

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

FORM 3

AMENDED REPORT

<b>APPLICATION FOR PERMIT TO DRILL</b>		<b>1. WELL NAME and NUMBER</b> NBU 922-36F4BS
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>		<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES
<b>4. TYPE OF WELL</b> Gas Well Coalbed Methane Well: NO		<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. OPERATOR PHONE</b> 720 929-6515
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217		<b>9. OPERATOR E-MAIL</b> julie.jacobson@anadarko.com
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> ML-22650	<b>11. MINERAL OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>	
<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>
<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>		<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>
<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>		<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b>
<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
<b>LOCATION AT SURFACE</b>	2414 FNL 2443 FEL	SWNE	36	9.0 S	22.0 E	S
<b>Top of Uppermost Producing Zone</b>	2070 FNL 2149 FWL	SENW	36	9.0 S	22.0 E	S
<b>At Total Depth</b>	2070 FNL 2149 FWL	SENW	36	9.0 S	22.0 E	S

<b>21. COUNTY</b> UINTAH	<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 2070	<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 640
<b>24. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 493	<b>25. PROPOSED DEPTH</b> MD: 8827 TVD: 8714	
<b>26. ELEVATION - GROUND LEVEL</b> 4959	<b>27. BOND NUMBER</b> 22013542	<b>28. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496

**Hole, Casing, and Cement Information**

String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
<b>Surf</b>	11	8.625	0 - 2280	28.0	J-55 LT&C	0.2	Type V	180	1.15	15.8
							Class G	270	1.15	15.8
<b>Prod</b>	7.875	4.5	0 - 8827	11.6	I-80 LT&C	12.5	Premium Lite High Strength	280	3.38	11.0
							50/50 Poz	1200	1.31	14.3

**ATTACHMENTS**

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

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

<b>NAME</b> Gina Becker	<b>TITLE</b> Regulatory Analyst II	<b>PHONE</b> 720 929-6086
<b>SIGNATURE</b>	<b>DATE</b> 05/13/2011	<b>EMAIL</b> gina.becker@anadarko.com
<b>API NUMBER ASSIGNED</b> 43047516250000	<b>APPROVAL</b>   Permit Manager	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 922-36F4BS**

Surface: 2414 FNL / 2443 FEL SWNE  
 BHL: 2070 FNL / 2149 FWL SENW

Section 36 T9S R22E

Unitah County, Utah  
 Mineral Lease: ML-22650

**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	1172	
Birds Nest	1457	Water
Mahogany	1834	Water
Wasatch	4270	Gas
Mesaverde	6480	Gas
MVU2	7496	Gas
MVL1	8063	Gas
TVD	8714	
TD	8827	

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 8714' TVD, approximately equals  
5,565 psi (0.64 psi/ft = actual bottomhole gradient)

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

Maximum anticipated surface pressure equals approximately 3,648 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

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

**8. Anticipated Starting Dates:**

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

**9. Variances:**

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

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

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

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

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

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

**Background**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

***Conclusion***

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

**10. Other Information:**

*Please refer to the attached Drilling Program.*





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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	BTC
CONDUCTOR	14"	0-40'							
						3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,280	28.00	IJ-55	LTC	2.37	1.76	6.22	N/A
						7,780	6,350	279,000	367,000
PRODUCTION	4-1/2"	0 to 8,827	11.60	I-80	LTC/BTC	1.11	1.12	3.37	4.43

**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
SURFACE		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
Option 2	LEAD	1,780'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	160	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	3,767'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	280	20%	11.00	3.38
	TAIL	5,060'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,200	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 / Emile Goodwin

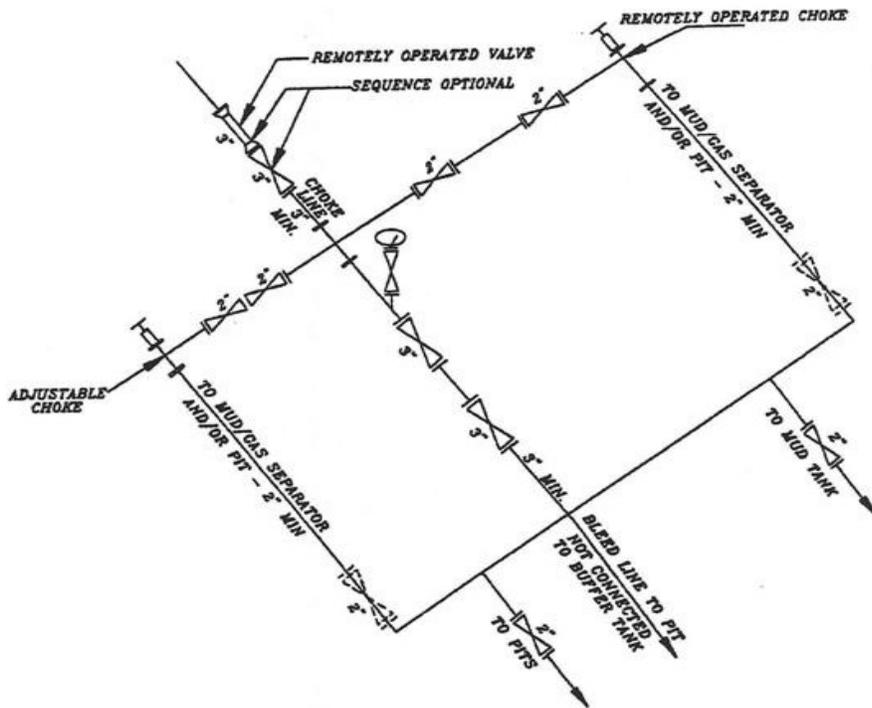
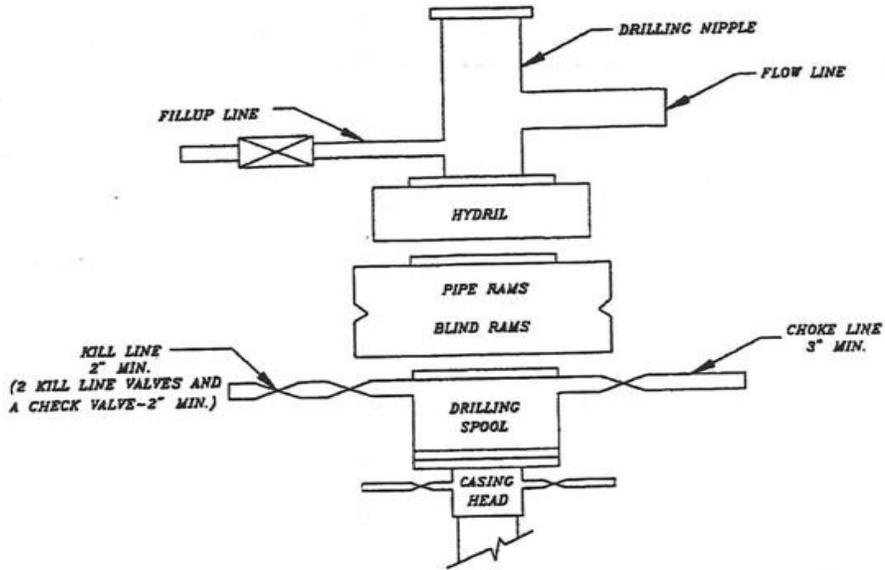
**DATE:**

**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

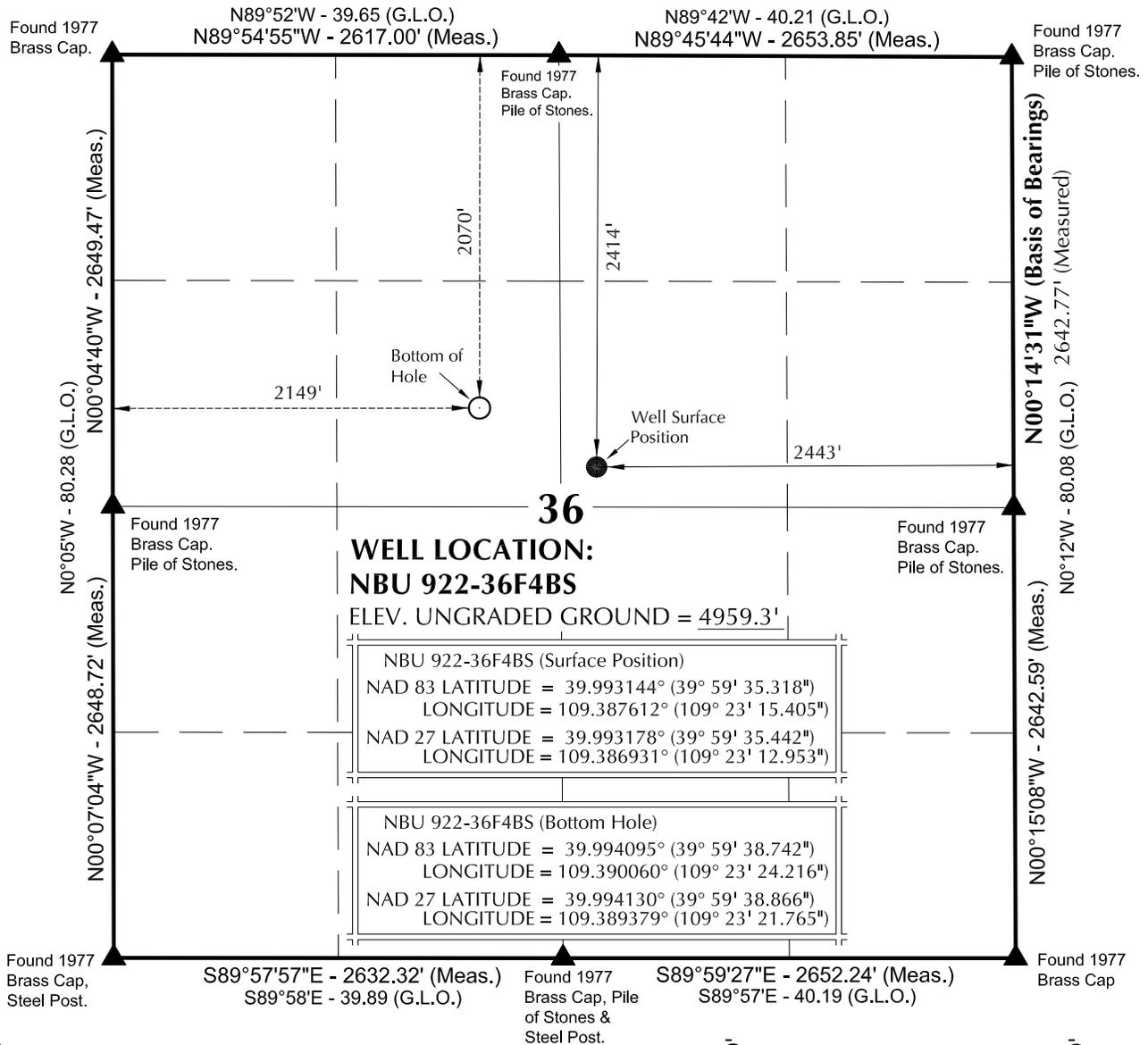
**DATE:**

EXHIBIT A  
NBU 922-36F4BS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

# T9S, R22E, S.L.B.&M.



**NOTES:**

▲ = Section Corners Located

- Well footages are measured at right angles to the Section Lines.
- G.L.O. distances are shown in feet or chains.  
1 chain = 66 feet.
- The Bottom of hole bears N63°14'43"W 768.57' from the Surface Position.
- Bearings are based on Global Positioning Satellite observations.
- 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'.



SCALE

**SURVEYOR'S CERTIFICATE**

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

*John R. Schlaug*  
 PROFESSIONAL LAND SURVEYOR  
 REGISTRATION NO. 6028691  
 STATE OF UTAH

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

**WELL PAD: NBU 922-36G3**

**NBU 922-36F4BS**  
**WELL PLAT**

**2070' FNL, 2149' FWL (Bottom Hole)**  
**SE ¼ NW ¼ OF SECTION 36, T9S, R22E,**  
**S.L.B.&M., UTAH COUNTY, UTAH.**



**CONSULTING, LLC**  
 2155 North Main Street  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

**TIMBERLINE**

(435) 789-1365

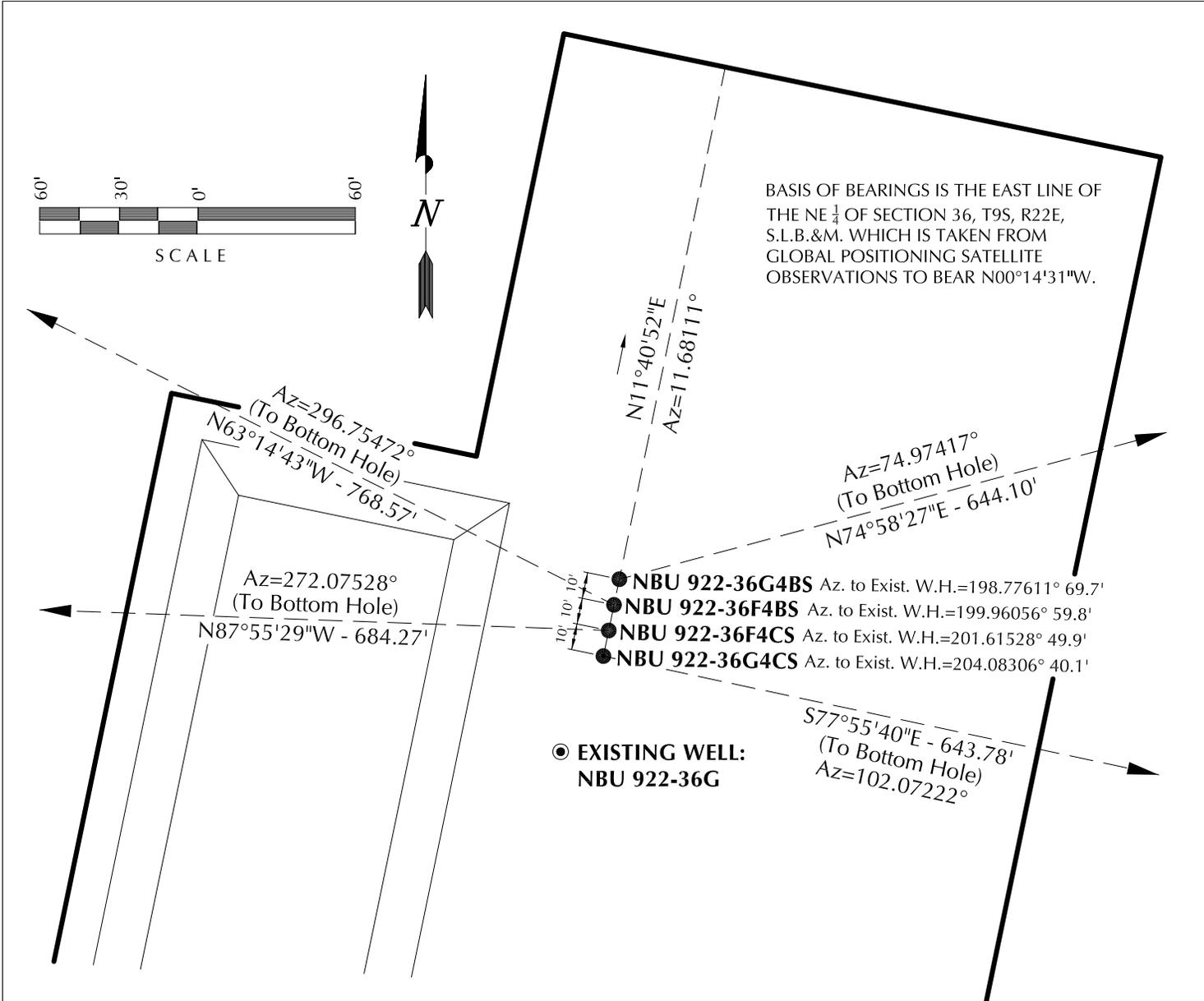
ENGINEERING & LAND SURVEYING, INC.  
 209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 09-02-10	SURVEYED BY: M.S.B.	SHEET NO: <b>3</b>
DATE DRAWN: 11-16-10	DRAWN BY: B.M.	
SCALE: 1" = 1000'	Date Last Revised: 12-15-10 E.M.S.	3 OF 16

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 922-36G4CS	39°59'35.125"	109°23'15.457"	39°59'35.249"	109°23'13.005"	2434' FNL	39°59'33.789"	109°23'07.372"	39°59'33.913"	109°23'04.921"	2566' FNL
NBU 922-36F4CS	39.993090°	109.387627°	39.993125°	109.386946°	2447' FEL	39.992719°	109.385381°	39.992754°	109.384700°	1818' FEL
NBU 922-36F4CS	39°59'35.221"	109°23'15.431"	39°59'35.345"	109°23'12.979"	2424' FNL	39°59'35.472"	109°23'24.214"	39°59'35.596"	109°23'21.762"	2401' FNL
NBU 922-36F4CS	39.993117°	109.387620°	39.993152°	109.386939°	2445' FEL	39.993187°	109.390059°	39.993221°	109.389378°	2149' FNL
NBU 922-36F4BS	39°59'35.318"	109°23'15.405"	39°59'35.442"	109°23'12.953"	2414' FNL	39°59'38.742"	109°23'24.216"	39°59'38.866"	109°23'21.765"	2070' FNL
NBU 922-36F4BS	39.993144°	109.387612°	39.993178°	109.386931°	2443' FEL	39.994095°	109.390060°	39.994130°	109.389379°	2149' FNL
NBU 922-36G4BS	39°59'35.415"	109°23'15.378"	39°59'35.539"	109°23'12.927"	2405' FNL	39°59'37.059"	109°23'07.386"	39°59'37.183"	109°23'04.935"	2235' FNL
NBU 922-36G4BS	39.993171°	109.387605°	39.993205°	109.386924°	2441' FEL	39.993628°	109.385385°	39.993662°	109.384704°	1818' FEL
NBU 922-36G	39°59'34.763"	109°23'15.667"	39°59'34.887"	109°23'13.216"	2471' FNL					
NBU 922-36G	39.992990°	109.387685°	39.993024°	109.387004°	2463' FEL					

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 922-36G4CS	-134.6'	629.5'	NBU 922-36F4CS	24.8'	-683.8'	NBU 922-36F4BS	346.0'	-686.3'	NBU 922-36G4BS	167.0'	622.1'



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

**WELL PAD - NBU 922-36G3**

**WELL PAD INTERFERENCE PLAT**  
WELLS - NBU 922-36G4CS, NBU 922-36F4CS,  
NBU 922-36F4BS & NBU 922-36G4BS,  
LOCATED IN SECTION 36, T9S, R22E,  
S.L.B.&M., UINTAH COUNTY, UTAH.



**CONSULTING, LLC**  
2155 North Main Street  
Sheridan WY 82801  
Phone 307-674-0609  
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**TIMBERLINE**

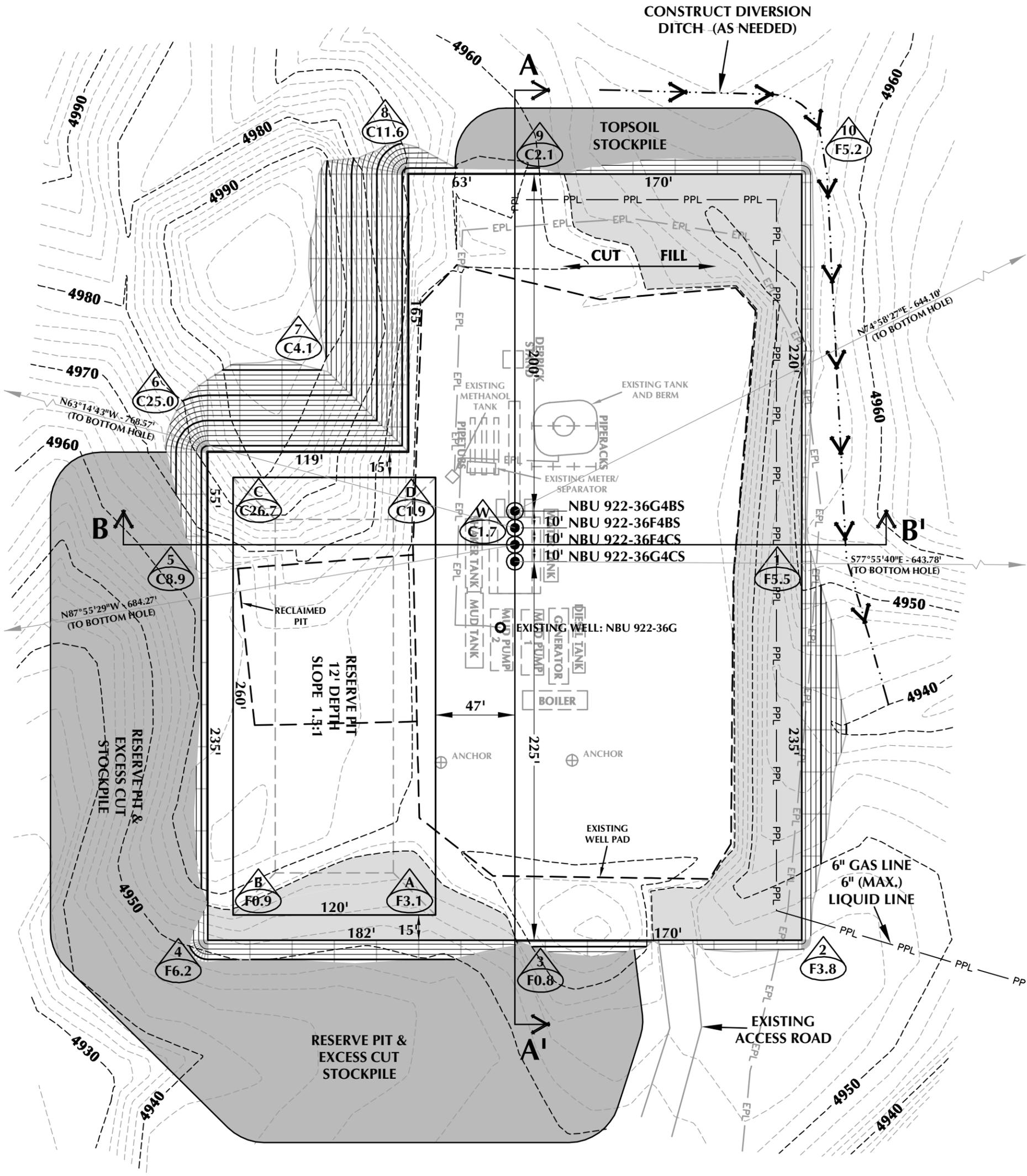
(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.

209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 09-02-10	SURVEYED BY: M.S.B.	SHEET NO: <b>5</b>
DATE DRAWN: 11-16-10	DRAWN BY: B.M.	
SCALE: 1" = 60'	Date Last Revised: 12-15-10 E.M.S.	5 OF 16

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



**WELL PAD - NBU 922-36G3 DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 4959.2'  
 FINISHED GRADE ELEVATION = 4957.5'  
 CUT SLOPES = 1.5:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.82 ACRES  
 TOTAL DAMAGE AREA = 6.28 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

**WELL PAD QUANTITIES**  
 TOTAL CUT FOR WELL PAD = 19,427 C.Y.  
 TOTAL FILL FOR WELL PAD = 9,665 C.Y.  
 TOPSOIL @ 6" DEPTH = 1,864 C.Y.  
 EXCESS MATERIAL = 9,762 C.Y.

**RESERVE PIT QUANTITIES**  
 TOTAL CUT FOR RESERVE PIT +/- 11,020 C.Y.  
 RESERVE PIT CAPACITY (2' OF FREEBOARD) +/- 42,290 BARRELS

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



**609 CONSULTING, LLC**  
 2155 North Main Street  
 Sheridan, WY 82801  
 Phone 307-674-0609  
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 209 NORTH 300 WEST - VERNAL, UTAH 84078  
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**WELL PAD LEGEND**

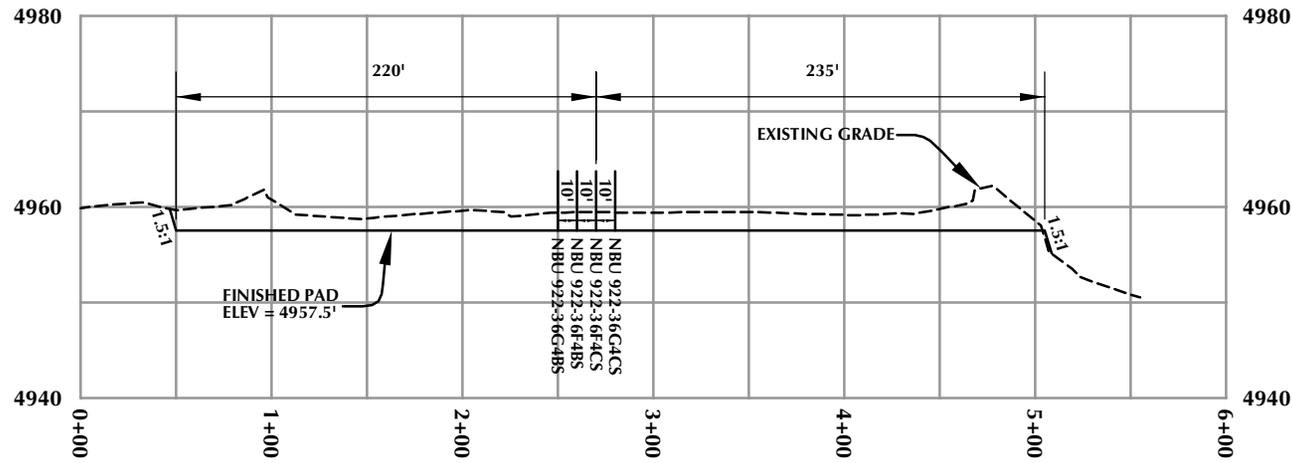
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL - PROPOSED PIPELINE
- EPL - EXISTING PIPELINE



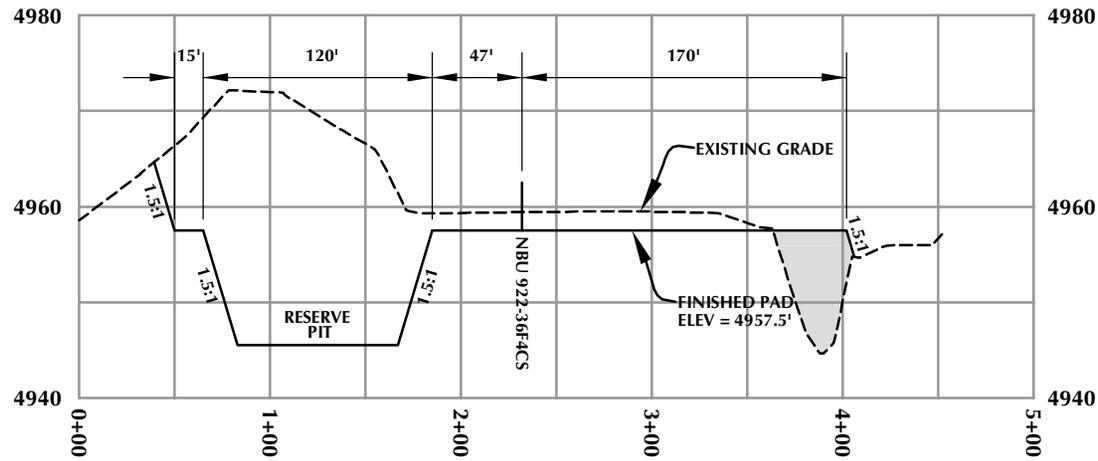
HORIZONTAL 0 30' 60' 1" = 60'  
 2' CONTOURS

SCALE: 1"=60' DATE: 12/3/10 SHEET NO: **6** 6 OF 16  
 REVISED:

I:\ANACARDIO\2010\_48\_NBU\_FOCUS\_SEC\_36-922\DWG\NBU\_922-36G\_PAD\_20101103.dwg, 12/7/2010 1:13:15 PM, BAC



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

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

**WELL PAD - NBU 922-36G3**

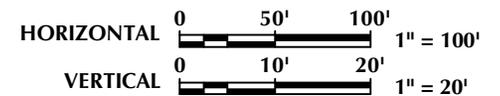
**WELL PAD - CROSS SECTIONS**  
NBU 922-36G4CS, NBU 922-36F4CS,  
NBU 922-36F4BS & NBU 922-36G4BS  
LOCATED IN SECTION 36, T9S, R22E,  
S.L.B.&M., Uintah County, Utah



**CONSULTING, LLC**  
2155 North Main Street  
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: 12/3/10

SHEET NO:

REVISED:

**7**

7 OF 16



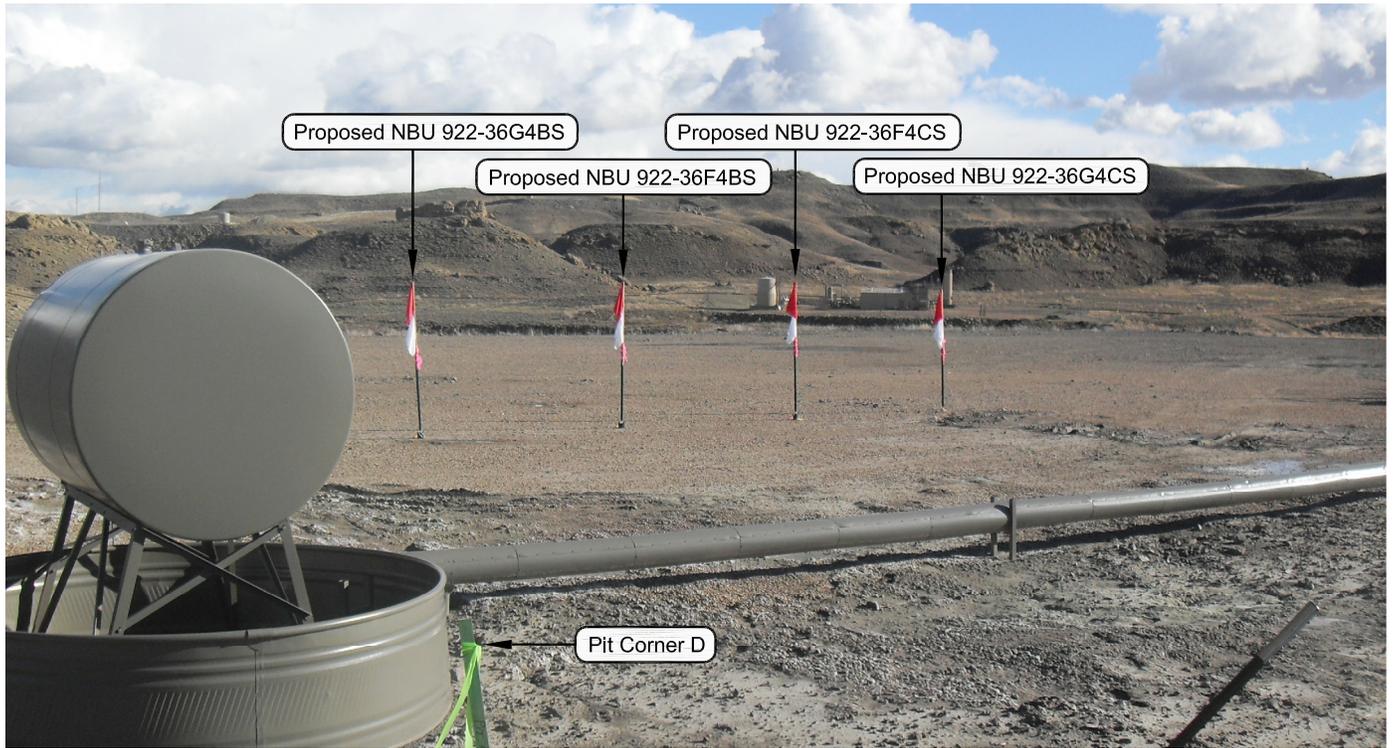


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: SOUTHEASTERLY



PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: NORTHERLY

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

**WELL PAD - NBU 922-36G3**

**LOCATION PHOTOS**

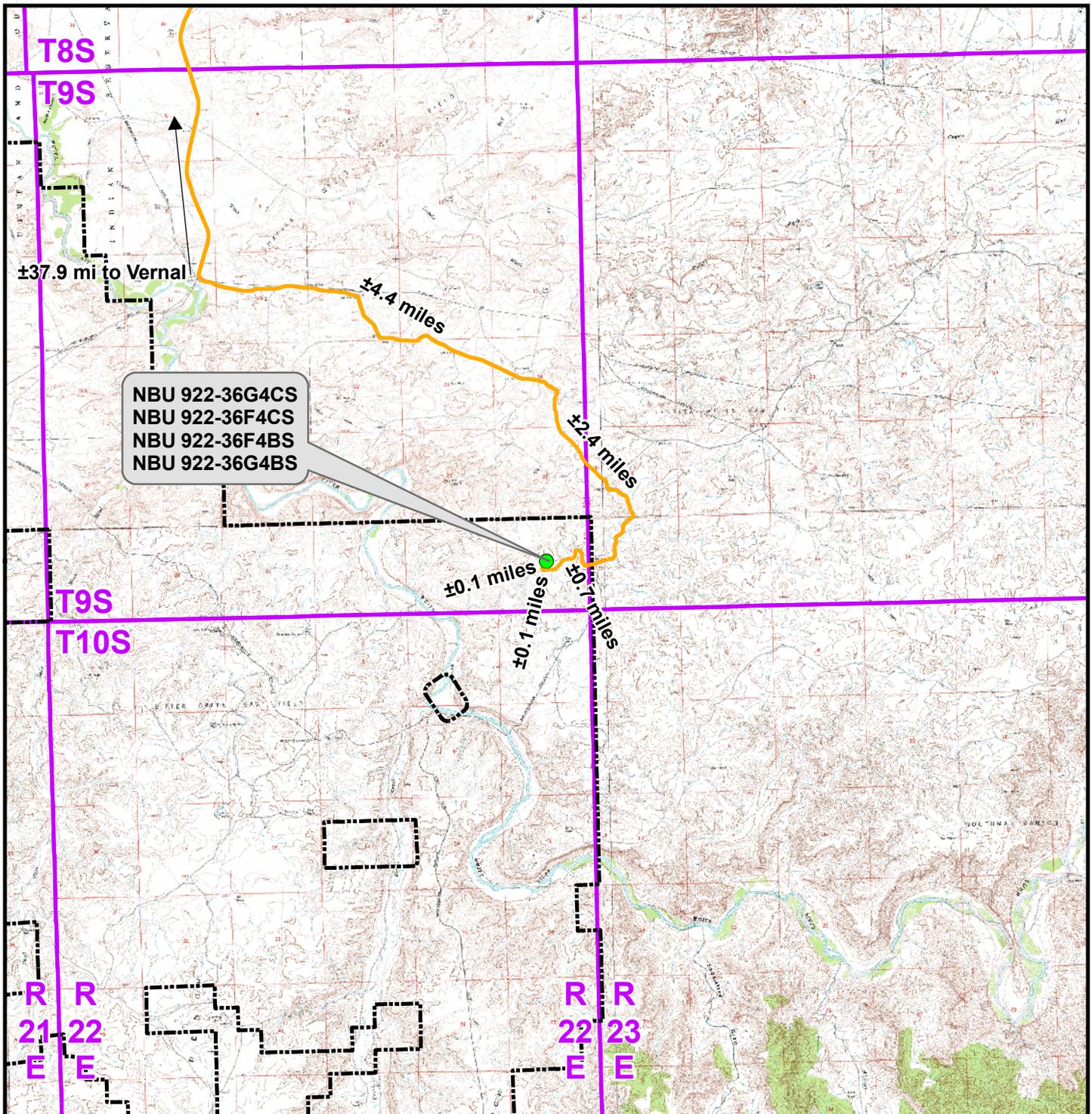
**NBU 922-36G4CS, NBU 922-36F4CS,  
 NBU 922-36F4BS & NBU 922-36G4BS  
 LOCATED IN SECTION 36, T9S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH.**



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 2155 North Main Street  
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 ENGINEERING & LAND SURVEYING, INC.  
 209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 09-02-10	PHOTOS TAKEN BY: M.S.B.	<b>9</b> 9 OF 16
DATE DRAWN: 11-16-10	DRAWN BY: B.M.	
Date Last Revised:		



**Legend**

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

Distance From Well Pad - NBU 922-36G3 To Unit Boundary: ±2,405ft

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

**WELL PAD - NBU 922-36G3**

**TOPO A**

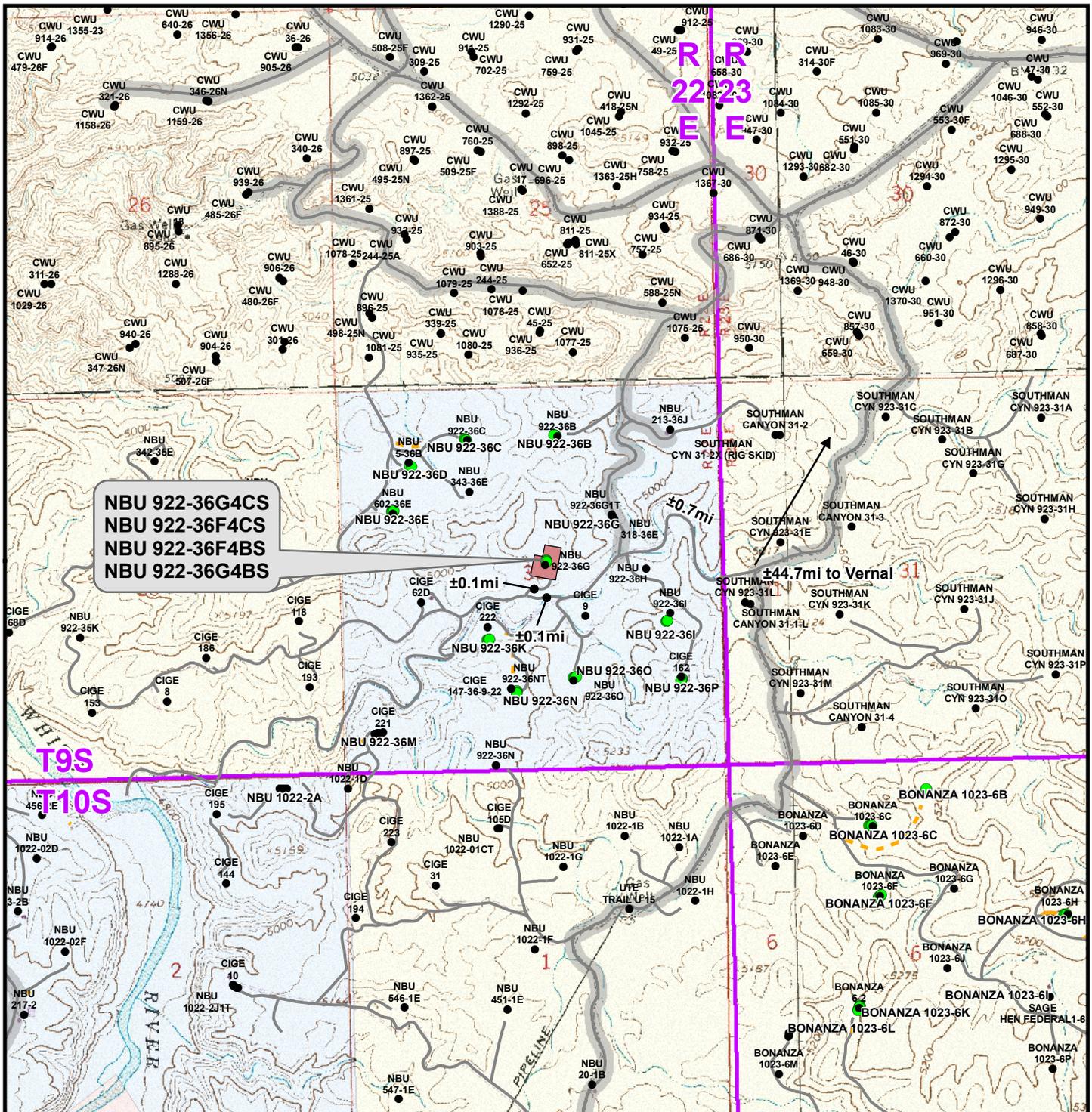
**NBU 922-36G4CS, NBU 922-36F4CS,  
NBU 922-36F4BS & NBU 922-36G4BS  
LOCATED IN SECTION 36, T9S, R22E,  
S.L.B.&M., UINTAH COUNTY, UTAH**



**CONSULTING, LLC**  
2155 North Main Street  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1:100,000	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 3 Dec 2010	10
Revised:	Date:	



**NBU 922-36G4CS  
NBU 922-36F4CS  
NBU 922-36F4BS  
NBU 922-36G4BS**

**Legend**

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

Total Proposed Road Length: ±0ft

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

**WELL PAD - NBU 922-36G3**

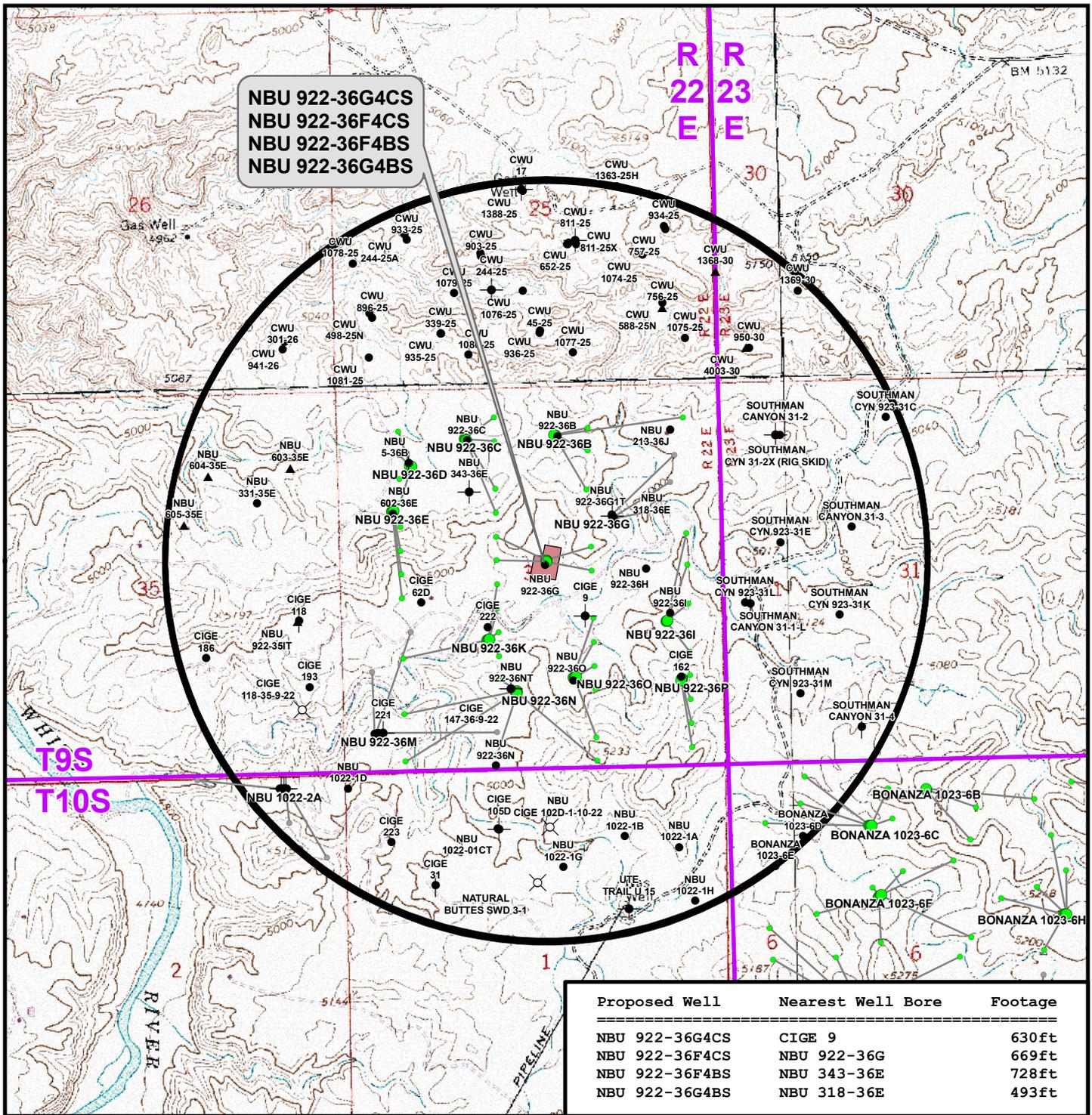
**TOPO B**  
NBU 922-36G4CS, NBU 922-36F4CS,  
NBU 922-36F4BS & NBU 922-36G4BS  
LOCATED IN SECTION 36, T9S, R22E,  
S.L.B.&M., UTAH COUNTY, UTAH



**609 CONSULTING, LLC**  
2155 North Main Street  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:	<b>11</b>
Drawn: TL	Date: 3 Dec 2010	11 of 16	
Revised:	Date:		



Proposed Well	Nearest Well Bore	Footage
NBU 922-36G4CS	CIGE 9	630ft
NBU 922-36F4CS	NBU 922-36G	669ft
NBU 922-36F4BS	NBU 343-36E	728ft
NBU 922-36G4BS	NBU 318-36E	493ft

**Legend**

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

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

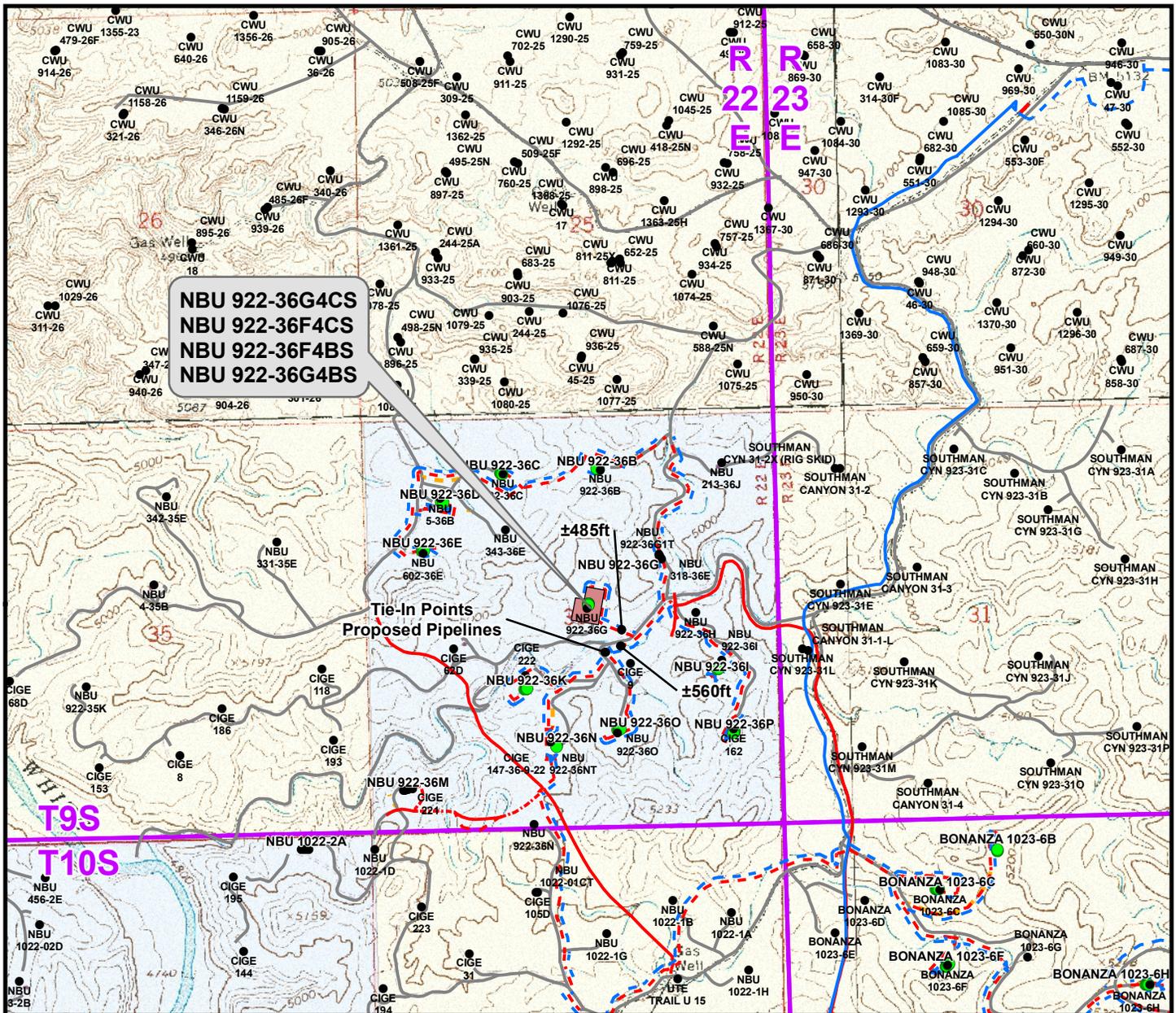
**WELL PAD - NBU 922-36G3**

**TOPO C**  
 NBU 922-36G4CS, NBU 922-36F4CS,  
 NBU 922-36F4BS & NBU 922-36G4BS  
 LOCATED IN SECTION 36, T9S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

**609**  
 CONSULTING, LLC  
 2155 North Main Street  
 Sheridan, WY 82801  
 Phone (307) 674-0609  
 Fax (307) 674-0182



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 3 Dec 2010	12
Revised:	Date:	



**NBU 922-36G4CS  
NBU 922-36F4CS  
NBU 922-36F4BS  
NBU 922-36G4BS**

**Tie-In Points  
Proposed Pipelines**

**±485ft**

**±560ft**

Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±675ft
Proposed 6" (Max.) (Edge of Pad to 36I Intersection)	±485ft
Proposed 6" (Max.) (36I Intersection to 36O Intersection)	±560ft
<b>TOTAL PROPOSED LIQUID PIPELINE =</b>	<b>±1,720ft</b>

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±675ft
Proposed 6" (Edge of Pad to 36I Intersection)	±485ft
Proposed 16" (36I Intersection to 36O Intersection)	±560ft
<b>TOTAL PROPOSED GAS PIPELINE =</b>	<b>±1,720ft</b>

**Legend**

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

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

**WELL PAD - NBU 922-36G3**

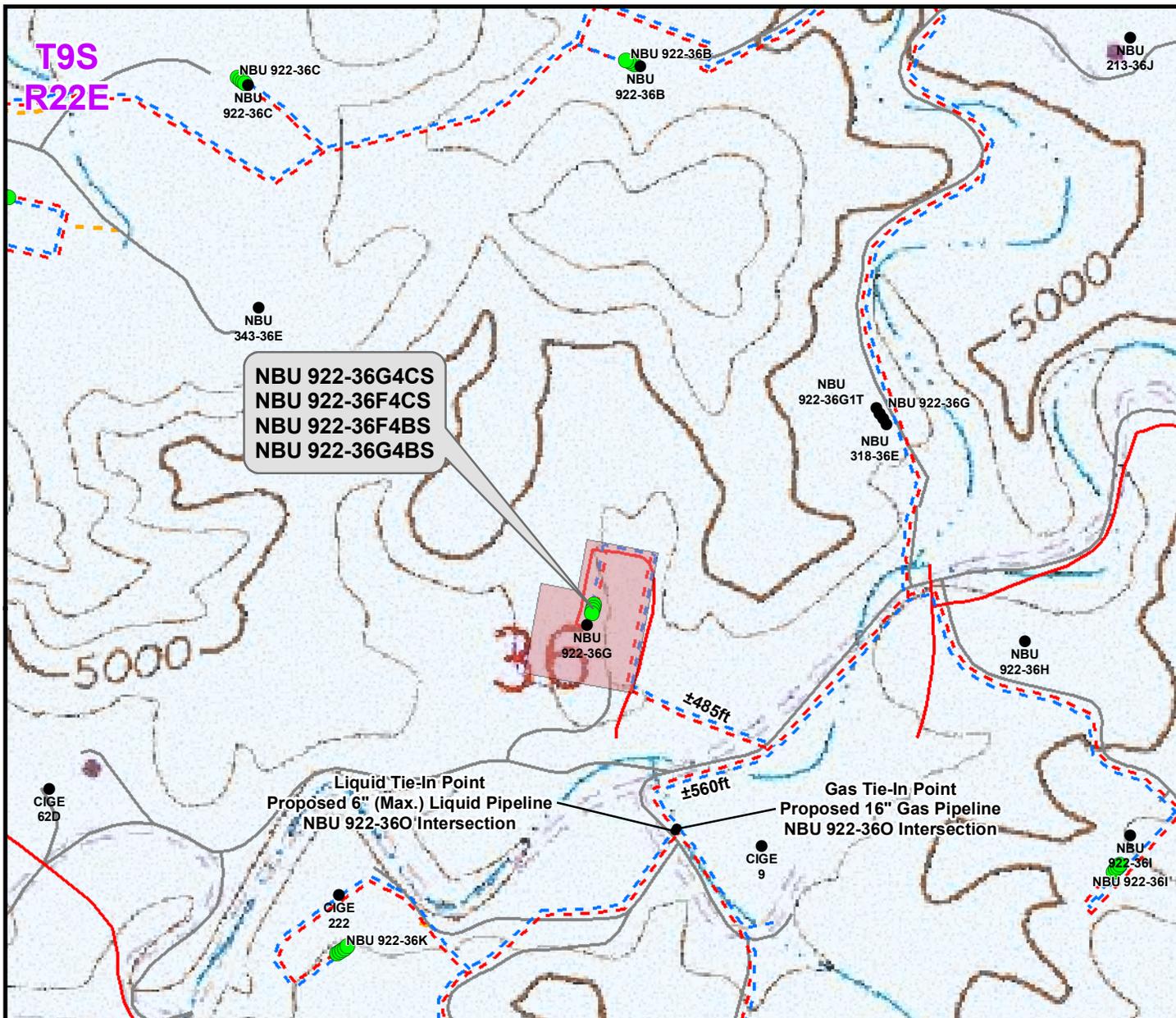
**TOPO D**  
**NBU 922-36G4CS, NBU 922-36F4CS,**  
**NBU 922-36F4BS & NBU 922-36G4BS**  
**LOCATED IN SECTION 36, T9S, R22E,**  
**S.L.B.&M., UINTAH COUNTY, UTAH**

**609**

**CONSULTING, LLC**  
2155 North Main Street  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 3 Dec 2010	<b>13</b>
Revised:	Date:	



Proposed Liquid Pipeline		Length	Proposed Gas Pipeline		Length
Proposed 6" (Max.)	(Meter House to Edge of Pad)	±675ft	Proposed 6" (Meter House to Edge of Pad)		±675ft
Proposed 6" (Max.)	(Edge of Pad to 36I Intersection)	±485ft	Proposed 6" (Edge of Pad to 36I Intersection)		±485ft
Proposed 6" (Max.)	(36I Intersection to 36O Intersection)	±560ft	Proposed 16" (36I Intersection to 36O Intersection)		±560ft
TOTAL PROPOSED LIQUID PIPELINE =		±1,720ft	TOTAL PROPOSED GAS PIPELINE =		±1,720ft

**Legend**

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

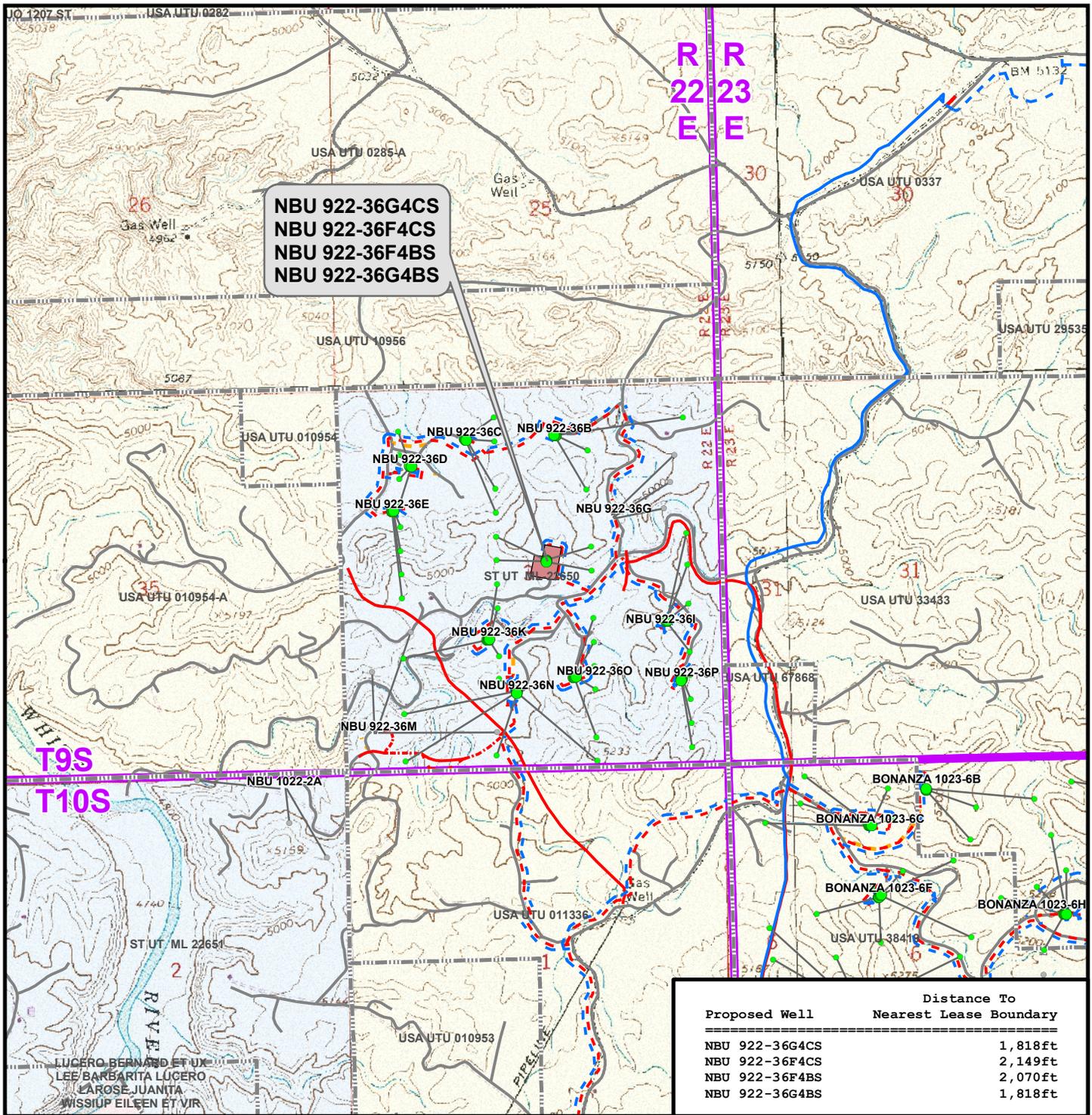
**Kerr-McGee Oil & Gas Onshore, LP**  
 1099 18th Street, Denver, Colorado 80202

**WELL PAD - NBU 922-36G3**

**TOPO D2 (PAD & PIPELINE DETAIL)**  
 NBU 922-36G4CS, NBU 922-36F4CS,  
 NBU 922-36F4BS & NBU 922-36G4BS  
 LOCATED IN SECTION 36, T9S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

**609**  
 CONSULTING, LLC  
 2155 North Main Street  
 Sheridan, WY 82801  
 Phone (307) 674-0609  
 Fax (307) 674-0182

Scale: 1" = 500ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 3 Dec 2010	<b>14</b> 14 of 16
Revised:	Date:	



Proposed Well	Distance To Nearest Lease Boundary
NBU 922-36G4CS	1,818ft
NBU 922-36F4CS	2,149ft
NBU 922-36F4BS	2,070ft
NBU 922-36G4BS	1,818ft

**Legend**

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

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

**WELL PAD - NBU 922-36G3**

**TOPO E**  
 NBU 922-36G4CS, NBU 922-36F4CS,  
 NBU 922-36F4BS & NBU 922-36G4BS  
 LOCATED IN SECTION 36, T9S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH

**609**  
 CONSULTING, LLC  
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 Sheridan, WY 82801  
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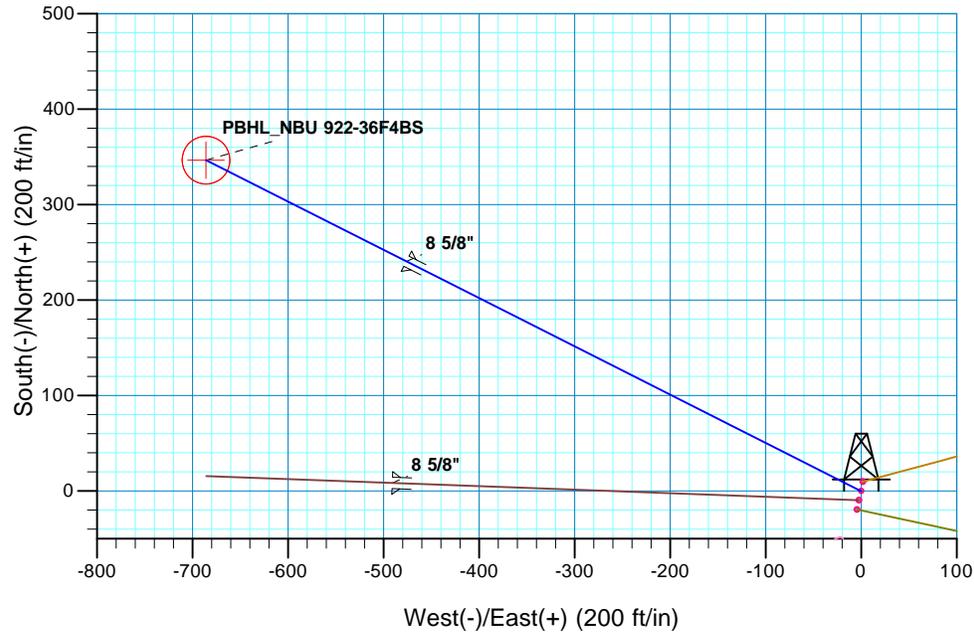
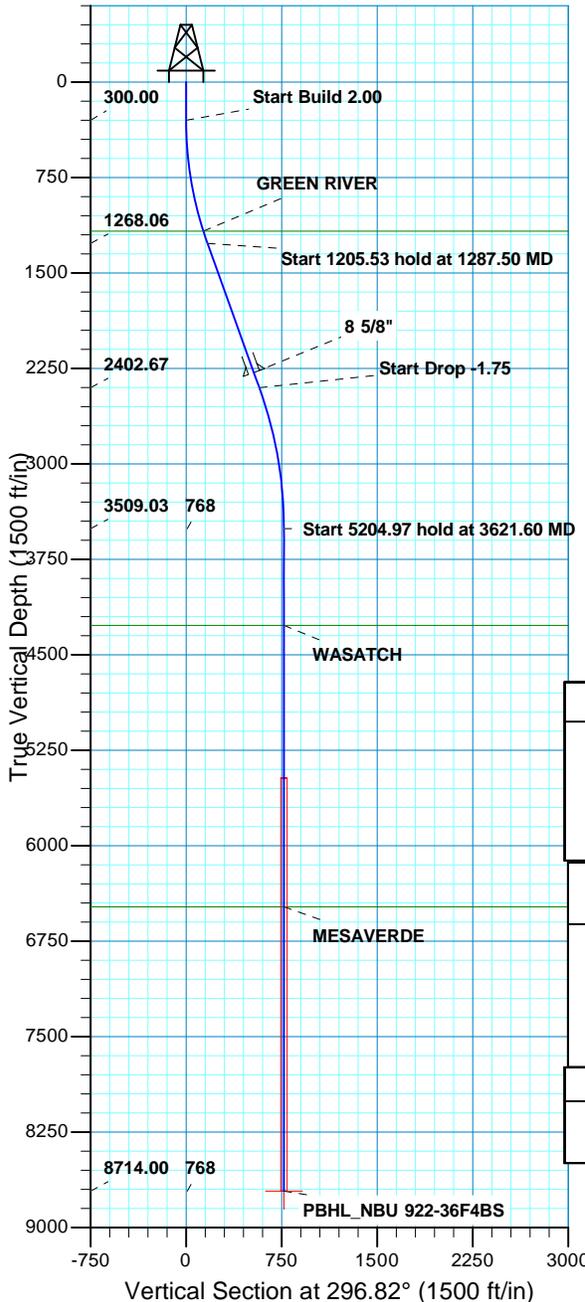
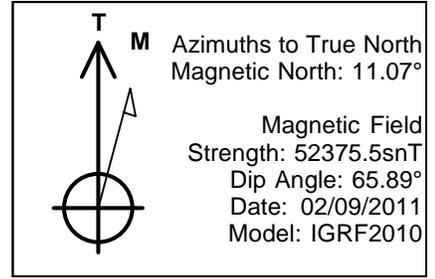
Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 3 Dec 2010	<b>15</b> 15 of 16
Revised:	Date:	

**Kerr-McGee Oil & Gas Onshore, LP**  
**WELL PAD – NBU 922-36G3**  
**WELLS – NBU 922-36G4CS, NBU 922-36F4CS,**  
**NBU 922-36F4BS & NBU 922-36G4BS**  
**Section 36, T9S, R22E, 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 Fidlar 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 Fidlar Road approximately 4.4 miles to the intersection of the Seven Sisters Road (County B Road 3420). Exit right and proceed in a southerly, then southeasterly direction along the Seven Sisters Road approximately 2.4 miles to a service road to the southwest. Exit right and proceed in a southwesterly, then northerly, then southwesterly direction along the service road approximately 0.7 miles to a second service road to the west. Exit right and proceed in a westerly direction along the second service road approximately 0.1 miles to an access road to the north. Exit right and proceed in a northeasterly direction along the access road approximately 0.1 miles to the proposed well pad.

Total distance from Vernal, Utah to the proposed well location is approximately 45.6 miles in a southerly direction.

WELL DETAILS: NBU 922-36F4BS						
GL 4958' & KB 4' @ 4962.00ft (ASSUMED)						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	14527648.37	2092225.50	39° 59' 35.441 N	109° 23' 12.952 W	
DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude Longitude Shape
PBHL	8714.00	346.75	-685.80	14527982.65	2091533.53	39° 59' 38.868 N 109° 23' 21.764 W Circle (Radius: 25.00)
- plan hits target center						



SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
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	
1287.50	19.75	296.82	1268.06	76.04	-150.39	2.00	296.82	168.52	
2493.03	19.75	296.82	2402.67	259.85	-513.93	0.00	0.00	575.89	
3621.60	0.00	0.00	3509.03	346.75	-685.80	1.75	180.00	768.48	
8826.57	0.00	0.00	8714.00	346.75	-685.80	0.00	0.00	768.48	PBHL_NBU 922-36F4BS

PROJECT DETAILS: Uintah County, UT UTM12		FORMATION TOP DETAILS		
Geodetic System: Universal Transverse Mercator (US Survey Feet)		TVDPath	MDPath	Formation
Datum: NAD 1927 - Western US		4270.00	4382.57	GREEN RIVER
Ellipsoid: Clarke 1866		6480.00	6592.57	WASATCH
Zone: Zone 12N (114 W to 108 W)				MESAVERDE
Location: SECTION 36 T9S R22E				
System Datum: Mean Sea Level				

CASING DETAILS				
TVD	MD	Name	Size	
2284.00	2366.94	8 5/8"	8.625	



# **Kerr McGee Oil and Gas Onshore LP**

**Uintah County, UT UTM12  
NBU 922-36G3 PAD  
NBU 922-36F4BS**

**OH**

**Plan: PLAN #1 2-8-11 RHS**

## **Standard Planning Report**

**09 February, 2011**



SDI  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36F4BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36G3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-8-11 RHS		

<b>Project</b>	Uintah County, UT UTM12		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 - Western US		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 922-36G3 PAD, SECTION 36 T9S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,527,629.00 usft	<b>Latitude:</b>	39° 59' 35.250 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,092,221.64 usft	<b>Longitude:</b>	109° 23' 13.006 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	1.04 °

<b>Well</b>	NBU 922-36F4BS, 2436 FNL 2447 FEL					
<b>Well Position</b>	<b>+N/-S</b>	19.30 ft	<b>Northing:</b>	14,527,648.38 usft	<b>Latitude:</b>	39° 59' 35.441 N
	<b>+E/-W</b>	4.20 ft	<b>Easting:</b>	2,092,225.49 usft	<b>Longitude:</b>	109° 23' 12.952 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	4,958.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	02/09/2011	11.07	65.89	52,376

<b>Design</b>	PLAN #1 2-8-11 RHS			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	296.82

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,287.50	19.75	296.82	1,268.06	76.04	-150.39	2.00	2.00	0.00	296.82	
2,493.03	19.75	296.82	2,402.67	259.85	-513.93	0.00	0.00	0.00	0.00	
3,621.60	0.00	0.00	3,509.03	346.75	-685.80	1.75	-1.75	0.00	180.00	
8,826.57	0.00	0.00	8,714.00	346.75	-685.80	0.00	0.00	0.00	0.00	PBHL_NBU 922-36F4



SDI  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36F4BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36G3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-8-11 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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	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	
<b>Start Build 2.00</b>										
400.00	2.00	296.82	399.98	0.79	-1.56	1.75	2.00	2.00	0.00	
500.00	4.00	296.82	499.84	3.15	-6.23	6.98	2.00	2.00	0.00	
600.00	6.00	296.82	599.45	7.08	-14.01	15.69	2.00	2.00	0.00	
700.00	8.00	296.82	698.70	12.58	-24.88	27.88	2.00	2.00	0.00	
800.00	10.00	296.82	797.47	19.64	-38.84	43.52	2.00	2.00	0.00	
900.00	12.00	296.82	895.62	28.25	-55.87	62.60	2.00	2.00	0.00	
1,000.00	14.00	296.82	993.06	38.40	-75.94	85.10	2.00	2.00	0.00	
1,100.00	16.00	296.82	1,089.64	50.07	-99.04	110.98	2.00	2.00	0.00	
1,186.06	17.72	296.82	1,172.00	61.34	-121.31	135.94	2.00	2.00	0.00	
<b>GREEN RIVER</b>										
1,200.00	18.00	296.82	1,185.27	63.27	-125.13	140.21	2.00	2.00	0.00	
1,287.50	19.75	296.82	1,268.06	76.04	-150.39	168.52	2.00	2.00	0.00	
<b>Start 1205.53 hold at 1287.50 MD</b>										
1,300.00	19.75	296.82	1,279.82	77.94	-154.16	172.74	0.00	0.00	0.00	
1,400.00	19.75	296.82	1,373.94	93.19	-184.31	206.53	0.00	0.00	0.00	
1,500.00	19.75	296.82	1,468.06	108.44	-214.47	240.33	0.00	0.00	0.00	
1,600.00	19.75	296.82	1,562.18	123.69	-244.63	274.12	0.00	0.00	0.00	
1,700.00	19.75	296.82	1,656.30	138.93	-274.78	307.91	0.00	0.00	0.00	
1,800.00	19.75	296.82	1,750.41	154.18	-304.94	341.70	0.00	0.00	0.00	
1,900.00	19.75	296.82	1,844.53	169.43	-335.10	375.49	0.00	0.00	0.00	
2,000.00	19.75	296.82	1,938.65	184.67	-365.25	409.28	0.00	0.00	0.00	
2,100.00	19.75	296.82	2,032.77	199.92	-395.41	443.08	0.00	0.00	0.00	
2,200.00	19.75	296.82	2,126.88	215.17	-425.56	476.87	0.00	0.00	0.00	
2,300.00	19.75	296.82	2,221.00	230.42	-455.72	510.66	0.00	0.00	0.00	
2,366.94	19.75	296.82	2,284.00	240.62	-475.91	533.28	0.00	0.00	0.00	
<b>8 5/8"</b>										
2,400.00	19.75	296.82	2,315.12	245.66	-485.88	544.45	0.00	0.00	0.00	
2,493.03	19.75	296.82	2,402.67	259.85	-513.93	575.89	0.00	0.00	0.00	
<b>Start Drop -1.75</b>										
2,500.00	19.63	296.82	2,409.24	260.91	-516.03	578.24	1.75	-1.75	0.00	
2,600.00	17.88	296.82	2,503.93	275.41	-544.72	610.38	1.75	-1.75	0.00	
2,700.00	16.13	296.82	2,599.55	288.61	-570.81	639.62	1.75	-1.75	0.00	
2,800.00	14.38	296.82	2,696.03	300.48	-594.29	665.93	1.75	-1.75	0.00	
2,900.00	12.63	296.82	2,793.26	311.01	-615.12	689.28	1.75	-1.75	0.00	
3,000.00	10.88	296.82	2,891.16	320.20	-633.30	709.65	1.75	-1.75	0.00	
3,100.00	9.13	296.82	2,989.63	328.04	-648.80	727.02	1.75	-1.75	0.00	
3,200.00	7.38	296.82	3,088.59	334.52	-661.61	741.37	1.75	-1.75	0.00	
3,300.00	5.63	296.82	3,187.95	339.63	-671.72	752.70	1.75	-1.75	0.00	
3,400.00	3.88	296.82	3,287.60	343.36	-679.11	760.98	1.75	-1.75	0.00	
3,500.00	2.13	296.82	3,387.46	345.73	-683.79	766.22	1.75	-1.75	0.00	
3,600.00	0.38	296.82	3,487.43	346.71	-685.74	768.41	1.75	-1.75	0.00	
3,621.60	0.00	0.00	3,509.03	346.75	-685.80	768.48	1.75	-1.75	0.00	
<b>Start 5204.97 hold at 3621.60 MD</b>										
3,700.00	0.00	0.00	3,587.43	346.75	-685.80	768.48	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,687.43	346.75	-685.80	768.48	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,787.43	346.75	-685.80	768.48	0.00	0.00	0.00	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36F4BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36G3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-8-11 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)	
4,000.00	0.00	0.00	3,887.43	346.75	-685.80	768.48	0.00	0.00	0.00	
4,100.00	0.00	0.00	3,987.43	346.75	-685.80	768.48	0.00	0.00	0.00	
4,200.00	0.00	0.00	4,087.43	346.75	-685.80	768.48	0.00	0.00	0.00	
4,300.00	0.00	0.00	4,187.43	346.75	-685.80	768.48	0.00	0.00	0.00	
4,382.57	0.00	0.00	4,270.00	346.75	-685.80	768.48	0.00	0.00	0.00	
<b>WASATCH</b>										
4,400.00	0.00	0.00	4,287.43	346.75	-685.80	768.48	0.00	0.00	0.00	
4,500.00	0.00	0.00	4,387.43	346.75	-685.80	768.48	0.00	0.00	0.00	
4,600.00	0.00	0.00	4,487.43	346.75	-685.80	768.48	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,587.43	346.75	-685.80	768.48	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,687.43	346.75	-685.80	768.48	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,787.43	346.75	-685.80	768.48	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,887.43	346.75	-685.80	768.48	0.00	0.00	0.00	
5,100.00	0.00	0.00	4,987.43	346.75	-685.80	768.48	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,087.43	346.75	-685.80	768.48	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,187.43	346.75	-685.80	768.48	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,287.43	346.75	-685.80	768.48	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,387.43	346.75	-685.80	768.48	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,487.43	346.75	-685.80	768.48	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,587.43	346.75	-685.80	768.48	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,687.43	346.75	-685.80	768.48	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,787.43	346.75	-685.80	768.48	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,887.43	346.75	-685.80	768.48	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,987.43	346.75	-685.80	768.48	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,087.43	346.75	-685.80	768.48	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,187.43	346.75	-685.80	768.48	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,287.43	346.75	-685.80	768.48	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,387.43	346.75	-685.80	768.48	0.00	0.00	0.00	
6,592.57	0.00	0.00	6,480.00	346.75	-685.80	768.48	0.00	0.00	0.00	
<b>MESAVERDE</b>										
6,600.00	0.00	0.00	6,487.43	346.75	-685.80	768.48	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,587.43	346.75	-685.80	768.48	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,687.43	346.75	-685.80	768.48	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,787.43	346.75	-685.80	768.48	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,887.43	346.75	-685.80	768.48	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,987.43	346.75	-685.80	768.48	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,087.43	346.75	-685.80	768.48	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,187.43	346.75	-685.80	768.48	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,287.43	346.75	-685.80	768.48	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,387.43	346.75	-685.80	768.48	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,487.43	346.75	-685.80	768.48	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,587.43	346.75	-685.80	768.48	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,687.43	346.75	-685.80	768.48	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,787.43	346.75	-685.80	768.48	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,887.43	346.75	-685.80	768.48	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,987.43	346.75	-685.80	768.48	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,087.43	346.75	-685.80	768.48	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,187.43	346.75	-685.80	768.48	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,287.43	346.75	-685.80	768.48	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,387.43	346.75	-685.80	768.48	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,487.43	346.75	-685.80	768.48	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,587.43	346.75	-685.80	768.48	0.00	0.00	0.00	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36F4BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36G3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-8-11 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)	
8,800.00	0.00	0.00	8,687.43	346.75	-685.80	768.48	0.00	0.00	0.00	
8,826.57	0.00	0.00	8,714.00	346.75	-685.80	768.48	0.00	0.00	0.00	
TD at 8826.57 - PBHL_NBU 922-36F4BS										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PBHL_NBU 922-36F4BS - hit/miss target - Shape	0.00	0.00	8,714.00	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
- plan hits target center - Circle (radius 25.00)										

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
2,366.94	2,284.00	8 5/8"	8.625	11.000		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,186.06	1,172.00	GREEN RIVER				
4,382.57	4,270.00	WASATCH				
6,592.57	6,480.00	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	
1,287.50	1,268.06	76.04	-150.39	Start 1205.53 hold at 1287.50 MD	
2,493.03	2,402.67	259.85	-513.93	Start Drop -1.75	
3,621.60	3,509.03	346.75	-685.80	Start 5204.97 hold at 3621.60 MD	
8,826.57	8,714.00	346.75	-685.80	TD at 8826.57	



# **Kerr McGee Oil and Gas Onshore LP**

**Uintah County, UT UTM12  
NBU 922-36G3 PAD  
NBU 922-36F4BS**

**OH**

**Plan: PLAN #1 2-8-11 RHS**

## **Standard Planning Report - Geographic**

**09 February, 2011**



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36F4BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36G3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-8-11 RHS		

<b>Project</b>	Uintah County, UT UTM12		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 - Western US		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 922-36G3 PAD, SECTION 36 T9S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,527,629.00 usft	<b>Latitude:</b>	39° 59' 35.250 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,092,221.64 usft	<b>Longitude:</b>	109° 23' 13.006 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	1.04 °

<b>Well</b>	NBU 922-36F4BS, 2436 FNL 2447 FEL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,527,648.38 usft	<b>Latitude:</b>	39° 59' 35.441 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,092,225.49 usft	<b>Longitude:</b>	109° 23' 12.952 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	4,958.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	02/09/2011	11.07	65.89	52,376

<b>Design</b>	PLAN #1 2-8-11 RHS			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	296.82

<b>Plan Sections</b>										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,287.50	19.75	296.82	1,268.06	76.04	-150.39	2.00	2.00	0.00	296.82	
2,493.03	19.75	296.82	2,402.67	259.85	-513.93	0.00	0.00	0.00	0.00	
3,621.60	0.00	0.00	3,509.03	346.75	-685.80	1.75	-1.75	0.00	180.00	
8,826.57	0.00	0.00	8,714.00	346.75	-685.80	0.00	0.00	0.00	0.00	PBHL_NBU 922-36F4



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36F4BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36G3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-8-11 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	14,527,648.38	2,092,225.49	39° 59' 35.441 N	109° 23' 12.952 W	
100.00	0.00	0.00	100.00	0.00	0.00	14,527,648.38	2,092,225.49	39° 59' 35.441 N	109° 23' 12.952 W	
200.00	0.00	0.00	200.00	0.00	0.00	14,527,648.38	2,092,225.49	39° 59' 35.441 N	109° 23' 12.952 W	
300.00	0.00	0.00	300.00	0.00	0.00	14,527,648.38	2,092,225.49	39° 59' 35.441 N	109° 23' 12.952 W	
<b>Start Build 2.00</b>										
400.00	2.00	296.82	399.98	0.79	-1.56	14,527,649.14	2,092,223.92	39° 59' 35.449 N	109° 23' 12.972 W	
500.00	4.00	296.82	499.84	3.15	-6.23	14,527,651.42	2,092,219.21	39° 59' 35.472 N	109° 23' 13.032 W	
600.00	6.00	296.82	599.45	7.08	-14.01	14,527,655.21	2,092,211.36	39° 59' 35.511 N	109° 23' 13.132 W	
700.00	8.00	296.82	698.70	12.58	-24.88	14,527,660.51	2,092,200.39	39° 59' 35.565 N	109° 23' 13.271 W	
800.00	10.00	296.82	797.47	19.64	-38.84	14,527,667.31	2,092,186.31	39° 59' 35.635 N	109° 23' 13.451 W	
900.00	12.00	296.82	895.62	28.25	-55.87	14,527,675.61	2,092,169.13	39° 59' 35.720 N	109° 23' 13.670 W	
1,000.00	14.00	296.82	993.06	38.40	-75.94	14,527,685.40	2,092,148.87	39° 59' 35.820 N	109° 23' 13.927 W	
1,100.00	16.00	296.82	1,089.64	50.07	-99.04	14,527,696.65	2,092,125.57	39° 59' 35.936 N	109° 23' 14.224 W	
1,186.06	17.72	296.82	1,172.00	61.34	-121.31	14,527,707.51	2,092,103.09	39° 59' 36.047 N	109° 23' 14.510 W	
<b>GREEN RIVER</b>										
1,200.00	18.00	296.82	1,185.27	63.27	-125.13	14,527,709.37	2,092,099.24	39° 59' 36.066 N	109° 23' 14.560 W	
1,287.50	19.75	296.82	1,268.06	76.04	-150.39	14,527,721.68	2,092,073.75	39° 59' 36.192 N	109° 23' 14.884 W	
<b>Start 1205.53 hold at 1287.50 MD</b>										
1,300.00	19.75	296.82	1,279.82	77.94	-154.16	14,527,723.52	2,092,069.95	39° 59' 36.211 N	109° 23' 14.933 W	
1,400.00	19.75	296.82	1,373.94	93.19	-184.31	14,527,738.22	2,092,039.52	39° 59' 36.362 N	109° 23' 15.320 W	
1,500.00	19.75	296.82	1,468.06	108.44	-214.47	14,527,752.92	2,092,009.10	39° 59' 36.513 N	109° 23' 15.708 W	
1,600.00	19.75	296.82	1,562.18	123.69	-244.63	14,527,767.62	2,091,978.67	39° 59' 36.663 N	109° 23' 16.095 W	
1,700.00	19.75	296.82	1,656.30	138.93	-274.78	14,527,782.32	2,091,948.24	39° 59' 36.814 N	109° 23' 16.483 W	
1,800.00	19.75	296.82	1,750.41	154.18	-304.94	14,527,797.02	2,091,917.82	39° 59' 36.965 N	109° 23' 16.870 W	
1,900.00	19.75	296.82	1,844.53	169.43	-335.10	14,527,811.71	2,091,887.39	39° 59' 37.115 N	109° 23' 17.258 W	
2,000.00	19.75	296.82	1,938.65	184.67	-365.25	14,527,826.41	2,091,856.96	39° 59' 37.266 N	109° 23' 17.645 W	
2,100.00	19.75	296.82	2,032.77	199.92	-395.41	14,527,841.11	2,091,826.53	39° 59' 37.417 N	109° 23' 18.033 W	
2,200.00	19.75	296.82	2,126.88	215.17	-425.56	14,527,855.81	2,091,796.11	39° 59' 37.568 N	109° 23' 18.420 W	
2,300.00	19.75	296.82	2,221.00	230.42	-455.72	14,527,870.51	2,091,765.68	39° 59' 37.718 N	109° 23' 18.808 W	
2,366.94	19.75	296.82	2,284.00	240.62	-475.91	14,527,880.35	2,091,745.31	39° 59' 37.819 N	109° 23' 19.067 W	
<b>8 5/8"</b>										
2,400.00	19.75	296.82	2,315.12	245.66	-485.88	14,527,885.21	2,091,735.25	39° 59' 37.869 N	109° 23' 19.195 W	
2,493.03	19.75	296.82	2,402.67	259.85	-513.93	14,527,898.88	2,091,706.95	39° 59' 38.009 N	109° 23' 19.556 W	
<b>Start Drop -1.75</b>										
2,500.00	19.63	296.82	2,409.24	260.91	-516.03	14,527,899.90	2,091,704.83	39° 59' 38.020 N	109° 23' 19.583 W	
2,600.00	17.88	296.82	2,503.93	275.41	-544.72	14,527,913.89	2,091,675.88	39° 59' 38.163 N	109° 23' 19.951 W	
2,700.00	16.13	296.82	2,599.55	288.61	-570.81	14,527,926.61	2,091,649.56	39° 59' 38.293 N	109° 23' 20.287 W	
2,800.00	14.38	296.82	2,696.03	300.48	-594.29	14,527,938.05	2,091,625.87	39° 59' 38.411 N	109° 23' 20.588 W	
2,900.00	12.63	296.82	2,793.26	311.01	-615.12	14,527,948.21	2,091,604.84	39° 59' 38.515 N	109° 23' 20.856 W	
3,000.00	10.88	296.82	2,891.16	320.20	-633.30	14,527,957.07	2,091,586.50	39° 59' 38.606 N	109° 23' 21.090 W	
3,100.00	9.13	296.82	2,989.63	328.04	-648.80	14,527,964.62	2,091,570.86	39° 59' 38.683 N	109° 23' 21.289 W	
3,200.00	7.38	296.82	3,088.59	334.52	-661.61	14,527,970.87	2,091,557.94	39° 59' 38.747 N	109° 23' 21.454 W	
3,300.00	5.63	296.82	3,187.95	339.63	-671.72	14,527,975.79	2,091,547.74	39° 59' 38.798 N	109° 23' 21.583 W	
3,400.00	3.88	296.82	3,287.60	343.36	-679.11	14,527,979.40	2,091,540.28	39° 59' 38.835 N	109° 23' 21.678 W	
3,500.00	2.13	296.82	3,387.46	345.73	-683.79	14,527,981.68	2,091,535.56	39° 59' 38.858 N	109° 23' 21.739 W	
3,600.00	0.38	296.82	3,487.43	346.71	-685.74	14,527,982.63	2,091,533.59	39° 59' 38.868 N	109° 23' 21.764 W	
3,621.60	0.00	0.00	3,509.03	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
<b>Start 5204.97 hold at 3621.60 MD</b>										
3,700.00	0.00	0.00	3,587.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
3,800.00	0.00	0.00	3,687.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
3,900.00	0.00	0.00	3,787.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
4,000.00	0.00	0.00	3,887.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36F4BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36G3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-8-11 RHS		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
4,100.00	0.00	0.00	3,987.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
4,200.00	0.00	0.00	4,087.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
4,300.00	0.00	0.00	4,187.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
4,382.57	0.00	0.00	4,270.00	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
<b>WASATCH</b>										
4,400.00	0.00	0.00	4,287.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
4,500.00	0.00	0.00	4,387.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
4,600.00	0.00	0.00	4,487.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
4,700.00	0.00	0.00	4,587.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
4,800.00	0.00	0.00	4,687.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
4,900.00	0.00	0.00	4,787.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
5,000.00	0.00	0.00	4,887.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
5,100.00	0.00	0.00	4,987.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
5,200.00	0.00	0.00	5,087.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
5,300.00	0.00	0.00	5,187.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
5,400.00	0.00	0.00	5,287.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
5,500.00	0.00	0.00	5,387.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
5,600.00	0.00	0.00	5,487.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
5,700.00	0.00	0.00	5,587.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
5,800.00	0.00	0.00	5,687.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
5,900.00	0.00	0.00	5,787.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
6,000.00	0.00	0.00	5,887.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
6,100.00	0.00	0.00	5,987.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
6,200.00	0.00	0.00	6,087.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
6,300.00	0.00	0.00	6,187.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
6,400.00	0.00	0.00	6,287.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
6,500.00	0.00	0.00	6,387.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
6,592.57	0.00	0.00	6,480.00	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
<b>MESAVERDE</b>										
6,600.00	0.00	0.00	6,487.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
6,700.00	0.00	0.00	6,587.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
6,800.00	0.00	0.00	6,687.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
6,900.00	0.00	0.00	6,787.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
7,000.00	0.00	0.00	6,887.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
7,100.00	0.00	0.00	6,987.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
7,200.00	0.00	0.00	7,087.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
7,300.00	0.00	0.00	7,187.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
7,400.00	0.00	0.00	7,287.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
7,500.00	0.00	0.00	7,387.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
7,600.00	0.00	0.00	7,487.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
7,700.00	0.00	0.00	7,587.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
7,800.00	0.00	0.00	7,687.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
7,900.00	0.00	0.00	7,787.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
8,000.00	0.00	0.00	7,887.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
8,100.00	0.00	0.00	7,987.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
8,200.00	0.00	0.00	8,087.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
8,300.00	0.00	0.00	8,187.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
8,400.00	0.00	0.00	8,287.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
8,500.00	0.00	0.00	8,387.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
8,600.00	0.00	0.00	8,487.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
8,700.00	0.00	0.00	8,587.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	
8,800.00	0.00	0.00	8,687.43	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36F4BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 4958' & KB 4' @ 4962.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36G3 PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36F4BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-8-11 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,826.57	0.00	0.00	8,714.00	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W
TD at 8826.57 - PBHL_NBU 922-36F4BS									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 922-36F4BS - hit/miss target - Shape	0.00	0.00	8,714.00	346.75	-685.80	14,527,982.66	2,091,533.53	39° 59' 38.868 N	109° 23' 21.764 W
- plan hits target center - Circle (radius 25.00)									

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
2,366.94	2,284.00	8 5/8"	8.625	11.000		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,186.06	1,172.00	GREEN RIVER			
4,382.57	4,270.00	WASATCH			
6,592.57	6,480.00	MESAVERDE			

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
300.00	300.00	0.00	0.00	Start Build 2.00	
1,287.50	1,268.06	76.04	-150.39	Start 1205.53 hold at 1287.50 MD	
2,493.03	2,402.67	259.85	-513.93	Start Drop -1.75	
3,621.60	3,509.03	346.75	-685.80	Start 5204.97 hold at 3621.60 MD	
8,826.57	8,714.00	346.75	-685.80	TD at 8826.57	

**NBU 922-36F4BS**

Surface: 2414' FNL 2443' FEL (SW/4NE/4)  
BHL: 2070' FNL 2149' FWL (SE/4NW/4)

**NBU 922-36F4CS**

Surface: 2424' FNL 2445' FEL (SW/4NE/4)  
BHL: 2401' FNL 2149' FWL (SE/4NW/4)

**NBU 922-36G4BS**

Surface: 2405' FNL 2441' FEL (SW/4NE/4)  
BHL: 2235' FNL 1818' FEL (SW/4NE/4)

**NBU 922-36G4CS**

Surface: 2434' FNL 2447' FEL (SW/4NE/4)  
BHL: 2566' FNL 1818' FEL (SW/4NE/4)

Pad: NBU 922-36G3 Pad  
Section 36 T09S R22E  
Mineral Lease: ML-22650

Uintah County, Utah  
Operator: Kerr-McGee Oil & Gas Onshore LP

***MULTI-POINT SURFACE USE PLAN of OPERATIONS (SUPO)***

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to KMG (including, but not limited to, APDs/SULAs/ROEs/ROWs and/or easements).

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

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.

**A. Existing Roads:**

Existing roads consist of county roads and improved/unimproved lease roads. KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each

other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

**B. Planned Access Roads:**

No new access road is proposed. (see Topo Map B). Applicable Uintah County encroachment and/or pipeline crossing permits will be obtained prior to construction/development. No other pipelines will be crossed at this location.

If there are roads that are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

During the onsite, turnouts, major cut and fills, culverts, bridges, gates, cattle guards, low water crossings, or modifications needed to existing infrastructure/facilities were determined, as applicable, are typically shown on attached Exhibits and Topo maps.

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

This pad will expand the existing pad for the NBU 922-36G. The NBU 922-36G well location is a vertical producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of April 15, 2011.

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of the well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) above ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

Production 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 are not to be used for disposal of liquids from additional sources without prior approval of UDOGM.

**Gathering facilities:**

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is  $\pm 1,720'$  and the individual segments are broken up as follows:

- $\pm 675'$  (0.1 miles) –New 6” buried gas pipeline from the meter to the edge of the pad. Please refer to Topo D2.
- $\pm 485'$  (0.09 miles) –New 6” buried gas pipeline from the edge of pad to the proposed 16” tie-in at the 36I intersection. Please refer to Topo D.
- $\pm 560'$  (0.1 miles) –New 16” buried gas pipeline from the proposed 16” tie-in at the 36I intersection to the tie-in at the 36O intersection. Please refer to Topo D.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 1,720'$  and the individual segments are broken up as follows:

- $\pm 675'$  (0.1 miles) –New 6” buried liquid pipeline from the separator to the edge of the pad. Please refer to Topo D2.
- $\pm 485'$  (0.09 miles) –New 6” buried liquid pipeline from the edge of pad to the proposed 6” tie-in at the 36I intersection. Please refer to Topo D.
- $\pm 560'$  (0.1 miles) –New 6” buried liquid pipeline from the proposed 6” tie-in at the 36I intersection to the tie-in at the 36O intersection. Please refer to Topo D.

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.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. 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. KMG requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, KMG requests a temporary 45' construction right-of-way and 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

**NBU 922-36F4BS / 36F4CS/  
36G4BS/ 36G4CS**

**Surface Use Plan of Operations  
Page 4**

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Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity and ownership, as well as to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

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

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

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

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.

**E. Source of Construction Materials:**

Construction operations will typically be completed with native materials found on location. If needed, 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 and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

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

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

RNI in Sec. 5 T9S R22E  
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  
Ouray #1 SWD in Sec. 1 T9S R21E  
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. 33 T9S R21E  
NBU 921-34L SWD in Sec. 34 T9S R21E

Drill cuttings and/or fluids will be contained in the reserve/frac pit. Cuttings will be buried in pit(s) upon closure. Unless otherwise approved, 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 runoff. Should fluid hydrocarbons be encountered during drilling, completions or well testing, product 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 SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with a synthetic material 20-mil or thicker. 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. 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.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered 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.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after six (6) months 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. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

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 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.

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.

Any undesirable event, including accidental release of fluids, or release in excess of reportable quantities, will be managed according to the notification requirements of UDOGMs "Reporting Oil and Gas Undesirable Events" rule. Where State wells are participatory to a Federal agreement, according to NTL-3A, the appropriate Federal agencies will be notified.

### **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.

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 and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

#### **G. Ancillary Facilities:**

None are anticipated.

#### **H. Well Site Layout (see Well Pad Design Summary):**

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit, 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 and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1927 (NAD27) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

#### **I. Plans for Reclamation of the Surface:**

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. This 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 are not limited to: 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 includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

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

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

### **Final Reclamation**

Final reclamation will be performed for newly drilled unproductive wells and/or at 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 KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. 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, final grading will be conducted over the entire

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36G4BS/ 36G4CS**

**Surface Use Plan of Operations  
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surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

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.

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

#### **Seeding and Measures Common to Interim and Final Reclamation**

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope 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 and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

Seeding will occur year-round as conditions allow. 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 site specific seed mix will be provided by SITLA.

**J. Surface/Mineral Ownership:**  
SITLA  
675 East 500 South, Suite 500  
Salt Lake City, UT 84102

**K. Other Information:**  
None

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36G4BS/ 36G4CS

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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 for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, 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

May 12, 2011  
Date



JOE JOHNSON  
LANDMAN

KERR-MCGEE ONSHORE OIL & GAS, L.P.  
1099 18TH STREET, SUITE 1800  
DENVER, CO 80202  
720-929-6708 • FAX 720-929-7708  
E-MAIL: JOE.JOHNSON@ANADARKO.COM

April 13, 2011

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

Re: Directional Drilling R649-3-11  
NBU 922-36F4BS  
T9S-R22E  
Section 36: SWNE/SEW  
Surface: 2414' FNL, 2443' FEL  
Bottom Hole: 2070' FNL, 2149' FWL  
Uintah County, Utah

Dear Ms. Mason:

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

- Kerr-McGee's NBU 922-36F4BS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

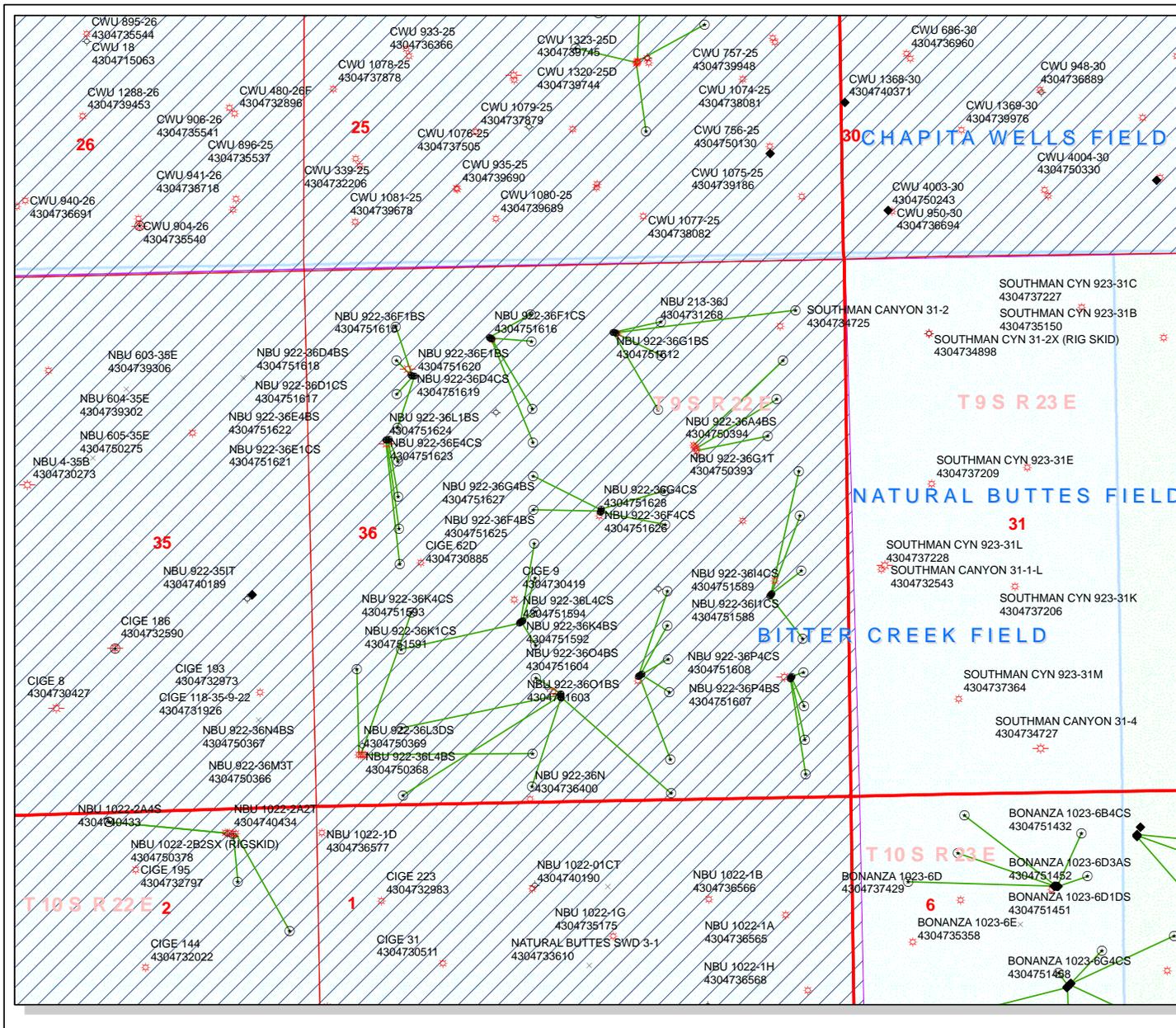
Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

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

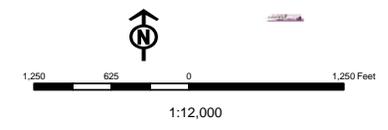
Joseph D. Johnson  
Landman



**API Number: 4304751625**  
**Well Name: NBU 922-36F4BS**  
**Township T0.9 . Range R2.2 . Section 36**  
**Meridian: SLBM**  
 Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:  
 Map Produced by Diana Mason

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



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office

P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160

(UT-922)

May 20, 2011

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2011 Plan of Development Natural Buttes Unit  
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2011 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
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(Proposed PZ WASATCH-MESA VERDE)

**NBU 922-36I PAD**

43-047-51586	NBU 922-36H4BS	Sec 36 T09S R22E 2006 FSL 0799 FEL
	BHL	Sec 36 T09S R22E 2071 FNL 0494 FEL

43-047-51587	NBU 922-36H4CS	Sec 36 T09S R22E 2014 FSL 0792 FEL
	BHL	Sec 36 T09S R22E 2508 FNL 0495 FEL

43-047-51588	NBU 922-36I1CS	Sec 36 T09S R22E 2021 FSL 0785 FEL
	BHL	Sec 36 T09S R22E 2237 FSL 0494 FEL

43-047-51589	NBU 922-36I4CS	Sec 36 T09S R22E 1999 FSL 0805 FEL
	BHL	Sec 36 T09S R22E 1574 FSL 0493 FEL

**NBU 922-36K PAD**

43-047-51590	NBU 922-36K1BS	Sec 36 T09S R22E 1798 FSL 1998 FWL
	BHL	Sec 36 T09S R22E 2567 FSL 2148 FWL

43-047-51591	NBU 922-36K1CS	Sec 36 T09S R22E 1809 FSL 2015 FWL
	BHL	Sec 36 T09S R22E 2236 FSL 2147 FWL

43-047-51592	NBU 922-36K4BS	Sec 36 T09S R22E 1815 FSL 2023 FWL
	BHL	Sec 36 T09S R22E 1904 FSL 2147 FWL

43-047-51593	NBU 922-36K4CS	Sec 36 T09S R22E 1804 FSL 2006 FWL
	BHL	Sec 36 T09S R22E 1573 FSL 2146 FWL

43-047-51594	NBU 922-36L4CS	Sec 36 T09S R22E 1793 FSL 1990 FWL
	BHL	Sec 36 T09S R22E 1565 FSL 0821 FWL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
<b>NBU 922-36N PAD</b>		
43-047-51595	NBU 922-36M1CS	Sec 36 T09S R22E 1078 FSL 2379 FWL BHL Sec 36 T09S R22E 0792 FSL 0816 FWL
43-047-51596	NBU 922-36M4CS	Sec 36 T09S R22E 1068 FSL 2379 FWL BHL Sec 36 T09S R22E 0132 FSL 0819 FWL
43-047-51597	NBU 922-36N1BS	Sec 36 T09S R22E 1088 FSL 2379 FWL BHL Sec 36 T09S R22E 1253 FSL 2140 FWL
43-047-51598	NBU 922-36N4CS	Sec 36 T09S R22E 1048 FSL 2379 FWL BHL Sec 36 T09S R22E 0190 FSL 2081 FWL
43-047-51599	NBU 922-36O4CS	Sec 36 T09S R22E 1058 FSL 2379 FWL BHL Sec 36 T09S R22E 0085 FSL 1814 FEL
<b>NBU 922-36O PAD</b>		
43-047-51600	NBU 922-36J1CS	Sec 36 T09S R22E 1247 FSL 2113 FEL BHL Sec 36 T09S R22E 2071 FSL 1809 FEL
43-047-51601	NBU 922-36J4BS	Sec 36 T09S R22E 1254 FSL 2094 FEL BHL Sec 36 T09S R22E 1740 FSL 1816 FEL
43-047-51602	NBU 922-36J4CS	Sec 36 T09S R22E 1261 FSL 2075 FEL BHL Sec 36 T09S R22E 1409 FSL 1816 FEL
43-047-51603	NBU 922-36O1BS	Sec 36 T09S R22E 1257 FSL 2085 FEL BHL Sec 36 T09S R22E 1078 FSL 1815 FEL
43-047-51604	NBU 922-36O4BS	Sec 36 T09S R22E 1250 FSL 2103 FEL BHL Sec 36 T09S R22E 0415 FSL 1814 FEL
<b>NBU 922-36P PAD</b>		
43-047-51605	NBU 922-36P1BS	Sec 36 T09S R22E 1207 FSL 0606 FEL BHL Sec 36 T09S R22E 1243 FSL 0493 FEL
43-047-51606	NBU 922-36P1CS	Sec 36 T09S R22E 1198 FSL 0611 FEL BHL Sec 36 T09S R22E 0911 FSL 0493 FEL
43-047-51607	NBU 922-36P4BS	Sec 36 T09S R22E 1189 FSL 0616 FEL BHL Sec 36 T09S R22E 0580 FSL 0493 FEL
43-047-51608	NBU 922-36P4CS	Sec 36 T09S R22E 1181 FSL 0621 FEL BHL Sec 36 T09S R22E 0243 FSL 0492 FEL
<b>NBU 922-36B PAD</b>		
43-047-51609	NBU 922-36A1CS	Sec 36 T09S R22E 0678 FNL 2273 FEL BHL Sec 36 T09S R22E 0485 FNL 0494 FEL
43-047-51610	NBU 922-36B1CS	Sec 36 T09S R22E 0674 FNL 2282 FEL BHL Sec 36 T09S R22E 0579 FNL 1821 FEL
43-047-51611	NBU 922-36B4BS	Sec 36 T09S R22E 0682 FNL 2264 FEL BHL Sec 36 T09S R22E 0905 FNL 1828 FEL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-51612	NBU 922-36G1BS	Sec 36 T09S R22E 0671 FNL 2291 FEL BHL Sec 36 T09S R22E 1439 FNL 1861 FEL
<b>NBU 922-36C PAD</b>		
43-047-51613	NBU 922-36C1CS	Sec 36 T09S R22E 0700 FNL 1741 FWL BHL Sec 36 T09S R22E 0485 FNL 2152 FWL
43-047-51614	NBU 922-36C4BS	Sec 36 T09S R22E 0706 FNL 1749 FWL BHL Sec 36 T09S R22E 0746 FNL 2153 FWL
43-047-51615	NBU 922-36F1BS	Sec 36 T09S R22E 0718 FNL 1765 FWL BHL Sec 36 T09S R22E 1407 FNL 2151 FWL
43-047-51616	NBU 922-36F1CS	Sec 36 T09S R22E 0712 FNL 1757 FWL BHL Sec 36 T09S R22E 1738 FNL 2150 FWL
<b>NBU 922-36D PAD</b>		
43-047-51617	NBU 922-36D1CS	Sec 36 T09S R22E 1062 FNL 0981 FWL BHL Sec 36 T09S R22E 0579 FNL 0825 FWL
43-047-51618	NBU 922-36D4BS	Sec 36 T09S R22E 1060 FNL 0971 FWL BHL Sec 36 T09S R22E 0910 FNL 0825 FWL
43-047-51619	NBU 922-36D4CS	Sec 36 T09S R22E 1064 FNL 0990 FWL BHL Sec 36 T09S R22E 1241 FNL 0825 FWL
43-047-51620	NBU 922-36E1BS	Sec 36 T09S R22E 1067 FNL 1000 FWL BHL Sec 36 T09S R22E 1572 FNL 0825 FWL
<b>NBU 922-36E PAD</b>		
43-047-51621	NBU 922-36E1CS	Sec 36 T09S R22E 1682 FNL 0739 FWL BHL Sec 36 T09S R22E 1903 FNL 0824 FWL
43-047-51622	NBU 922-36E4BS	Sec 36 T09S R22E 1684 FNL 0729 FWL BHL Sec 36 T09S R22E 2245 FNL 0818 FWL
43-047-51623	NBU 922-36E4CS	Sec 36 T09S R22E 1686 FNL 0719 FWL BHL Sec 36 T09S R22E 2565 FNL 0824 FWL
43-047-51624	NBU 922-36L1BS	Sec 36 T09S R22E 1688 FNL 0709 FWL BHL Sec 36 T09S R22E 2401 FSL 0824 FWL
<b>NBU 922-36G3 PAD</b>		
43-047-51625	NBU 922-36F4BS	Sec 36 T09S R22E 2414 FNL 2443 FEL BHL Sec 36 T09S R22E 2070 FNL 2149 FWL
43-047-51626	NBU 922-36F4CS	Sec 36 T09S R22E 2424 FNL 2445 FEL BHL Sec 36 T09S R22E 2401 FNL 2149 FWL
43-047-51627	NBU 922-36G4BS	Sec 36 T09S R22E 2405 FNL 2441 FEL BHL Sec 36 T09S R22E 2235 FNL 1818 FEL
43-047-51628	NBU 922-36G4CS	Sec 36 T09S R22E 2434 FNL 2447 FEL BHL Sec 36 T09S R22E 2566 FNL 1818 FEL

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

Michael L. Coulthard

Digitally signed by Michael L. Coulthard  
DN: cn=Michael L. Coulthard, o=Bureau of Land  
Management, ou=Branch of Minerals,  
email=Michael\_Coulthard@blm.gov, c=US  
Date: 2011.05.23 07:16:05 -06'00'

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

MCoulthard:mc:5-20-11

**From:** Jim Davis  
**To:** Bonner, Ed; Garrison, LaVonne; Hill, Brad; Mason, Diana  
**CC:** Gina Becker; Lytle, Andy  
**Date:** 6/8/2011 3:00 PM  
**Subject:** Kerr McGee APD approvals.

The following APDs have been approved by SITLA including arch and paleo clearance.

4304751586 NBU 922-36H4BS  
4304751587 NBU 922-36H4CS  
4304751588 NBU 922-36I1CS  
4304751589 NBU 922-36I4CS  
4304751590 NBU 922-36K1BS  
4304751591 NBU 922-36K1CS  
4304751592 NBU 922-36K4BS  
4304751593 NBU 922-36K4CS  
4304751594 NBU 922-36L4CS  
4304751595 NBU 922-36M1CS  
4304751596 NBU 922-36M4CS  
4304751597 NBU 922-36N1BS  
4304751598 NBU 922-36N4CS  
4304751599 NBU 922-36O4CS  
4304751600 NBU 922-36J1CS  
4304751601 NBU 922-36J4BS  
4304751602 NBU 922-36J4CS  
4304751603 NBU 922-36O1BS  
4304751604 NBU 922-36O4BS  
4304751605 NBU 922-36P1BS  
4304751606 NBU 922-36P1CS  
4304751607 NBU 922-36P4BS  
4304751608 NBU 922-36P4CS  
4304751613 NBU 922-36C1CS  
4304751614 NBU 922-36C4BS  
4304751615 NBU 922-36F1BS  
4304751616 NBU 922-36F1CS  
4304751617 NBU 922-36D1CS  
4304751618 NBU 922-36D4BS  
4304751619 NBU 922-36D4CS  
4304751620 NBU 922-36E1BS  
4304751621 NBU 922-36E1CS  
4304751622 NBU 922-36E4BS  
4304751623 NBU 922-36E4CS  
4304751624 NBU 922-36L1BS  
4304751625 NBU 922-36F4BS  
4304751626 NBU 922-36F4CS  
4304751627 NBU 922-36G4BS  
4304751628 NBU 922-36G4CS

Full paleo monitoring is a required condition for the approval of these APDs- as recommended in the paleo report.

4304751609 NBU 922-36A1CS  
4304751610 NBU 922-36B1CS  
4304751611 NBU 922-36B4BS  
4304751612 NBU 922-36G1BS

Thanks.  
-Jim

API Well Number: 43047516250000

Jim Davis  
Utah Trust Lands Administration  
jimdavis1@utah.gov  
Phone: (801) 538-5156

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 922-36F4BS			
String	Surf	Prod		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	2202	8714		
Previous Shoe Setting Depth (TVD)	40	2202		
Max Mud Weight (ppg)	8.4	12.5		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	7780		
Operators Max Anticipated Pressure (psi)	5577	12.3		

Calculations	Surf String	8.625	"
Max BHP (psi)	.052*Setting Depth*MW=	962	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	698	NO <input type="checkbox"/> air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	478	YES <input type="checkbox"/> OK
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	486	NO <input type="checkbox"/> Reasonable for area
Required Casing/BOPE Test Pressure=		2202	psi
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi *Assumes 1psi/ft frac gradient

Calculations	Prod String	4.500	"
Max BHP (psi)	.052*Setting Depth*MW=	5664	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4618	YES <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3747	YES <input type="checkbox"/> OK
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	4231	NO <input type="checkbox"/> Reasonable
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2202	psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="checkbox"/>
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO <input type="checkbox"/>
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="checkbox"/>
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO <input type="checkbox"/>
Required Casing/BOPE Test Pressure=			psi

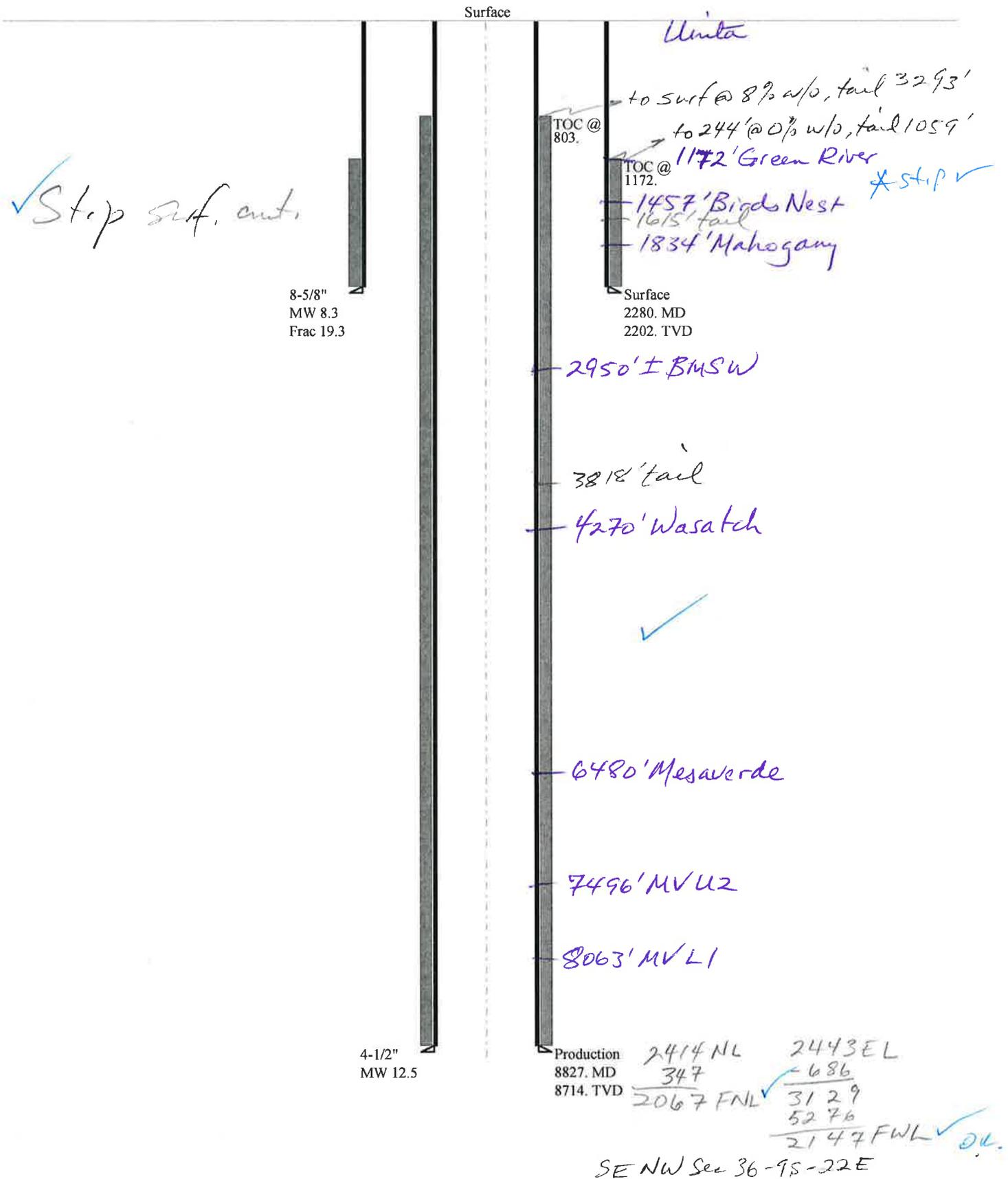
API Well Number: 43047516250000

\*Max Pressure Allowed @ Previous Casing Shoe=

psi \*Assumes 1psi/ft frac gradient

# 43047516250000 NBU 922-36F4BS

## Casing Schematic



Well name:	<b>43047516250000 NBU 922-36F4BS</b>	
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>	
String type:	Surface	Project ID: 43-047-51625
Location:	UINTAH COUNTY	

**Design parameters:**

**Collapse**

Mud weight: 8.330 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 105 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft

Cement top: 1,172 ft

**Burst**

Max anticipated surface pressure: 1,778 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 2,263 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.70 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on air weight.  
Neutral point: 1,993 ft

**Directional Info - Build & Drop**

Kick-off point 300 ft  
Departure at shoe: 504 ft  
Maximum dogleg: 2 °/100ft  
Inclination at shoe: 19.75 °

**Re subsequent strings:**

Next setting depth: 8,827 ft  
Next mud weight: 12.500 ppg  
Next setting BHP: 5,732 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 2,280 ft  
Injection pressure: 2,280 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2280	8.625	28.00	I-55	LT&C	2202	2280	7.892	90288
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	953	1880	1.973	2263	3390	1.50	61.7	348	5.64 J

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: July 21, 2011  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 2202 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Well name:	<b>43047516250000 NBU 922-36F4BS</b>		
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>		
String type:	Production	Project ID:	43-047-51625
Location:	UINTAH COUNTY		

**Design parameters:**

**Collapse**

Mud weight: 12.500 ppg  
 Internal fluid density: 1.000 ppg

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
 Surface temperature: 74 °F  
 Bottom hole temperature: 196 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 100 ft  
 Cement top: 803 ft

**Burst**

Max anticipated surface pressure: 3,742 psi  
 Internal gradient: 0.220 psi/ft  
 Calculated BHP 5,659 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
 8 Round LTC: 1.80 (J)  
 Buttress: 1.60 (J)  
 Premium: 1.50 (J)  
 Body yield: 1.60 (B)

Tension is based on air weight.  
 Neutral point: 7,199 ft

**Directional Info - Build & Drop**

Kick-off point 300 ft  
 Departure at shoe: 769 ft  
 Maximum dogleg: 2 °/100ft  
 Inclination at shoe: 0 °

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	8827	4.5	11.60	I-80	LT&C	8714	8827	3.875	116516
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	5206	6360	1.222	5659	7780	1.37	101.1	212	2.10 J

Prepared by: Helen Sadik-Macdonald  
 Div of Oil, Gas & Mining

Phone: 801 538-5357  
 FAX: 801-359-3940

Date: July 21, 2011  
 Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 8714 ft, a mud weight of 12.5 ppg. An internal gradient of .052 psi/ft was used for collapse from TD. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

# ON-SITE PREDRILL EVALUATION

## Utah Division of Oil, Gas and Mining

**Operator** KERR-MCGEE OIL & GAS ONSHORE, L.P.  
**Well Name** NBU 922-36F4BS  
**API Number** 43047516250000      **APD No** 3799      **Field/Unit** NATURAL BUTTES  
**Location: 1/4,1/4** SWNE      **Sec** 36      **Tw** 9.0S      **Rng** 22.0E      2414      FNL 2443      FEL  
**GPS Coord (UTM)** 637636 4428031      **Surface Owner**

### Participants

Floyd Bartlett (DOGM), Sheila Wopsock, Lovell Young, Gina Becker, Mark Koehn, Griz Oleen (Kerr McGee), Ben Williams (UDWR) and Mitch Batty, John Slaugh (Timberline Engineering and Land Surveying).

### Regional/Local Setting & Topography

The general area is in the southeast portion of the Natural Buttes Unit, which contains the White River and rugged drainages that drain into the White River. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River varies from  $\frac{3}{4}$  mile to 2 miles. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 42 air miles to the northwest. Access from Vernal is approximately 45.6 road miles following Utah State, Uintah County and oilfield development roads to the location.

Four additional gas wells will be added to and directionally drilled from the NBU 922-36G3 pad. They are the NBU 922-36G4BS, NBU 922-36F4BS, NBU 922-36F4CS and NBU 922-36G4CS. The pad contains the existing NBU 932-36G producing gas well. The existing pad will be significantly enlarged in all directions. The site is in rough terrain. Numerous draws and steep rocky hills occur. Moderate excavation will be required to enlarge the pad. The site is on the point or end of a ridge which has been leveled for the existing pad. The reserve pit will be expanded to the west with the spoils located in a moderately wide swale or valley. The spoils will be recoverable. A drainage to the east will be filled and a diversion constructed off the pad on the north and east side. Cut for the reserve pit at corner C is 26.7 feet. Where the pad is cut into the steep side slopes, the cut slope may be left at about  $\frac{1}{4}$ :1 to reduce the amount of cutting and disturbance. The south end of the pit is in 3.1 feet of fill. With the proposed 15 foot outer bench, 2 feet of freeboard, a 30-mil liner and the spoils placed along this side, it should be stable. The existing pad shows no stability problems. Although heavy excavation is required for enlarging the pad, no stability concerns exist. The selected site is the only suitable location in the immediate area.

Both the surface and minerals are owned by SITLA.

### Surface Use Plan

#### **Current Surface Use**

Grazing  
Wildlife Habitat  
Existing Well Pad

<b>New Road Miles</b>	<b>Well Pad</b>	<b>Src Const Material</b>	<b>Surface Formation</b>
0	<b>Width</b> 352 <b>Length</b> 455	Onsite	UNTA

**Ancillary Facilities** N

### Waste Management Plan Adequate?

### Environmental Parameters

**Affected Floodplains and/or Wetlands N**

**Flora / Fauna**

Area beyond the existing pad is poorly vegetated with greasewood, cheatgrass, black sagebrush, broom snakeweed, globemallow, Sitanion hystrix, shadscale, rabbitbrush, loco weed, pepper weed, halogeton and annuals.

Sheep, deer, antelope, coyote, and other small mammals and birds.

**Soil Type and Characteristics**

Shallow rocky sandy loam.  
Rocky sandy loam.

**Erosion Issues Y**

A drainage to the east will be filled and a diversion constructed off the pad on the north and east side.

**Sedimentation Issues N**

**Site Stability Issues N**

**Drainage Diversion Required? Y**

A drainage to the east will be filled and a diversion constructed off the pad on the north and east side.

**Berm Required? N**

**Erosion Sedimentation Control Required? Y**

A drainage to the east will be filled and a diversion constructed off the pad on the north and east side.

**Paleo Survey Run? Y    Paleo Potential Observed? N    Cultural Survey Run? Y    Cultural Resources? N**

**Reserve Pit**

<b>Site-Specific Factors</b>	<b>Site Ranking</b>	
<b>Distance to Groundwater (feet)</b>	100 to 200	5
<b>Distance to Surface Water (feet)</b>	>1000	0
<b>Dist. Nearest Municipal Well (ft)</b>	>5280	0
<b>Distance to Other Wells (feet)</b>		20
<b>Native Soil Type</b>	Mod permeability	10
<b>Fluid Type</b>	Fresh Water	5
<b>Drill Cuttings</b>	Normal Rock	0
<b>Annual Precipitation (inches)</b>		0
<b>Affected Populations</b>		
<b>Presence Nearby Utility Conduits</b>	Not Present	0
	<b>Final Score</b>	40      1 Sensitivity Level

**Characteristics / Requirements**

The reserve pit is planned mostly in an area of cut in the southwest side of the location. Dimensions are 120' x 260' x 12' deep with 2' of freeboard. The south end of the pit is in 3.1 feet of fill. With the proposed 15 foot outer bench, 2 feet of freeboard, a 30-mil liner and the spoils placed along this side, it should be stable.

Closed Loop Mud Required? N Liner Required? Y Liner Thickness 30 Pit Underlayment Required? Y

**Other Observations / Comments**

Floyd Bartlett  
Evaluator

5/24/2011  
Date / Time

# Application for Permit to Drill

## Statement of Basis

8/3/2011

Utah Division of Oil, Gas and Mining

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<b>APD No</b>	<b>API WellNo</b>	<b>Status</b>	<b>Well Type</b>	<b>Surf Owner</b>	<b>CBM</b>
3799	43047516250000	SITLA	GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	NBU 922-36F4BS	<b>Unit</b>		NATURAL BUTTES	
<b>Field</b>	NATURAL BUTTES	<b>Type of Work</b>		DRILL	
<b>Location</b>	SWNE 36 9S 22E S 2414 FNL 2443 FEL GPS Coord (UTM)			637702E	4428037N

### Geologic Statement of Basis

Kerr McGee proposes to set 2,280' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 2,950'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the proposed location. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. The production casing cement should be brought up above the base of the moderately saline ground water in order to isolate it from fresher waters up hole. The proposed casing and cement should adequately protect any usable ground water.

Brad Hill  
APD Evaluator

6/21/2011  
Date / Time

### Surface Statement of Basis

The general area is in the southeast portion of the Natural Buttes Unit, which contains the White River and rugged drainages that drain into the White River. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River varies from ¾ mile to 2 miles. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 42 air miles to the northwest. Access from Vernal is approximately 45.6 road miles following Utah State, Uintah County and oilfield development roads to the location.

Four additional gas wells will be added to and directionally drilled from the NBU 922-36G3 pad. They are the NBU 922-36G4BS, NBU 922-36F4BS, NBU 922-36F4CS and NBU 922-36G4CS. The pad contains the existing NBU 932-36G producing gas well. The existing pad will be significantly enlarged in all directions. The site is in rough terrain. Numerous draws and steep rocky hills occur. Moderate excavation will be required to enlarge the pad. The site is on the point or end of a ridge which has been leveled for the existing pad. The reserve pit will be expanded to the west with the spoils located in a moderately wide swale or valley. The spoils will be recoverable. A drainage to the east will be filled and a diversion constructed off the pad on the north and east side. Cut for the reserve pit at corner C is 26.7 feet. Where the pad is cut into the steep side slopes, the cut slope may be left at about ¼:1 to reduce the amount of cutting and disturbance. The south end of the pit is in 3.1 feet of fill. With the proposed 15 foot outer bench, 2 feet of freeboard, a 30-mil liner and the spoils placed along this side, it should be stable. The existing pad shows no stability problems. Although heavy excavation is required for enlarging the pad, no stability concerns exist. The selected site is the only suitable location in the immediate area.

Both the surface and minerals are owned by SITLA. Ed Bonner and Jim Davis of SITLA were invited to attend the pre-site evaluation. Neither attended. SITLA is to be contacted for reclamation standards including a seed mix to be used.

Ben Williams of the Utah Division of Wildlife Resources attended the pre-site. Mr. Williams stated no wildlife

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# Application for Permit to Drill Statement of Basis

8/3/2011

**Utah Division of Oil, Gas and Mining**Page 2

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values would be significantly affected by drilling and operating the additional wells at this location.

Floyd Bartlett  
**Onsite Evaluator**

5/24/2011  
**Date / Time**

**Conditions of Approval / Application for Permit to Drill**

<b>Category</b>	<b>Condition</b>
Pits	A synthetic liner with a minimum thickness of 30 mils with a double felt subliner shall be properly installed and maintained in the reserve pit.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.
Surface	The reserve pit shall be fenced upon completion of drilling operations.

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 5/13/2011**API NO. ASSIGNED:** 43047516250000**WELL NAME:** NBU 922-36F4BS**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)**PHONE NUMBER:** 720 929-6086**CONTACT:** Gina Becker**PROPOSED LOCATION:** SWNE 36 090S 220E**Permit Tech Review:** **SURFACE:** 2414 FNL 2443 FEL**Engineering Review:** **BOTTOM:** 2070 FNL 2149 FWL**Geology Review:** **COUNTY:** UINTAH**LATITUDE:** 39.99319**LONGITUDE:** -109.38705**UTM SURF EASTINGS:** 637702.00**NORTHINGS:** 4428037.00**FIELD NAME:** NATURAL BUTTES**LEASE TYPE:** 3 - State**LEASE NUMBER:** ML-22650**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE**SURFACE OWNER:** 3 - State**COALBED METHANE:** NO**RECEIVED AND/OR REVIEWED:**

- PLAT**
- Bond:** STATE/FEE - 22013542
- Potash**
- Oil Shale 190-5**
- Oil Shale 190-3**
- Oil Shale 190-13**
- Water Permit:** Permit #43-8496
- RDCC Review:**
- Fee Surface Agreement**
- Intent to Commingle**

**Commingling Approved****LOCATION AND SITING:**

- R649-2-3.**
- Unit:** NATURAL BUTTES
- R649-3-2. General**
- R649-3-3. Exception**
- Drilling Unit**
- Board Cause No:** Cause 173-14
- Effective Date:** 12/2/1999
- Siting:** Suspends General Siting
- R649-3-11. Directional Drill**

**Comments:** Presite Completed

**Stipulations:**

- 3 - Commingling - ddoucet
- 5 - Statement of Basis - bhill
- 15 - Directional - dmason
- 17 - Oil Shale 190-5(b) - dmason
- 25 - Surface Casing - hmacdonald



GARY R. HERBERT  
*Governor*

GREGORY S. BELL  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 922-36F4BS  
**API Well Number:** 43047516250000  
**Lease Number:** ML-22650  
**Surface Owner:** STATE  
**Approval Date:** 8/3/2011

**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 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

**Duration:**

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

**Commingle:**

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

**General:**

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

**Conditions of Approval:**

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

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

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Surface casing shall be cemented to the surface.

**Additional Approvals:**

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan – contact Dustin Doucet
- Significant plug back of the well – contact Dustin Doucet
- Plug and abandonment of the well – contact Dustin Doucet

**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  
OR  
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <http://oilgas.ogm.utah.gov>
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program – contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well – contact Dan Jarvis

**Contact Information:**

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office  
801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office  
801-231-8956 - after office hours

**Reporting Requirements:**

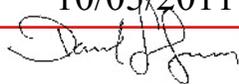
All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

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

**Approved By:**



For John Rogers  
Associate Director, Oil & Gas

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-22650
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>1. TYPE OF WELL</b> Gas Well		<b>8. WELL NAME and NUMBER:</b> NBU 922-36F4BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047516250000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6515 Ext	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2414 FNL 2443 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 36 Township: 09.0S Range: 22.0E Meridian: S		<b>COUNTY:</b> UINTAH
		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 10/3/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input 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 checked="" 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" value="Pit Refurb/ ACTS"/>
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
<p>Kerr-McGee Oil &amp; Gas Onshore, LP is requesting to refurb the existing pit on this multi-well pad for completion operations. The refurb pit will be relined per the requirements in the COA of the APD. Upon completion of the wells on this pad, Kerr-McGee is also requesting to utilize this pit as an ACTS staging pit to be utilized for other completion operations in the area. The trucks will unload water into these tanks before the water is placed into the refurbished pit. The purpose of the frac tanks is to collect any hydro-carbons that may have been associated with the other completion operations before releasing into the pit. We plan to keep this pit open for 1 year. During this time the surrounding well location completion fluids will be recycled in this pit and utilized for other frac jobs in the surrounding sections. Thank you.</p>		
		<b>Approved by the Utah Division of Oil, Gas and Mining</b>  <b>Date:</b> 10/05/2011  <b>By:</b> _____
<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 9/26/2011

**Please Review Attached Conditions of Approval**

**RECEIVED** Sep. 26, 2011



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

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices**

**Sundry Conditions of Approval Well Number 43047516250000**

**A synthetic liner with a minimum thickness of 30 mils with a felt subliner shall be properly installed and maintained in the pit.**

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-22650
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>1. TYPE OF WELL</b> Gas Well		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>8. WELL NAME and NUMBER:</b> NBU 922-36F4BS
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. API NUMBER:</b> 43047516250000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2414 FNL 2443 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 36 Township: 09.0S Range: 22.0E Meridian: S		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
		<b>COUNTY:</b> UINTAH
		<b>STATE:</b> UTAH
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<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<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"/> SUBSEQUENT REPORT Date of Work Completion:	<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 style="width: 50px;" type="text"/>	
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 11/1/2011	<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	
<input type="checkbox"/> DRILLING REPORT Report Date:		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON 11/01/2011 AT 0700 HRS.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 11/2/2011	

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
Submitted By SHEILA WOPSOCK Phone Number 435.781.7024  
Well Name/Number NBU 922-36F4BS  
Qtr/Qtr SW/NE Section 36 Township 9S Range 22E  
Lease Serial Number ML-22650  
API Number 4304751625

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

Date/Time 10/31/2011 1600 HRS AM  PM

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

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

RECEIVED  
OCT 28 2011  
DIV. OF OIL, GAS & MINING

Date/Time 11/18/2011 0800 HRS AM  PM

BOPE

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

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

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT  
LOVEL YOUNG AT 435.781.7051 FOR MORE

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>  <b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-22650
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<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6515 Ext
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2414 FNL 2443 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 36 Township: 09.0S Range: 22.0E Meridian: S	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 10/19/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> 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: 50px;" type="text"/>

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

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

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

**Date:** 11/10/2011

**By:** *Derek Quist*

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 10/19/2011	

## **Requested Drilling Changes:**

### **Closed Loop**

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.

### **Variance for FIT Requirements**

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

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 10/19/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> 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: 50px;" type="text"/>

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

Date: 11/10/2011  
 By: *Derek Duff*

<b>NAME (PLEASE PRINT)</b> Andy Lytle	<b>PHONE NUMBER</b> 720 929-6100	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 10/19/2011	

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<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. API NUMBER:</b> 43047516250000
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2414 FNL 2443 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 36 Township: 09.0S Range: 22.0E Meridian: S		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
		<b>COUNTY:</b> UINTAH
		<b>STATE:</b> UTAH
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<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<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"/> SUBSEQUENT REPORT Date of Work Completion:	<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"/> SPUD REPORT Date of Spud:	<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"/>	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 11/15/2011		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU AIR RIG ON NOV. 13, 2011. DRILLED SURFACE HOLE TO 2516'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regularatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 11/16/2011	

**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
4304751628	NBU 922-36G4CS		SWNE	36	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
B	99999	2900	10/31/2011		11/9/11		
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL ON 10/31/2011 AT 1000 HRS. <i>BHL = SWNE</i>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751626	NBU 922-36F4CS		SWNE	36	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
B	99999	2900	10/31/2011		11/9/11		
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL ON 10/31/2011 AT 1530 HRS. <i>BHL = SENW</i>							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751625	NBU 922-36F4BS		SWNE	36	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
B	99999	2900	11/1/2011		11/9/11		
Comments: MIRU PETE MARTIN BUCKET RIG. <i>WSMVD</i> SPUD WELL ON 11/01/2011 AT 0700 HRS. <i>BHL = SENW</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

Title

11/1/2011

Date

(5/2000)

**RECEIVED**

NOV 02 2011

DIV. OF OIL, GAS & MINING

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# Ensign 139  
Submitted By KENNY MORRIS Phone Number  
435- 828-0984  
Well Name/Number NBU 922-36F4BS  
Qtr/Qtr SW/NE Section 36 Township 9S Range 22E  
Lease Serial Number ML-22650  
API Number 43047516250000

Casing – Time casing run starts, not cementing times.

- Production Casing
- Other

Date/Time 12/30/2011 06:00 AM  PM

BOPE

- Initial BOPE test at surface casing point
- Other

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

**RECEIVED**

**DEC 28 2011**

DIV. OF OIL, GAS & MINING

Rig Move

Location To:

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

Remarks WILL RUN CSG FRIDAY EARLY

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-22650  <b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES  <b>8. WELL NAME and NUMBER:</b> NBU 922-36F4BS  <b>9. API NUMBER:</b> 43047516250000  <b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH			
<b>1. TYPE OF WELL</b> Gas Well		<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>PHONE NUMBER:</b> 720 929-6515 Ext			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2414 FNL 2443 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 36 Township: 09.0S Range: 22.0E Meridian: S		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input type="checkbox"/> NOTICE OF INTENT 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: 12/31/2011	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <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           </td> <td style="width: 33%; vertical-align: top;"> <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           </td> <td style="width: 33%; vertical-align: top;"> <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"/> </td> </tr> </table>		<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 style="width: 100px;" type="text"/>
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12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU ROTARY RIG. FINISHED DRILLING FROM 2516' TO 8880' ON DEC. 29, 2011. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED ENSIGN RIG 139 ON DEC. 31, 2011 @ 06:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.					
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske		<b>PHONE NUMBER</b> 720 929-6304			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst  <b>DATE</b> 1/3/2012			

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML-22650	
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	
<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>	
<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES	
<b>8. WELL NAME and NUMBER:</b> NBU 922-36F4BS	
<b>9. API NUMBER:</b> 43047516250000	
<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779 <span style="float: right;"><b>PHONE NUMBER:</b> 720 929-6511</span>	
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 2414 FNL 2443 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SWNE Section: 36 Township: 09.0S Range: 22.0E Meridian: S	
<b>COUNTY:</b> UINTAH	
<b>STATE:</b> UTAH	

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

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 2/14/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input checked="" type="checkbox"/> PRODUCTION START OR RESUME	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION
	<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.

THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 02/14/2012 AT 1700 HRS. 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**  
 February 16, 2012

<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/16/2012	

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

AMENDED REPORT  FORM 8  
(highlight changes)

**WELL COMPLETION OR RECOMPLETION REPORT AND LOG**

1a. TYPE OF WELL: OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> DRY <input type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: <b>ML-22650</b>	
b. TYPE OF WORK: NEW WELL <input checked="" type="checkbox"/> HORIZ. LATS. <input type="checkbox"/> DEEP-EN <input type="checkbox"/> RE-ENTRY <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> OTHER _____		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR: <b>KERR MCGEE OIL &amp; GAS ONSHORE, L.P.</b>		7. UNIT or CA AGREEMENT NAME <b>UTU63047A</b>	
3. ADDRESS OF OPERATOR: <b>P.O. BOX 173779 CITY DENVER STATE CO ZIP 80217</b>		8. WELL NAME and NUMBER: <b>NBU 922-36F4BS</b>	
PHONE NUMBER: <b>(720) 929-6304</b>		9. API NUMBER: <b>4304751625</b>	
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: <b>SWNE 2414 FNL 2443 FEL S36,T9S,R22E</b> AT TOP PRODUCING INTERVAL REPORTED BELOW: <b>SENW 2054 FNL 2136 FWL S36,T9S,R22E</b> AT TOTAL DEPTH: <b>SENW 2066 FNL 2151 FWL S36,T9S,R22E</b>		10 FIELD AND POOL, OR WILDCAT <b>NATURAL BUTTES</b>	
14. DATE SPURRED: <b>11/1/2011</b>		15. DATE T.D. REACHED: <b>12/29/2011</b>	
16. DATE COMPLETED: <b>2/14/2012</b>		17. ELEVATIONS (DF, RKB, RT, GL): <b>4958 GL</b>	
18. TOTAL DEPTH: MD <b>8,880</b> TVD <b>8,765</b>		19. PLUG BACK T.D.: MD <b>8,810</b> TVD <b>8,695</b>	
20. IF MULTIPLE COMPLETIONS, HOW MANY? *		21. DEPTH BRIDGE MD PLUG SET: TVD	
22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each) <b>BHV-DSN/SD/ACTR/CBL/CM/GR/CCL</b>		23. WAS WELL CORED? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit analysis) WAS DST RUN? NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> (Submit report) DIRECTIONAL SURVEY? NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> (Submit copy)	

**24. CASING AND LINER RECORD (Report all strings set in well)**

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#	0	40		28			
11"	8 5/8" IJ-55	28#	0	2,496		925		0	
7 7/8"	4 1/2" I-80	11.6#	0	8,853		1,387		1200	

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**25. TUBING RECORD**

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	8,284							

26. PRODUCING INTERVALS					27. PERFORATION RECORD				
FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS	
(A) WASATCH	6,231	6,237			6,231 6,237	0.36	24	Open <input checked="" type="checkbox"/>	Squeezed <input type="checkbox"/>
(B) MESAVERDE	6,949	8,784			6,949 8,784	0.36	168	Open <input checked="" type="checkbox"/>	Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/>	Squeezed <input type="checkbox"/>

**28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.**

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
6949-8784	PUMP 8,503 BBLs SLICK H2O & 169,829# 30/50 OTTAWA SAND FRAC'D 7 STAGES; PERF'D 8 STAGES

29. ENCLOSED ATTACHMENTS:		30. WELL STATUS:	
<input type="checkbox"/> ELECTRICAL/MECHANICAL LOGS	<input type="checkbox"/> GEOLOGIC REPORT	<input type="checkbox"/> DST REPORT	PROD
<input type="checkbox"/> SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION	<input type="checkbox"/> CORE ANALYSIS	<input checked="" type="checkbox"/> DIRECTIONAL SURVEY	

**31. INITIAL PRODUCTION**

**INTERVAL A (As shown in Item #26)**

DATE FIRST PRODUCED: 2/14/2012		TEST DATE: 2/18/2012		HOURS TESTED: 24		TEST PRODUCTION RATES: →		OIL – BBL: 0	GAS – MCF: 2,337	WATER – BBL: 364	PROD. METHOD: FLOWING
CHOKE SIZE: 20/64	TBG. PRESS. 1,574	CSG. PRESS. 2,178	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL: 0	GAS – MCF: 2,337	WATER – BBL: 364	INTERVAL STATUS: PROD	

**INTERVAL B (As shown in Item #26)**

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →		OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:	

**INTERVAL C (As shown in Item #26)**

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →		OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:	

**INTERVAL D (As shown in Item #26)**

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →		OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:	

**32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)**

**33. 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.

**34. FORMATION (Log) MARKERS:**

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				GREEN RIVER	1,172
				BIRD'S NEST	1,476
				MAHOGANY	1,886
				WASATCH	4,398
				MESAVERDE	6,608

**35. ADDITIONAL REMARKS (Include plugging procedure)**

The first 210' of the surface hole was drilled with a 12 1/4" bit. The remainder of surface hole was drilled with an 11" bit. DQX csg was run from surface to 5082'; LTC csg was run from 5082' to 8853'.

**36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.**

NAME (PLEASE PRINT) JAIME SCHARNOWSKE TITLE REGULATORY ANALYST  
 SIGNATURE *Jaime Scharnowske* DATE 3/15/2012

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

\* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

\*\* ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining  
 1594 West North Temple, Suite 1210  
 Box 145801  
 Salt Lake City, Utah 84114-5801  
 Phone: 801-538-5340  
 Fax: 801-359-3940

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-36F4BS YELLOW

Spud Date: 11/13/2011

Project: UTAH-UINTAH

Site: NBU 922-36G3 PAD

Rig Name No: ENSIGN 139/139, PROPETRO 12/12

Event: DRILLING

Start Date: 10/19/2011

End Date: 12/31/2011

Active Datum: RKB @4,972.00usft (above Mean Sea Level)

UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/2414/E/0/2443/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/13/2011	10:30 - 13:00	2.50	MIRU	01	C	P		SKID RIG 10' TO NBU 922-36F4CS (WELL 3 OF 4). INSTALL DIVERTOR HEAD AND BOWIE LINE. BUILD DITCH. SPOT IN RIG. SPOT IN CATWALK AND PIPE RACKS. READY. RIG UP PIT PUMP. RIG UP PUMP. PRIME PUMP. INSPECT RIG.
	13:00 - 13:30	0.50	PRSPD	01	B	P		HELD PRE-SPUD SAFETY MEETING. TALKED ABOUT COLD WEATHER. P/U 8" 1.83 BEND .17 RPG MUD MOTOR (1ST RUN) (SN 775-77194). M/U QD507 12.25" BIT (1ST RUN) (SN 7014657). TRIP IN TO SPUD.
	13:30 - 15:00	1.50	DRLSUR	02	D	P		SPUD 11/13/2011 13:30. DRILL 12.25" HOLE 44'-210' (166', 83'/HR). GPM 400. DH RPM 68 RPM=45, WOB 5-15K. PSI ON/OFF 600/400. UP/DOWN/ ROT 20/20/20 K. DRAG 0 K. CIRC RESERVE W. 8.3# WATER. DRILL DOWN TO 210' W/ 6" COLLARS.
	15:00 - 17:00	2.00	DRLSUR	06	A	P		TRIP OUT. LAY DOWN 8" DRILL COLLARS, 12 1/4 BIT. CHECK BIT AND MOTOR. PICK UP Q506 11" BIT (2ND RUN) (SN 7024523) SCRIBE MOTOR. P/U 8" DIRECTIONAL ASSEMBLY AND SCRIBE. INSTALL EM TOOL. TRIP IN TO 210' TO DRILL AHEAD.
	17:00 - 0:00	7.00	DRLSUR	02	D	P		DRILL 11" HOLE ROTATE/SLIDE 210'-1,160' (950', 136'/HR). GPM 491. DH RPM 86 RPM=55, WOB 15-20K. PSI ON/OFF 1,200/1019. UP/DOWN/ ROT 59/48/53 K. DRAG 6 K. CIRC RESERVE W. 8.3# WATER.
11/14/2011	0:00 - 4:30	4.50	DRLSUR	02	D	P		DRILL 11" HOLE ROTATE/SLIDE 1,160'-1,580' (420', 93'/HR). GPM 491. DH RPM 86 RPM=55, WOB 15-20K. PSI ON/OFF 1,411/1,242. UP/DOWN/ ROT 65/50/55 K. DRAG 10 K. CIRC RESERVE W. 8.3# WATER.
	4:30 - 12:00	7.50	DRLSUR	02	D	P		DRILL 11" HOLE ROTATE/SLIDE 1,580'-2240' (660', 88'/HR). GPM 491. DH RPM 86 RPM=55, WOB 15-20K. PSI ON/OFF 1,700/1,530. UP/DOWN/ ROT 80/55/68 K. DRAG 12 K. CIRC RESERVE W. 8.3# WATER. LOST RETURNS @ 1610'. PUT AIR ON THE HOLE @ 1800 CFM.
	12:00 - 15:30	3.50	DRLSUR	02	D	P		DRILL 11" HOLE ROTATE/SLIDE 2240'-2516' (276', 79'/HR). TD @ 11/14/2011 15:30 GPM 491. DH RPM 86 RPM=55, WOB 15-20K. PSI ON/OFF 1,900/1,718. UP/DOWN/ ROT 86/59/72 K. DRAG 14 K. CIRC RESERVE W. 8.3# WATER. LOST RETURNS @ 1610'. PUT AIR ON THE HOLE @ 1800 CFM. LAST SURVEY @ 2420' INC-16.44 AZ-296.10.
	15:30 - 17:30	2.00	DRLSUR	05	A	P		APPROXIMATELY 5' LEFT 17' HIGH OF THE LINE. CIRCULATE NAD CONDITION HOLE FOR CASING RUN.
	17:30 - 22:00	4.50	DRLSUR	06	D	P		LD DS NO TIGHT WHILE LAYING DOWN DRILL STRING. LAY DOWN DIRECTIONAL TOOLS. PULL MOTOR AND BREAK BIT. LAY DOWN MOTOR.

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-36F4BS YELLOW Spud Date: 11/13/2011  
 Project: UTAH-UINTAH Site: NBU 922-36G3 PAD Rig Name No: ENSIGN 139/139, PROPETRO 12/12  
 Event: DRILLING Start Date: 10/19/2011 End Date: 12/31/2011  
 Active Datum: RKB @4,972.00usft (above Mean Sea Level) UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/2414/E/0/2443/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/15/2011	22:00 - 23:30	1.50	DRLSUR	12	A	P		MOVE PIPE RACKS AND CATWALK. PULL DIVERTER HEAD. RIG UP TO RUN CSG. AND MOVE CSG INTO POSITION TO P/U.
	23:30 - 0:00	0.50	DRLSUR	12	C	P		HOLD SAFETY MEETING. RUN 10 JTS OF 8-5/8" 28# J-55 LTC CSG. MADE FLOAT SHOE UP WITH THREAD LOCK. RAN 5 TOTAL CENTRALIZERS.
	0:00 - 2:00	2.00	DRLSUR	12	C	P		HOLD SAFETY MEETING. RUN 58 JTS OF 8-5/8" 28# J-55 LTC CSG. LAND FLOAT SHOE @ 2489.07' KB. LAND BAFFLE PLATE @ 2440.66' KB. MADE FLOAT SHOE UP WITH THREAD LOCK. RAN 5 TOTAL CENTRALIZERS.
	2:00 - 6:30	4.50	DRLSUR	21	E	Z		WAIT ON JD FIELD SERVICES.
	6:30 - 8:00	1.50	DRLSUR	12	B	P		HOLD SAFETY MEETING, RUN 200' OF 1". RIG DOWN RIG MOVE OFF WELL, REBUILD DITCH. RIG UP CEMENT TRUCK, 2" HARD LINES, CEMENT HEAD, LOAD PLUG.
	8:00 - 9:00	1.00	DRLSUR	12	E	P		PRESSURE TEST LINES TO 2000 PSI. PUMP 135 BBLs OF WATER AHEAD. CATCH PSI. PUMP 20 BBLs OF 8.3# GEL WATER AHEAD. 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/ 149 BBLs OF H2O. NO CIRC THROUGH OUT. FINAL LIFT OF 300 PSI AT 4 BBL/MIN. BUMP PLUG WITH 800 PSI. HELD FOR 5 MIN. FLOAT HELD. NO CEMENT TO SURFACE.
	9:00 - 12:00	3.00	DRLSUR	12	E	P		PUMP (150 SX) 30.7 BBLs OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE NO CEMENT TO SURFACE. PUMP (125 SX) 25.6 BBLs OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE OF PREVIOUS WELL. PUMP (125 SX) 25.6 BBLs OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE OF PREVIOUS WELL. NO CEMENT TO SURFACE. SHUT DOWN AND CLEAN TRUCK. WAIT 2 HOURS PUMP (225 SX) 46.1 BBLs OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE NO CEMENT TO SURFACE. SHUT DOWN AND CLEAN TRUCK. WILL TOP OUT AFTER NEXT CEMENT JOB. RELEASE RIG @ 11/15/2011 12:00
12/24/2011	15:00 - 16:00	1.00	MIRU	01	C	P		SKID ON, RURT, FLOW LINE
	16:00 - 17:00	1.00	MIRU	14	A	P		NUBOP, FUNCTION TEST
	17:00 - 19:00	2.00	PRSPD	09	A	P		CUT & SLIP 106' DRLG LINE,
	19:00 - 23:30	4.50	PRSPD	15	A	P		TEST ANNULAR 2500, CHOKELINE, RAMS MANIFOLD, KILLLINE, FLOOR VALVE 5000, BLOWED OUT GASKET ON BOP ADAPTER, MUST P/U BOP TO REPLACE
12/25/2011	23:30 - 0:00	0.50	PRSPD	08	A	P		RIG BLACKED OUT, CANNOT P/U BOP TO INSTALL NEW O-RING, PUSHER TRYING TO REPAIR PLC
	0:00 - 16:30	16.50	PRSPD	08	A	P		WAIT ON & REPLACE VOLTAGE CONVERTER IN SCR HOUSE, POWER TO PLC & RIG CONTROLS
	16:30 - 19:00	2.50	PRSPD	14	A	S		PICK UP BOP, REPLACE O-RING ON ADAPTER, FLANGE BACK DOWN FOR TEST
	19:00 - 21:00	2.00	PRSPD	15	A	P		TEST ADAPTER FLANGE 5K, CSG 1500 F/30MIN, INSTALL WEARBUSHING
	21:00 - 0:00	3.00	PRSPD	06	A	P		P/U BHA#1 SCRIBE DIR TOOLS, TIH, TAG UP @2375,

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

Well: NBU 922-36F4BS YELLOW

Spud Date: 11/13/2011

Project: UTAH-UINTAH

Site: NBU 922-36G3 PAD

Rig Name No: ENSIGN 139/139, PROPETRO 12/12

Event: DRILLING

Start Date: 10/19/2011

End Date: 12/31/2011

Active Datum: RKB @4,972.00usft (above Mean Sea Level)

UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/2414/E/0/2443/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
12/26/2011	0:00 - 1:30	1.50	PRSPD	06	A	P		TIH W/ BHA #1 TO 2375'
	1:30 - 2:30	1.00	PRSPD	08	B	S		THAW OUT STANDPIPE LINE
	2:30 - 4:30	2.00	DRLPRO	02	F	P		DRILL CEMENT & FE F/ 2375 TO 2526'
	4:30 - 14:30	10.00	DRLPRO	02	D	P		SPUD NEW 7.875 HOLE@ 0430 12/26/2011,DIRDRILL F/2526 TO 3842=1316AVG 131,WOB 18/20.RPM 40/118,GPM 520,PSI 1070/1500,TORQ 2/6K,SLIDE 229'@17%
	14:30 - 15:00	0.50	DRLPRO	07	A	P		RIG SERVICE
	15:00 - 0:00	9.00	DRLPRO	02	D	P		DIRDRILL F/3842 TO 4770 =928 AVG 103 ,WOB 18/20.RPM 40/118,GPM 520,PSI 1070/1500,TORQ 2/6K,SLIDE 195' 21%
12/27/2011	0:00 - 12:00	12.00	DRLPRO	02	D	P		DIRDRILL F/4770 TO 6195 =1425 AVG 119 ,WOB 18/20.RPM 40/118,GPM 520,PSI 1200/1650TORQ 8/10K,SLIDE 135' 9.5%
	12:00 - 12:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	12:30 - 21:00	8.50	DRLPRO	02	D	P		DIRDRILL F/6195 TO 7100=905 AVG 106 ,WOB 18/20.RPM 40/118,GPM 520,PSI 1200/1650TORQ 10/12K,SLIDE 60 6%
	21:00 - 22:30	1.50	DRLPRO	05	G	P		DISPLACE WATER WITH 10.8# MUD,DROPT WT BACK TO
	22:30 - 0:00	1.50	DRLPRO	02	D	P		DIRDRILL F/7100 TO 7200 =100 AVG 66 ,WOB 18/20.RPM 40/118,GPM 520,PSI 1200/1650TORQ 9/12K,SLIDE 0'
12/28/2011	0:00 - 12:00	12.00	DRLPRO	02	D	P		DIRDRILL F/7200 TO 8008 =808 AVG 67 ,WOB 20.RPM 35/102,GPM 450,PSI 1450/1900TORQ 10/13K,SLIDE 112' 13%
	12:00 - 12:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	12:30 - 0:00	11.50	DRLPRO	02	D	P		DIRDRILL F/8008 TO 8760 =752 AVG 65 ,WOB 20.RPM 35/102,GPM 450,PSI 1450/1900TORQ 10/13K,SLIDE 40' 16%
12/29/2011	0:00 - 2:00	2.00	DRLPRO	02	D	P		DIRDRILL F/8760 TO TD 8880' =120 AVG 60 ,WOB 20.RPM 35/102,GPM 450,PSI 1450/1900TORQ 10/13K,SLIDE 0%,SEEPING MUD 8 BBLS HR
	2:00 - 3:00	1.00	DRLPRO	05	C	P		CIRC BTMS UP F/WIPER TRIP
	3:00 - 4:30	1.50	DRLPRO	06	E	P		TOOH TO 8050 HOLE NOT TAKING FLUID,PIPE COMING DRY,CHECK PVT MARKERS & FLOW,, NO/FLOW
	4:30 - 5:30	1.00	DRLPRO	05	A	S		CIRC BTMS UP NO FLARE,RAISE MUD WT 11.1# IN 11# OUT
	5:30 - 14:30	9.00	DRLPRO	06	E	P		CONTINUE WIPER TOH TO SHOE',TIH WASH THRU BRIDGE@4260,TIH
	14:30 - 16:30	2.00	DRLPRO	05	C	P		CIRC & CONDITION FOR LOGS,35 BBL GAIN 150 PSI LOSE UP EARLY NO FLARE,THEN 10' FLARE FOR 15 MIN,MW 11.2+,FLOW CHECK/NO FLOW
	16:30 - 0:00	7.50	DRLPRO	06	B	P		TOOH F/LOGS,PUMP OUT 8 STNDS,CONTINUE TRIP OUT
12/30/2011	0:00 - 1:30	1.50	DRLPRO	06	B	P		TOOH F/ LOGS
	1:30 - 2:00	0.50	DRLPRO	14	B	P		PULL WEARBUSHING
	2:00 - 7:30	5.50	EVALPR	11	D	P		R/U HALLIBURTON RUN TRIPLE COMBO TO LOGGERS DEPTH 8865'
	7:30 - 18:00	10.50	CSG	12	C	P		RUN 212 JTS I-80 LTC/DQX CSG ,WASH DOWN LAST JT,PRECAUTIONARY,SHOE SET DEPTH 8867',FC 8825',MARKER 6589

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-36F4BS YELLOW

Spud Date: 11/13/2011

Project: UTAH-UINTAH

Site: NBU 922-36G3 PAD

Rig Name No: ENSIGN 139/139, PROPETRO 12/12

Event: DRILLING

Start Date: 10/19/2011

End Date: 12/31/2011

Active Datum: RKB @4,972.00usft (above Mean Sea Level)

UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/2414/E/0/2443/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	18:00 - 20:00	2.00	CSG	05	D	P		CIRC BTMS UP TWICE F/CEMENT, 50 BBL GAIN, NO FLARE
	20:00 - 22:00	2.00	CSG	12	E	P		SM/RU, PRESSURE TEST 4500, PUMP 25BBL WATER, 427SX LEAD @12# 2.28 YLD, 960SX TAIL @14.3 1.31YLD, DISPLACE 137BBL, FINALLIFT 2700, BUMPPLUG, FLOATS HELD, 15 BBL SPACER BACK
	22:00 - 0:00	2.00	RDMO	01	E	P		SET C-22 CSG SLIPS @ 105K, NDBOP AND RUFFCUT CSG
12/31/2011	0:00 - 6:00	6.00	RDMO	01	E	P		CLEAN SHAKER TANK W/ RNI VAC TRUCK, PREP F/ SKID TO NBU 922G4BS, RIG RELEASE 12/31/2011 06:00AM

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 922-36F4BS YELLOW	Wellbore No.	OH
Well Name	NBU 922-36F4BS	Wellbore Name	NBU 922-36F4BS
Report No.	1	Report Date	2/1/2012
Project	UTAH-UINTAH	Site	NBU 922-36G3 PAD
Rig Name/No.	MILES 2/2	Event	COMPLETION
Start Date	2/1/2012	End Date	2/14/2012
Spud Date	11/13/2011	Active Datum	RKB @4,972.00usft (above Mean Sea Level)
UWI	SW/NE/09/S/22/E/36/0/0/26/PM/N/2414/E/0/2443/0/0		

1.3 General

Contractor		Job Method		Supervisor	
Perforated Assembly	PRODUCTION CASING	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	6,231.0 (usft)-8,784.0 (usft)	Start Date/Time	2/6/2012 12:00AM
No. of Intervals	33	End Date/Time	2/6/2012 12:00AM
Total Shots	192	Net Perforation Interval	50.00 (usft)
Avg Shot Density	3.84 (shot/ft)	Final Surface Pressure	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/6/2012 12:00AM	WASATCH/			6,231.0	6,237.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO	N

2.1 Perforated Interval (Continued)

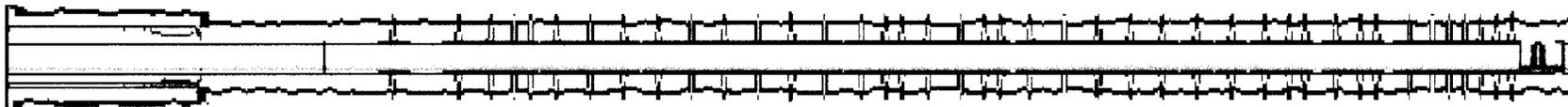
Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/6/2012 12:00AM	MESAVERDE/			6,949.0	6,950.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			6,991.0	6,992.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,008.0	7,009.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,069.0	7,070.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,137.0	7,138.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,173.0	7,174.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,249.0	7,250.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,301.0	7,303.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,346.0	7,347.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,410.0	7,411.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,458.0	7,459.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,513.0	7,514.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,640.0	7,642.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,664.0	7,666.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,723.0	7,724.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,768.0	7,770.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,791.0	7,792.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,925.0	7,926.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			7,988.0	7,990.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			8,048.0	8,050.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			8,074.0	8,075.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
2/6/2012 12:00AM	MESAVERDE/			8,100.0	8,102.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			8,174.0	8,175.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			8,249.0	8,251.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			8,316.0	8,317.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			8,334.0	8,336.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			8,509.0	8,510.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			8,530.0	8,532.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			8,733.0	8,734.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			8,749.0	8,750.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			8,769.0	8,771.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
2/6/2012 12:00AM	MESAVERDE/			8,782.0	8,784.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

3 Plots

3.1 Wellbore Schematic



**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-36F4BS YELLOW		Spud Date: 11/13/2011	
Project: UTAH-UINTAH	Site: NBU 922-36G3 PAD	Rig Name No: MILES 2/2	
Event: COMPLETION	Start Date: 2/1/2012	End Date: 2/14/2012	
Active Datum: RKB @4,972.00usft (above Mean Sea Level)	UWI: SWINE/0/9/S/22/E/36/0/0/26/PM/N/2414/E/0/2443/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/28/2010	7:30 - 9:30	2.00	COMP	33		P		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 18 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 25 PSI. 1ST PSI TEST T/ 7000 PSI. HELD FOR 30 MIN LOST 44 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. MOVE T/ NEXT WELL. SWIFW
2/1/2012	13:00 - 17:00	4.00	COMP	44		P		MIRU, ND FRAC VALVE, NU BOP'S, TEST BOP'S, PU BIT, BIT SUB, TBG, TIH 151 JTS, EOT 401', SWIFN TRIPPING TBG
2/2/2012	7:00 - 7:30	0.50	COMP	48		P		TIH TBG TO 8827', 278 JTS, DIDN'T TAG FILL, BREAK CIRC, ROLL CSG CLEAN, POOH LD TBG, BIT, BIT SUB,ND BOP'S, NU FRAC VALVE, RDMO TO NBU 922-36N PAD
	7:30 - 13:00	5.50	COMP	44		P		
2/3/2012	7:30 - 18:00	10.50	COMP	37	B	P		PSI TEST FRAC VALVES T/ 7000 PSI. LOST 000 PSI. GOOD TEST. BLEED OFF PSI. PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH PERF AS PER DESIGN. POOH. SWIFN.

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-36F4BS YELLOW

Spud Date: 11/13/2011

Project: UTAH-UINTAH

Site: NBU 922-36G3 PAD

Rig Name No: MILES 2/2

Event: COMPLETION

Start Date: 2/1/2012

End Date: 2/14/2012

Active Datum: RKB @4,972.00usft (above Mean Sea Level)

UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/2414/E/0/2443/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub-Code	P/U	MD From (usft)	Operation
2/7/2012	7:00 - 18:00	11.00	COMP	36	B	P		<p>FRAC STG 1)WHP 240 PSI, BRK 3447 PSI @ 4.4 BPM. ISIP 2270 PSI, FG .70. CALC PERFS OPEN @ 50.8 BPM @ 4752 PSI = 100% HOLES OPEN. ISIP 2732 PSI, FG .75, NPI 462 PSI. MP 6102 PSI, MR 50.9 BPM, AP 5206 PSI, AR 50.5 BPM, PUMPED 30/50 OWATTA SAND. SWI, X-OVER FOR WL.</p> <p>PERF STG 2)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 8562' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 2)WHP 800 PSI, BRK 2851 PSI @ 4.6 BPM. ISIP 1969 PSI, FG .67. CALC PERFS OPEN @ 50.5 BPM @ 4705 PSI = 100% HOLES OPEN. ISIP 2420 PSI, FG .73, NPI 451PSI. MP 5157 PSI, MR 51 BPM, AP 4745 PSI, AR 50.5 BPM, PUMPED 30/50 OWATTA SAND. SWI, X-OVER FOR WL.</p> <p>PERF STG 3)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET CBP @ 8281' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 3)WHP 1060 PSI, BRK 5303 PSI @ 4.6 BPM. ISIP 2419 PSI, FG .74. CALC PERFS OPEN @ 50.4 BPM @ 4518 PSI = 100% HOLES OPEN. ISIP 2543 PSI, FG .75, NPI 124 PSI. MP 7057 PSI, MR 50.9 BPM, AP 4348 PSI, AR 50.4 BPM, PUMPED 30/50 OWATTA SAND. SWI, X-OVER FOR WL.</p> <p>PERF STG 4)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 &amp; 120 DEG PHASING. RIH SET CBP @ 8020' P/U PERF AS PER DESIGN. POOH, SWIFN. HSM. HIGH PSI LINES</p>
2/8/2012	6:45 - 7:00	0.25	COMP	48		P		

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

Well: NBU 922-36F4BS YELLOW Spud Date: 11/13/2011  
 Project: UTAH-UINTAH Site: NBU 922-36G3 PAD Rig Name No: MILES 2/2  
 Event: COMPLETION Start Date: 2/1/2012 End Date: 2/14/2012  
 Active Datum: RKB @4,972.00usft (above Mean Sea Level) UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/2414/E/0/2443/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 18:00	11:00	COMP	36	B	P		<p>FRAC STG 4)WHP 1883PSI, BRK 2971 PSI @ 4.7 BPM. ISIP 1827 PSI, FG .67.            CALC PERFS OPEN @ 50.3 BPM @ 5333 PSI = 100% HOLES OPEN.            ISIP 2000 PSI, FG .69, NPI 173 PSI.            MP 5477 PSI, MR 51.1 BPM, AP 4141 PSI, AR 50.7 BPM,            PUMPED 30/50 OWATTA SAND</p> <p>PERF STAGE 5) PU 4 1/2 HAL CBP, &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE, 90 DEG PHASING. SET CBP @ 7754. P/U PERF AS PER DES.</p> <p>FRAC STAGE 5) WHP 1661 PSI, BRK 3106 PSI @ 4.6 BPM. ISIP 1737 PSI, FG .67.            CALC PERFS OPEN @ 39.3 BPM @ 6137 PSI = 60% HOLES OPEN.            ISIP 2094 PSI, FG .69, NPI 357 PSI.            MP 6796 PSI, MR 51.2 BPM, AP 4547 PSI, AR 47.8 BPM,            PUMPED 30/50 OWATTA SAND</p> <p>PERF STAGE 6) PU 4 1/2 HAL CBP, &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE, 90 DEG PHASING. SET CBP @ 7489. P/U &amp; PERF AS PER DES.</p> <p>FRAC STAGE 6) WHP 1119 PSI, BRK 2806 PSI @ 4.4 BPM. ISIP 1935 PSI, FG .70.            CALC PERFS OPEN @ 50.3 BPM @ 5033 PSI = 70% HOLES OPEN.            ISIP 2273 PSI, FG .75 NPI 338 PSI.            MP 5596 PSI, MR 51.4 BPM, AP 4174 PSI, AR 50.7 BPM,            PUMPED 30/50 OWATTA SAND</p> <p>PERF STAGE 7) PU 4 1/2 HAL CBP, &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE, 90 DEG PHASING. SET CBP @ 7204. P/U &amp; PERF AS PER DES.</p> <p>FRAC STAGE 7) WHP 760 PSI, BRK 2671 PSI @ 4.6 BPM. ISIP 1288 PSI, FG .62.            CALC PERFS OPEN @ 50.9 BPM @ 4365 PSI = 85% HOLES OPEN.            ISIP 2185 PSI, FG .75, NPI 897 PSI.            MP 4825 PSI, MR 51.5 BPM, AP 3712 PSI, AR 51 BPM,            PUMPED 30/50 OWATTA SAND</p> <p>PERF STAGE 8) PU 4 1/2 HAL CBP, &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE, 90 DEG PHASING. SET CBP @ 6267'. P/U &amp; PERF AS PER DES.</p> <p>FRAC STAGE 8) WHP 333 PSI, BRK 1861 PSI @ 3.7 BPM. ISIP 717 PSI, FG .55.            DIDNT FRAC DUE TO LOW FRAC GRAIDIANT.</p>

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

Well: NBU 922-36F4BS YELLOW

Spud Date: 11/13/2011

Project: UTAH-UINTAH

Site: NBU 922-36G3 PAD

Rig Name No: MILES 2/2

Event: COMPLETION

Start Date: 2/1/2012

End Date: 2/14/2012

Active Datum: RKB @4,972.00usft (above Mean Sea Level)

UWI: SW/NE/0/9/S/22/E/36/0/0/26/PM/N/2414/E/0/2443/0/0

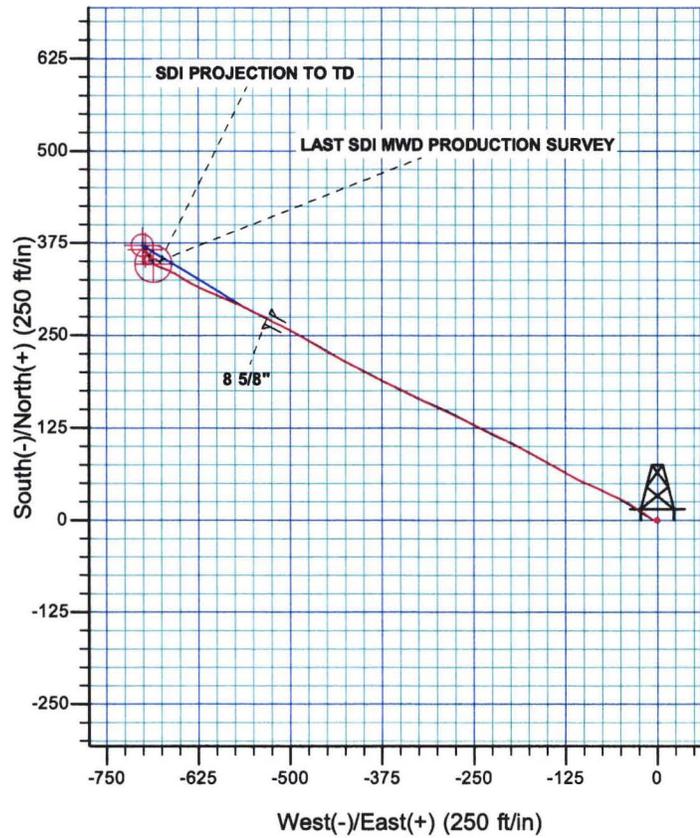
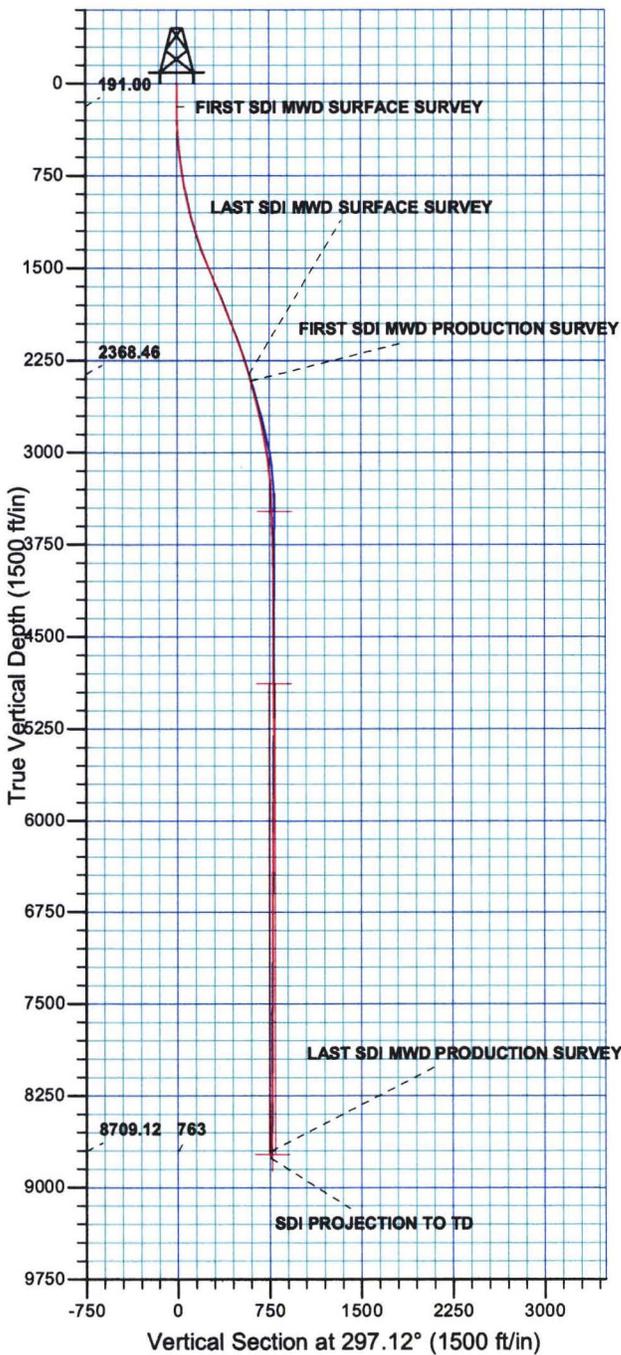
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								PU 4 1/2 8K HAL CBP. RIH SET CBP @ 6181'. POOH. SWIFN.
								TOTAL SAND = 169,829 LBS TOTAL CLFL = 8503 BBLS MIRU
2/14/2012	7:00 - 7:30	0.50	COMP	48		P		MIRU, NDWH, NU BOP'S, TEST BOP'S, PU BIT, BIT SUB, SEATING NIPPLE, POBS, TBG, TIH TO PLUG# 1, 6181', MILL 8 PLUGS, CLEAN OUT 10' TO PBTD, PU TO 8284', LAND TBG, ND BOP'S, NUWH, POBS, 2300# TURN TO FBC, RDMO
	7:30 -		COMP	44		P		
								PLUG# 1 6181' 0' SAND 5 MIN 0# KICK PLUG# 2 6267' 0' SAND 5 MIN 400# KICK PLUG# 3 7204' 40' SAND 5 MIN 300# KICK PLUG# 4 7489' 20' SAND 5 MIN 500# KICK PLUG# 5 7754' 25' SAND 5 MIN 600# KICK PLUG# 6 8020' 30' SAND 5 MIN 500# KICK PLUG# 7 8279' 30' SAND 7 MIN 500# KICK PLUG# 8 8562' 30' SAND 5 MIN 800# KICK
								PBTD 8809' BTM PERF 8784'
								TBG 261 JTS 8267.16' KB 15.00' HANGER .83' XNSN 1.875" 2.20' EOT 8284'
								FRAC WTR 8503 BBLS RCVD 2,300 BBLS LTR 6,203 BBLS
	17:00 -		PROD	50				WELL TURNED TO SALES @ 1700 HR ON 2/14/2012 - 750 MCFD, 1920 BWPD, FCP 2000#, FTP 1700#, 20/64 CK
2/18/2012	7:00 -		PROD	50				WELL IP'D ON 2/18/12 - 2337 MCFD, 0 BOPD, 364 BWPD, CP 2178#, FTP 1574#, CK 20/64", LP 134#, 24 HRS

WELL DETAILS: NBU 922-36F4BS						
GL 4958' & KB 14' @ 4972.00ft (ENSGN 139)						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	14527648.37	2092225.50	39° 59' 35.441 N	109° 23' 12.952 W	



Azimuths to True North  
 Magnetic North: 11.07°

Magnetic Field  
 Strength: 52375.5snT  
 Dip Angle: 65.89°  
 Date: 2011/02/09  
 Model: IGRF2010



PROJECT DETAILS: Uintah County, UT UTM12
Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 - Western US
Ellipsoid: Clarke 1886
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 36 T9S R22E
System Datum: Mean Sea Level



**Scientific Drilling**  
Rocky Mountain Operations

# **Kerr McGee Oil and Gas Onshore LP**

**Uintah County, UT UTM12  
NBU 922-36G3 PAD  
NBU 922-36F4BS**

**OH**

**Design: OH**

## **Standard Survey Report**

**04 January, 2012**

**Anadarko**   
Petroleum Corporation

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 922-36G3 PAD  
**Well:** NBU 922-36F4BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 922-36F4BS  
**TVD Reference:** GL 4958' & KB 14' @ 4972.00ft (ENSIGN 139)  
**MD Reference:** GL 4958' & KB 14' @ 4972.00ft (ENSIGN 139)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

<b>Project</b>	Uintah County, UT UTM12		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 - Western US		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 922-36G3 PAD, SECTION 36 T9S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,527,629.00 usft	<b>Latitude:</b>	39° 59' 35.250 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,092,221.64 usft	<b>Longitude:</b>	109° 23' 13.006 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	1.04 °

<b>Well</b>	NBU 922-36F4BS, 2436 FNL 2447 FEL				
<b>Well Position</b>	<b>+N-S</b>	0.00 ft	<b>Northing:</b>	14,527,648.38 usft	<b>Latitude:</b> 39° 59' 35.441 N
	<b>+E-W</b>	0.00 ft	<b>Easting:</b>	2,092,225.49 usft	<b>Longitude:</b> 109° 23' 12.952 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b> 4,958.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2011/02/09	11.07	65.89	52,375

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N-S (ft)</b>	<b>+E-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	297.12	

<b>Survey Program</b>	<b>Date</b>	2012/01/04			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
10.00	2,464.00	Survey #1 SDI MWD SURFACE (OH)	MWD SDI	MWD - Standard ver 1.0.1	
2,519.00	8,880.00	Survey #2 SDI MWD PRODUCTION (OH)	MWD SDI	MWD - Standard ver 1.0.1	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	
191.00	0.44	169.98	191.00	-0.68	0.12	-0.42	0.24	0.24	0.00	
<b>FIRST SDI MWD SURFACE SURVEY</b>										
276.00	0.88	254.97	275.99	-1.18	-0.45	-0.13	1.12	0.52	99.99	
360.00	2.11	291.09	359.97	-0.79	-2.52	1.88	1.78	1.46	43.00	
450.00	4.66	301.81	449.80	1.74	-7.17	7.18	2.91	2.83	11.91	
540.00	6.95	303.48	539.33	6.67	-14.82	16.23	2.55	2.54	1.86	
630.00	8.00	303.04	628.57	13.09	-24.61	27.87	1.17	1.17	-0.49	
720.00	8.62	302.43	717.62	20.12	-35.56	40.82	0.70	0.69	-0.68	

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 922-36G3 PAD  
**Well:** NBU 922-36F4BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 922-36F4BS  
**TVD Reference:** GL 4958' & KB 14' @ 4972.00ft (ENSIGN 139)  
**MD Reference:** GL 4958' & KB 14' @ 4972.00ft (ENSIGN 139)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**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)
810.00	9.58	297.51	806.49	27.20	-47.89	55.02	1.37	1.07	-5.47
900.00	10.99	294.34	895.04	34.19	-62.35	71.08	1.69	1.57	-3.52
990.00	12.93	294.78	983.08	41.95	-79.31	89.71	2.16	2.16	0.49
1,080.00	14.68	295.04	1,070.48	51.00	-98.79	111.17	1.95	1.94	0.29
1,170.00	16.44	298.56	1,157.18	61.91	-120.31	135.30	2.22	1.96	3.91
1,260.00	18.47	299.26	1,243.03	74.97	-143.93	162.28	2.27	2.26	0.78
1,350.00	19.96	298.30	1,328.02	89.22	-169.90	191.89	1.69	1.66	-1.07
1,440.00	21.28	296.71	1,412.25	103.85	-198.01	223.58	1.59	1.47	-1.77
1,530.00	21.72	295.57	1,495.99	118.37	-227.62	256.56	0.67	0.49	-1.27
1,620.00	21.81	295.92	1,579.57	132.87	-257.68	289.92	0.18	0.10	0.39
1,710.00	22.86	295.40	1,662.82	147.68	-288.51	324.11	1.19	1.17	-0.58
1,800.00	22.77	294.52	1,745.78	162.40	-320.15	358.98	0.39	-0.10	-0.98
1,890.00	22.25	296.10	1,828.92	177.13	-351.30	393.42	0.89	-0.58	1.76
1,980.00	22.07	297.07	1,912.27	192.32	-381.66	427.36	0.45	-0.20	1.08
2,070.00	21.54	296.54	1,995.83	207.40	-411.49	460.79	0.63	-0.59	-0.59
2,160.00	20.84	299.09	2,079.75	222.56	-440.26	493.32	1.29	-0.78	2.83
2,250.00	20.31	299.79	2,164.01	238.11	-467.81	524.92	0.65	-0.59	0.78
2,340.00	16.18	299.26	2,249.47	252.00	-492.32	553.06	4.59	-4.59	-0.59
2,430.00	16.44	296.10	2,335.85	263.73	-514.69	578.33	1.03	0.29	-3.51
2,464.00	16.36	297.24	2,368.46	268.04	-523.27	587.93	0.98	-0.24	3.35
<b>LAST SDI MWD SURFACE SURVEY</b>									
2,519.00	16.20	298.65	2,421.26	275.27	-536.89	603.34	0.78	-0.29	2.56
<b>FIRST SDI MWD PRODUCTION SURVEY</b>									
2,610.00	15.02	295.85	2,508.90	286.49	-558.64	627.82	1.54	-1.30	-3.08
2,700.00	14.24	292.16	2,595.98	295.75	-579.39	650.51	1.35	-0.87	-4.10
2,791.00	13.08	292.30	2,684.41	303.88	-599.28	671.92	1.28	-1.27	0.15
2,881.00	11.74	293.71	2,772.30	311.43	-617.09	691.21	1.53	-1.49	1.57
2,972.00	10.69	299.53	2,861.57	319.31	-632.91	708.89	1.70	-1.15	6.40
3,062.00	9.01	302.88	2,950.24	327.25	-646.09	724.24	1.97	-1.87	3.72
3,153.00	7.33	296.00	3,040.31	333.67	-657.30	737.13	2.13	-1.85	-7.56
3,243.00	5.86	294.25	3,129.72	338.07	-666.65	747.46	1.65	-1.63	-1.94
3,334.00	4.75	288.87	3,220.33	341.20	-674.45	755.83	1.34	-1.22	-5.91
3,424.00	3.63	299.50	3,310.08	343.81	-680.45	762.37	1.51	-1.24	11.81
3,515.00	2.64	286.03	3,400.95	345.80	-684.98	767.30	1.35	-1.09	-14.80
3,605.00	1.96	262.77	3,490.88	346.18	-688.49	770.61	1.27	-0.76	-25.84
3,696.00	2.03	264.70	3,581.82	345.84	-691.64	773.25	0.11	0.08	2.12
3,786.00	1.94	284.58	3,671.77	346.07	-694.71	776.08	0.77	-0.10	22.09
3,877.00	1.99	321.51	3,762.72	347.70	-697.18	779.03	1.37	0.05	40.58
3,967.00	2.18	332.30	3,852.86	350.44	-698.95	781.85	0.48	0.21	11.99
4,058.00	1.13	346.98	3,943.62	352.84	-699.95	783.84	1.24	-1.15	16.13
4,148.00	0.61	5.06	4,033.61	354.19	-700.11	784.59	0.65	-0.58	20.09
4,239.00	0.24	85.41	4,124.61	354.68	-699.88	784.61	0.68	-0.41	88.30
4,329.00	0.75	150.89	4,214.61	354.18	-699.40	783.96	0.76	0.57	72.76

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
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**Well:** NBU 922-36F4BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 922-36F4BS  
**TVD Reference:** GL 4958' & KB 14' @ 4972.00ft (ENSIGN 139)  
**MD Reference:** GL 4958' & KB 14' @ 4972.00ft (ENSIGN 139)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**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)
4,420.00	0.87	164.78	4,305.60	353.00	-698.93	783.00	0.25	0.13	15.28
4,511.00	0.72	166.81	4,396.59	351.77	-698.62	782.17	0.17	-0.16	2.23
4,601.00	0.69	9.61	4,486.59	351.76	-698.40	781.97	1.54	-0.03	-174.67
4,692.00	1.59	20.35	4,577.57	353.48	-697.87	782.28	1.01	0.99	11.80
4,782.00	1.37	34.54	4,667.54	355.54	-696.83	782.29	0.47	-0.24	15.77
4,873.00	0.55	54.97	4,758.52	356.69	-695.85	781.94	0.96	-0.90	22.45
4,963.00	0.69	31.95	4,848.52	357.39	-695.21	781.70	0.31	0.16	-25.58
5,054.00	1.51	340.36	4,939.50	358.99	-695.33	782.52	1.33	0.90	-56.69
5,144.00	1.15	322.00	5,029.48	360.82	-696.28	784.21	0.61	-0.40	-20.40
5,235.00	0.80	329.35	5,120.47	362.08	-697.17	785.57	0.41	-0.38	8.08
5,325.00	0.68	310.94	5,210.46	362.97	-697.89	786.62	0.29	-0.13	-20.46
5,416.00	0.70	25.90	5,301.45	363.83	-698.06	787.16	0.92	0.02	82.37
5,506.00	0.37	38.97	5,391.45	364.55	-697.63	787.11	0.39	-0.37	14.52
5,597.00	0.19	84.53	5,482.45	364.79	-697.30	786.92	0.30	-0.20	50.07
5,687.00	0.35	91.96	5,572.45	364.79	-696.87	786.55	0.18	0.18	8.26
5,868.00	0.94	153.64	5,753.44	363.45	-695.66	784.86	0.46	0.33	34.08
5,959.00	1.13	168.71	5,844.42	361.90	-695.16	783.70	0.36	0.21	16.56
6,049.00	0.56	152.32	5,934.41	360.64	-694.78	782.79	0.68	-0.63	-18.21
6,140.00	0.64	91.13	6,025.41	360.23	-694.06	781.97	0.68	0.09	-67.24
6,230.00	0.97	97.71	6,115.40	360.12	-692.80	780.80	0.38	0.37	7.31
6,321.00	0.56	114.54	6,206.39	359.83	-691.64	779.63	0.51	-0.45	18.49
6,411.00	0.64	109.16	6,296.39	359.49	-690.76	778.69	0.11	0.09	-5.98
6,502.00	0.57	102.59	6,387.38	359.22	-689.84	777.75	0.11	-0.08	-7.22
6,592.00	0.50	291.90	6,477.38	359.27	-689.77	777.71	1.18	-0.08	-189.66
6,683.00	0.21	319.71	6,568.38	359.54	-690.24	778.25	0.36	-0.32	30.56
6,773.00	0.52	140.72	6,658.38	359.35	-690.09	778.03	0.81	0.34	-198.88
6,864.00	0.79	132.86	6,749.37	358.61	-689.37	777.05	0.31	0.30	-8.64
6,954.00	0.38	200.01	6,839.37	357.90	-689.02	776.42	0.81	-0.46	74.61
7,045.00	0.44	185.93	6,930.36	357.27	-689.16	776.25	0.13	0.07	-15.47
7,135.00	0.41	178.58	7,020.36	356.61	-689.19	775.97	0.07	-0.03	-8.17
7,226.00	0.71	175.14	7,111.36	355.72	-689.13	775.52	0.33	0.33	-3.78
7,317.00	0.38	271.31	7,202.35	355.17	-689.38	775.49	0.92	-0.36	105.68
7,407.00	0.88	254.15	7,292.35	354.98	-690.35	776.27	0.59	0.56	-19.07
7,498.00	0.60	223.65	7,383.34	354.45	-691.35	776.91	0.52	-0.31	-33.52
7,588.00	0.67	183.32	7,473.34	353.58	-691.70	776.84	0.49	0.08	-44.81
7,678.00	0.95	179.14	7,563.33	352.31	-691.72	776.27	0.32	0.31	-4.64
7,769.00	0.85	170.62	7,654.32	350.89	-691.60	775.52	0.18	-0.11	-9.36
7,859.00	0.82	193.00	7,744.31	349.60	-691.64	774.96	0.36	-0.03	24.87
7,950.00	0.38	11.07	7,835.30	349.27	-691.73	774.89	1.32	-0.48	195.68
8,040.00	0.88	8.89	7,925.30	350.24	-691.56	775.19	0.56	0.56	-2.42
8,131.00	0.79	32.14	8,016.29	351.46	-691.12	775.35	0.38	-0.10	25.55
8,222.00	0.88	60.18	8,107.28	352.34	-690.18	774.91	0.45	0.10	30.81
8,312.00	0.99	70.75	8,197.27	352.94	-688.85	774.00	0.23	0.12	11.74
8,402.00	0.97	78.81	8,287.25	353.35	-687.37	772.87	0.15	-0.02	8.96

<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36F4BS
<b>Project:</b>	Uintah County, UT UTM12	<b>TVD Reference:</b>	GL 4958' & KB 14' @ 4972.00ft (ENSGN 139)
<b>Site:</b>	NBU 922-36G3 PAD	<b>MD Reference:</b>	GL 4958' & KB 14' @ 4972.00ft (ENSGN 139)
<b>Well:</b>	NBU 922-36F4BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM5000-RobertS-Local

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)	
8,493.00	1.16	95.03	8,378.24	353.41	-685.69	771.41	0.39	0.21	17.82	
8,584.00	1.41	100.52	8,469.22	353.13	-683.67	769.48	0.31	0.27	6.03	
8,674.00	1.60	116.22	8,559.19	352.37	-681.46	767.17	0.50	0.21	17.44	
8,765.00	1.69	130.63	8,650.15	350.94	-679.30	764.59	0.46	0.10	15.84	
8,824.00	1.81	138.91	8,709.12	349.67	-678.03	762.88	0.47	0.20	14.03	
<b>LAST SDI MWD PRODUCTION SURVEY</b>										
8,880.00	1.81	138.91	8,765.09	348.34	-676.86	761.24	0.00	0.00	0.00	
<b>SDI PROJECTION TO TD</b>										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N-S (ft)	+E-W (ft)		
191.00	191.00	-0.68	0.12	FIRST SDI MWD SURFACE SURVEY	
2,464.00	2,368.46	268.04	-523.27	LAST SDI MWD SURFACE SURVEY	
2,519.00	2,421.26	275.27	-536.89	FIRST SDI MWD PRODUCTION SURVEY	
8,824.00	8,709.12	349.67	-678.03	LAST SDI MWD PRODUCTION SURVEY	
8,880.00	8,765.09	348.34	-676.86	SDI PROJECTION TO TD	

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



**Scientific Drilling**  
Rocky Mountain Operations

# **Kerr McGee Oil and Gas Onshore LP**

**Uintah County, UT UTM12  
NBU 922-36G3 PAD  
NBU 922-36F4BS**

**OH**

**Design: OH**

## **Survey Report - Geographic**

**04 January, 2012**

**Anadarko**   
Petroleum Corporation

<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36F4BS
<b>Project:</b>	Uintah County, UT UTM12	<b>TVD Reference:</b>	GL 4958' & KB 14' @ 4972.00ft (ENSIGN 139)
<b>Site:</b>	NBU 922-36G3 PAD	<b>MD Reference:</b>	GL 4958' & KB 14' @ 4972.00ft (ENSIGN 139)
<b>Well:</b>	NBU 922-36F4BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM5000-RobertS-Local

<b>Project</b>	Uintah County, UT UTM12		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 - Western US		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	NBU 922-36G3 PAD, SECTION 36 T9S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,527,629.00 usft	<b>Latitude:</b>	39° 59' 35.250 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,092,221.64 usft	<b>Longitude:</b>	109° 23' 13.006 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	1.04 °

<b>Well</b>	NBU 922-36F4BS, 2436 FNL 2447 FEL					
<b>Well Position</b>	+N-S	0.00 ft	<b>Northing:</b>	14,527,648.38 usft	<b>Latitude:</b>	39° 59' 35.441 N
	+E-W	0.00 ft	<b>Easting:</b>	2,092,225.49 usft	<b>Longitude:</b>	109° 23' 12.952 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,958.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination</b>	<b>Dip Angle</b>	<b>Field Strength</b>
	IGRF2010	2011/02/09	(°)	(°)	(nT)
			11.07	65.89	52,375

<b>Design</b>	OH				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N-S</b>	<b>+E-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	297.12	

<b>Survey Program</b>	<b>Date</b>	2012/01/04			
<b>From</b>	<b>To</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
(ft)	(ft)				
10.00	2,464.00	Survey #1 SDI MWD SURFACE (OH)	MWD SDI	MWD - Standard ver 1.0.1	
2,519.00	8,880.00	Survey #2 SDI MWD PRODUCTION (OH)	MWD SDI	MWD - Standard ver 1.0.1	

<b>Survey</b>										
<b>Measured</b>	<b>Inclination</b>	<b>Azimuth</b>	<b>Vertical</b>	<b>+N-S</b>	<b>+E-W</b>	<b>Map</b>	<b>Map</b>	<b>Latitude</b>	<b>Longitude</b>	
<b>Depth</b>	(°)	(°)	<b>Depth</b>	(ft)	(ft)	<b>Northing</b>	<b>Easting</b>			
(ft)			(ft)			(usft)	(usft)			
0.00	0.00	0.00	0.00	0.00	0.00	14,527,648.38	2,092,225.49	39° 59' 35.441 N	109° 23' 12.952 W	
10.00	0.00	0.00	10.00	0.00	0.00	14,527,648.38	2,092,225.49	39° 59' 35.441 N	109° 23' 12.952 W	
191.00	0.44	169.98	191.00	-0.68	0.12	14,527,647.70	2,092,225.63	39° 59' 35.434 N	109° 23' 12.950 W	
<b>FIRST SDI MWD SURFACE SURVEY</b>										
276.00	0.88	254.97	275.99	-1.18	-0.45	14,527,647.20	2,092,225.06	39° 59' 35.429 N	109° 23' 12.957 W	
360.00	2.11	291.09	359.97	-0.79	-2.52	14,527,647.55	2,092,222.99	39° 59' 35.433 N	109° 23' 12.984 W	
450.00	4.66	301.81	449.80	1.74	-7.17	14,527,649.99	2,092,218.29	39° 59' 35.458 N	109° 23' 13.044 W	
540.00	6.95	303.48	539.33	6.67	-14.82	14,527,654.78	2,092,210.55	39° 59' 35.507 N	109° 23' 13.142 W	
630.00	8.00	303.04	628.57	13.09	-24.61	14,527,681.02	2,092,200.65	39° 59' 35.570 N	109° 23' 13.268 W	
720.00	8.62	302.43	717.62	20.12	-35.56	14,527,667.85	2,092,189.58	39° 59' 35.640 N	109° 23' 13.409 W	
810.00	9.58	297.51	806.49	27.20	-47.89	14,527,674.70	2,092,177.12	39° 59' 35.710 N	109° 23' 13.567 W	

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 922-36G3 PAD  
**Well:** NBU 922-36F4BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 922-36F4BS  
**TVD Reference:** GL 4958' & KB 14' @ 4972.00ft (ENSIGN 139)  
**MD Reference:** GL 4958' & KB 14' @ 4972.00ft (ENSIGN 139)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (uoft)	Map Easting (uoft)	Latitude	Longitude
900.00	10.99	294.34	895.04	34.19	-62.35	14,527,681.44	2,092,162.53	39° 59' 35.779 N	109° 23' 13.753 W
990.00	12.93	294.78	983.08	41.95	-79.31	14,527,688.89	2,092,145.44	39° 59' 35.855 N	109° 23' 13.971 W
1,080.00	14.68	295.04	1,070.48	51.00	-98.79	14,527,697.58	2,092,125.80	39° 59' 35.945 N	109° 23' 14.221 W
1,170.00	16.44	298.56	1,157.18	61.91	-120.31	14,527,708.10	2,092,104.09	39° 59' 36.053 N	109° 23' 14.498 W
1,260.00	18.47	299.26	1,243.03	74.97	-143.93	14,527,720.73	2,092,080.23	39° 59' 36.182 N	109° 23' 14.801 W
1,350.00	19.96	298.30	1,328.02	89.22	-169.90	14,527,734.51	2,092,054.01	39° 59' 36.323 N	109° 23' 15.135 W
1,440.00	21.28	296.71	1,412.25	103.85	-198.01	14,527,748.63	2,092,025.64	39° 59' 36.467 N	109° 23' 15.496 W
1,530.00	21.72	295.57	1,495.99	118.37	-227.62	14,527,762.62	2,091,995.77	39° 59' 36.611 N	109° 23' 15.877 W
1,620.00	21.81	295.92	1,579.57	132.87	-257.68	14,527,776.56	2,091,965.45	39° 59' 36.754 N	109° 23' 16.263 W
1,710.00	22.86	295.40	1,662.82	147.68	-288.51	14,527,790.81	2,091,934.36	39° 59' 36.900 N	109° 23' 16.659 W
1,800.00	22.77	294.52	1,745.78	162.40	-320.15	14,527,804.96	2,091,902.46	39° 59' 37.046 N	109° 23' 17.066 W
1,890.00	22.25	296.10	1,828.92	177.13	-351.30	14,527,819.12	2,091,871.05	39° 59' 37.192 N	109° 23' 17.466 W
1,980.00	22.07	297.07	1,912.27	192.32	-381.66	14,527,833.76	2,091,840.42	39° 59' 37.342 N	109° 23' 17.856 W
2,070.00	21.54	296.54	1,995.83	207.40	-411.49	14,527,848.29	2,091,810.32	39° 59' 37.491 N	109° 23' 18.239 W
2,160.00	20.84	299.09	2,079.75	222.56	-440.26	14,527,862.94	2,091,781.27	39° 59' 37.641 N	109° 23' 18.609 W
2,250.00	20.31	299.79	2,164.01	238.11	-467.81	14,527,877.98	2,091,753.45	39° 59' 37.794 N	109° 23' 18.963 W
2,340.00	16.18	299.26	2,249.47	252.00	-492.32	14,527,891.43	2,091,728.70	39° 59' 37.932 N	109° 23' 19.278 W
2,430.00	16.44	296.10	2,335.85	263.73	-514.69	14,527,902.75	2,091,706.11	39° 59' 38.048 N	109° 23' 19.566 W
2,464.00	16.36	297.24	2,368.46	268.04	-523.27	14,527,906.91	2,091,697.46	39° 59' 38.090 N	109° 23' 19.676 W
<b>LAST SDI MWD SURFACE SURVEY</b>									
2,519.00	16.20	298.65	2,421.26	275.27	-536.89	14,527,913.88	2,091,683.71	39° 59' 38.162 N	109° 23' 19.851 W
<b>FIRST SDI MWD PRODUCTION SURVEY</b>									
2,610.00	15.02	295.85	2,508.90	286.49	-558.64	14,527,924.72	2,091,661.76	39° 59' 38.272 N	109° 23' 20.130 W
2,700.00	14.24	292.16	2,595.98	295.75	-579.39	14,527,933.60	2,091,640.85	39° 59' 38.364 N	109° 23' 20.397 W
2,791.00	13.08	292.30	2,684.41	303.88	-599.28	14,527,941.37	2,091,620.81	39° 59' 38.444 N	109° 23' 20.653 W
2,881.00	11.74	293.71	2,772.30	311.43	-617.09	14,527,948.59	2,091,602.87	39° 59' 38.519 N	109° 23' 20.881 W
2,972.00	10.69	299.53	2,861.57	319.31	-632.91	14,527,956.19	2,091,586.91	39° 59' 38.597 N	109° 23' 21.085 W
3,062.00	9.01	302.88	2,950.24	327.25	-646.09	14,527,963.89	2,091,573.59	39° 59' 38.675 N	109° 23' 21.254 W
3,153.00	7.33	296.00	3,040.31	333.67	-657.30	14,527,970.10	2,091,562.27	39° 59' 38.739 N	109° 23' 21.398 W
3,243.00	5.86	294.25	3,129.72	338.07	-666.65	14,527,974.33	2,091,552.84	39° 59' 38.782 N	109° 23' 21.518 W
3,334.00	4.75	288.87	3,220.33	341.20	-674.45	14,527,977.32	2,091,544.98	39° 59' 38.813 N	109° 23' 21.618 W
3,424.00	3.63	299.50	3,310.08	343.81	-680.45	14,527,979.82	2,091,538.93	39° 59' 38.839 N	109° 23' 21.696 W
3,515.00	2.64	286.03	3,400.95	345.80	-684.98	14,527,981.73	2,091,534.37	39° 59' 38.859 N	109° 23' 21.754 W
3,605.00	1.96	262.77	3,490.88	346.18	-688.49	14,527,982.05	2,091,530.85	39° 59' 38.862 N	109° 23' 21.799 W
3,696.00	2.03	264.70	3,581.82	345.84	-691.64	14,527,981.64	2,091,527.71	39° 59' 38.859 N	109° 23' 21.839 W
3,786.00	1.94	284.58	3,671.77	346.07	-694.71	14,527,981.82	2,091,524.64	39° 59' 38.861 N	109° 23' 21.879 W
3,877.00	1.99	321.51	3,762.72	347.70	-697.18	14,527,983.40	2,091,522.14	39° 59' 38.877 N	109° 23' 21.911 W
3,967.00	2.18	332.30	3,852.66	350.44	-698.95	14,527,986.11	2,091,520.32	39° 59' 38.904 N	109° 23' 21.933 W
4,058.00	1.13	346.98	3,943.62	352.84	-699.95	14,527,988.50	2,091,519.27	39° 59' 38.928 N	109° 23' 21.946 W
4,148.00	0.61	5.06	4,033.61	354.19	-700.11	14,527,989.84	2,091,519.09	39° 59' 38.942 N	109° 23' 21.948 W
4,239.00	0.24	85.41	4,124.61	354.68	-699.88	14,527,990.34	2,091,519.31	39° 59' 38.946 N	109° 23' 21.945 W
4,329.00	0.75	150.89	4,214.61	354.18	-699.40	14,527,989.85	2,091,519.80	39° 59' 38.942 N	109° 23' 21.939 W
4,420.00	0.87	164.78	4,305.60	353.00	-698.93	14,527,988.67	2,091,520.29	39° 59' 38.930 N	109° 23' 21.933 W
4,511.00	0.72	166.81	4,396.59	351.77	-698.62	14,527,987.45	2,091,520.62	39° 59' 38.918 N	109° 23' 21.929 W
4,601.00	0.69	9.61	4,486.59	351.76	-698.40	14,527,987.44	2,091,520.84	39° 59' 38.918 N	109° 23' 21.926 W
4,692.00	1.59	20.35	4,577.57	353.48	-697.87	14,527,989.17	2,091,521.34	39° 59' 38.935 N	109° 23' 21.919 W
4,782.00	1.37	34.54	4,667.54	355.54	-696.83	14,527,991.25	2,091,522.35	39° 59' 38.955 N	109° 23' 21.906 W
4,873.00	0.55	54.97	4,758.52	356.69	-695.85	14,527,992.41	2,091,523.30	39° 59' 38.966 N	109° 23' 21.894 W
4,963.00	0.69	31.95	4,848.52	357.39	-695.21	14,527,993.13	2,091,523.93	39° 59' 38.973 N	109° 23' 21.885 W
5,054.00	1.51	340.36	4,939.50	358.99	-695.33	14,527,994.72	2,091,523.79	39° 59' 38.989 N	109° 23' 21.887 W
5,144.00	1.15	322.00	5,029.48	360.82	-696.28	14,527,996.54	2,091,522.80	39° 59' 39.007 N	109° 23' 21.899 W
5,235.00	0.80	329.35	5,120.47	362.08	-697.17	14,527,997.79	2,091,521.89	39° 59' 39.020 N	109° 23' 21.910 W
5,325.00	0.68	310.94	5,210.46	362.97	-697.89	14,527,998.66	2,091,521.15	39° 59' 39.028 N	109° 23' 21.920 W
5,416.00	0.70	25.90	5,301.45	363.83	-698.06	14,527,999.51	2,091,520.97	39° 59' 39.037 N	109° 23' 21.922 W
5,506.00	0.37	38.97	5,391.45	364.55	-697.63	14,528,000.24	2,091,521.38	39° 59' 39.044 N	109° 23' 21.916 W

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 922-36G3 PAD  
**Well:** NBU 922-36F4BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 922-36F4BS  
**TVD Reference:** GL 4958' & KB 14' @ 4972.00ft (ENSIGN 139)  
**MD Reference:** GL 4958' & KB 14' @ 4972.00ft (ENSIGN 139)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM5000-RobertS-Local

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,597.00	0.19	84.53	5,482.45	364.79	-697.30	14,528,000.49	2,091,521.71	39° 59' 39.046 N	109° 23' 21.912 W
5,687.00	0.35	91.96	5,572.45	364.79	-696.87	14,528,000.50	2,091,522.13	39° 59' 39.046 N	109° 23' 21.907 W
5,868.00	0.94	153.64	5,753.44	363.45	-695.66	14,527,999.18	2,091,523.37	39° 59' 39.033 N	109° 23' 21.891 W
5,959.00	1.13	168.71	5,844.42	361.90	-695.16	14,527,997.64	2,091,523.91	39° 59' 39.018 N	109° 23' 21.885 W
6,049.00	0.56	152.32	5,934.41	360.64	-694.78	14,527,996.38	2,091,524.31	39° 59' 39.005 N	109° 23' 21.880 W
6,140.00	0.64	91.13	6,025.41	360.23	-694.06	14,527,995.99	2,091,525.03	39° 59' 39.001 N	109° 23' 21.871 W
6,230.00	0.97	97.71	6,115.40	360.12	-692.80	14,527,995.90	2,091,526.29	39° 59' 39.000 N	109° 23' 21.854 W
6,321.00	0.56	114.54	6,206.39	359.83	-691.64	14,527,995.64	2,091,527.46	39° 59' 38.997 N	109° 23' 21.839 W
6,411.00	0.64	109.16	6,296.39	359.49	-690.76	14,527,995.30	2,091,528.34	39° 59' 38.994 N	109° 23' 21.828 W
6,502.00	0.57	102.59	6,387.38	359.22	-689.84	14,527,995.06	2,091,529.27	39° 59' 38.991 N	109° 23' 21.816 W
6,592.00	0.50	291.90	6,477.38	359.27	-689.77	14,527,995.11	2,091,529.34	39° 59' 38.992 N	109° 23' 21.815 W
6,683.00	0.21	319.71	6,568.38	359.54	-690.24	14,527,995.37	2,091,528.86	39° 59' 38.994 N	109° 23' 21.821 W
6,773.00	0.52	140.72	6,658.38	359.35	-690.09	14,527,995.19	2,091,529.01	39° 59' 38.993 N	109° 23' 21.820 W
6,864.00	0.79	132.86	6,749.37	358.61	-689.37	14,527,994.45	2,091,529.75	39° 59' 38.985 N	109° 23' 21.810 W
6,954.00	0.38	200.01	6,839.37	357.90	-689.02	14,527,993.76	2,091,530.11	39° 59' 38.978 N	109° 23' 21.806 W
7,045.00	0.44	185.93	6,930.36	357.27	-689.16	14,527,993.12	2,091,529.99	39° 59' 38.972 N	109° 23' 21.808 W
7,135.00	0.41	178.58	7,020.36	356.61	-689.19	14,527,992.46	2,091,529.97	39° 59' 38.965 N	109° 23' 21.808 W
7,226.00	0.71	175.14	7,111.36	355.72	-689.13	14,527,991.57	2,091,530.04	39° 59' 38.957 N	109° 23' 21.807 W
7,317.00	0.38	271.31	7,202.35	355.17	-689.38	14,527,991.01	2,091,529.80	39° 59' 38.951 N	109° 23' 21.810 W
7,407.00	0.88	254.15	7,292.35	354.98	-690.35	14,527,990.81	2,091,528.84	39° 59' 38.949 N	109° 23' 21.823 W
7,498.00	0.60	223.65	7,383.34	354.45	-691.35	14,527,990.26	2,091,527.85	39° 59' 38.944 N	109° 23' 21.836 W
7,588.00	0.67	183.32	7,473.34	353.58	-691.70	14,527,989.39	2,091,527.51	39° 59' 38.936 N	109° 23' 21.840 W
7,678.00	0.95	179.14	7,563.33	352.31	-691.72	14,527,988.11	2,091,527.51	39° 59' 38.923 N	109° 23' 21.840 W
7,769.00	0.85	170.62	7,654.32	350.89	-691.60	14,527,986.70	2,091,527.66	39° 59' 38.909 N	109° 23' 21.839 W
7,859.00	0.82	193.00	7,744.31	349.60	-691.64	14,527,985.41	2,091,527.65	39° 59' 38.896 N	109° 23' 21.839 W
7,950.00	0.38	11.07	7,835.30	349.27	-691.73	14,527,985.07	2,091,527.56	39° 59' 38.893 N	109° 23' 21.841 W
8,040.00	0.88	8.89	7,925.30	350.24	-691.56	14,527,986.05	2,091,527.71	39° 59' 38.903 N	109° 23' 21.838 W
8,131.00	0.79	32.14	8,016.29	351.46	-691.12	14,527,987.28	2,091,528.13	39° 59' 38.915 N	109° 23' 21.833 W
8,222.00	0.88	60.18	8,107.28	352.34	-690.18	14,527,988.17	2,091,529.05	39° 59' 38.923 N	109° 23' 21.821 W
8,312.00	0.99	70.75	8,197.27	352.94	-688.85	14,527,988.80	2,091,530.38	39° 59' 38.929 N	109° 23' 21.804 W
8,402.00	0.97	78.81	8,287.25	353.35	-687.37	14,527,989.23	2,091,531.85	39° 59' 38.933 N	109° 23' 21.784 W
8,493.00	1.16	95.03	8,378.24	353.41	-685.69	14,527,989.33	2,091,533.52	39° 59' 38.934 N	109° 23' 21.763 W
8,584.00	1.41	100.52	8,469.22	353.13	-683.67	14,527,989.08	2,091,535.54	39° 59' 38.931 N	109° 23' 21.737 W
8,674.00	1.60	116.22	8,559.19	352.37	-681.46	14,527,988.36	2,091,537.77	39° 59' 38.924 N	109° 23' 21.709 W
8,765.00	1.69	130.63	8,650.15	350.94	-679.30	14,527,986.97	2,091,539.96	39° 59' 38.909 N	109° 23' 21.681 W
8,824.00	1.81	138.91	8,709.12	349.67	-678.03	14,527,985.72	2,091,541.25	39° 59' 38.897 N	109° 23' 21.664 W
<b>LAST SDI MWD PRODUCTION SURVEY</b>									
8,880.00	1.81	138.91	8,765.09	348.34	-676.86	14,527,984.41	2,091,542.44	39° 59' 38.884 N	109° 23' 21.650 W
<b>SDI PROJECTION TO TD</b>									

**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
191.00	191.00	-0.68	0.12	FIRST SDI MWD SURFACE SURVEY
2,464.00	2,368.46	268.04	-523.27	LAST SDI MWD SURFACE SURVEY

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_