55	5,295.02	879.52	662.91	1,100.92	0.11	-0.07	-18.96
5,558.00	0.38	217.42	5,386.02	879.33	662.53	1,100.54	0.41	0.14	-75.97
5,649.00	0.56	201.92	5,477.01	878.68	662.18	1,099.82	0.24	0.20	-17.03
5,739.00	0.75	185.80	5,567.01	877.69	661.96	1,098.90	0.29	0.21	-17.91
5,830.00	1.23	169.40	5,657.99	876.14	662.08	1,097.76	0.61	0.53	-18.02
5,921.00	0.63	193.55	5,748.98	874.69	662.14	1,096.67	0.77	-0.66	26.54
6,012.00	0.56	286.67	5,839.98	874.33	661.60	1,096.05	0.95	-0.08	102.33
6,102.00	0.50	284.17	5,929.98	874.55	660.80	1,095.73	0.07	-0.07	-2.78
6,193.00	0.56	275.17	6,020.97	874.69	659.97	1,095.32	0.11	0.07	-9.89
6,284.00	0.56	337.80	6,111.97	875.14	659.36	1,095.29	0.64	0.00	68.82
6,375.00	1.06	341.17	6,202.96	876.35	658.92	1,095.96	0.55	0.55	3.70
6,465.00	0.56	348.30	6,292.95	877.57	658.56	1,096.69	0.57	-0.56	7.92
6,556.00	0.31	24.05	6,383.95	878.23	658.57	1,097.21	0.39	-0.27	39.29
6,647.00	0.38	63.42	6,474.95	878.59	658.94	1,097.72	0.27	0.08	43.26
6,738.00	0.38	349.55	6,565.94	879.02	659.16	1,098.19	0.50	0.00	-81.18
6,829.00	1.44	297.17	6,656.93	879.84	658.08	1,098.16	1.37	1.16	-57.56
6,919.00	1.44	281.30	6,746.90	880.58	655.97	1,097.42	0.44	0.00	-17.63
7,010.00	1.25	266.92	6,837.88	880.75	653.86	1,096.23	0.42	-0.21	-15.80
7,101.00	1.00	244.42	6,928.86	880.35	652.15	1,094.86	0.55	-0.27	-24.73
7,192.00	1.00	220.42	7,019.85	879.40	650.92	1,093.35	0.46	0.00	-26.37
7,282.00	1.31	201.42	7,109.83	877.85	650.03	1,091.58	0.54	0.34	-21.11
7,373.00	1.50	186.30	7,200.80	875.70	649.52	1,089.58	0.46	0.21	-16.62
7,464.00	1.00	165.92	7,291.78	873.74	649.58	1,088.09	0.73	-0.55	-22.40
7,555.00	0.38	139.42	7,382.77	872.74	649.97	1,087.56	0.75	-0.68	-29.12
7,645.00	0.81	139.67	7,472.77	872.03	650.58	1,087.38	0.48	0.48	0.28
7,736.00	1.25	143.92	7,563.75	870.74	651.58	1,086.99	0.49	0.48	4.67
7,827.00	1.75	151.30	7,654.72	868.72	652.83	1,086.20	0.59	0.55	8.11
7,918.00	2.31	152.05	7,745.67	865.88	654.36	1,084.93	0.62	0.62	0.82
8,008.00	3.13	141.05	7,835.56	862.37	656.75	1,083.68	1.08	0.91	-12.22
8,099.00	2.38	134.55	7,926.46	859.11	659.66	1,082.95	0.89	-0.82	-7.14
8,190.00	2.38	135.30	8,017.38	856.44	662.34	1,082.54	0.03	0.00	0.82
8,281.00	2.38	135.67	8,108.30	853.75	664.99	1,082.09	0.02	0.00	0.41
8,371.00	2.69	138.92	8,198.21	850.82	667.68	1,081.48	0.38	0.34	3.61
8,507.00	3.12	137.80	8,334.04	845.67	672.26	1,080.32	0.32	0.32	-0.82
LAST MWD SURVEY									
8,557.00	3.12	137.80	8,383.96	843.65	674.09	1,079.88	0.00	0.00	0.00

Anadarko Petroleum Corp

Survey Report

Company: US ROCKIES REGION PLANNING	Local Co-ordinate Reference: Well BONANZA 1023-5I1BS	
Project: UTAH - UTM (feet), NAD27, Zone 12N	TVD Reference: 5297' GL + 15' RKB @ 5312.00ft	
Site: UINTAH_BONANZA 1023-5I PAD	MD Reference: 5297' GL + 15' RKB @ 5312.00ft	
Well: BONANZA 1023-5I1BS	North Reference: True	
Wellbore: BONANZA 1023-5I1BS	Survey Calculation Method: Minimum Curvature	
Design: BONANZA 1023-5I1BS	Database: 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)
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PROJECTION TO TD

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,418.00	2,341.21	411.17	290.76	FIRST MWD SURVEY
8,507.00	8,334.04	845.67	672.26	LAST MWD SURVEY
8,557.00	8,383.96	843.65	674.09	PROJECTION TO TD

Checked By: _____	Approved By: _____	Date: _____
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