

**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 922-36G1BS
<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
LOCATION AT SURFACE	671 FNL 2291 FEL	NWNE	36	9.0 S	22.0 E	S
Top of Uppermost Producing Zone	1439 FNL 1861 FEL	SWNE	36	9.0 S	22.0 E	S
At Total Depth	1439 FNL 1861 FEL	SWNE	36	9.0 S	22.0 E	S

<b>21. COUNTY</b> UINTAH	<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 1439	<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 640
<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 232	<b>26. PROPOSED DEPTH</b> MD: 8905 TVD: 8770	
<b>27. ELEVATION - GROUND LEVEL</b> 5015	<b>28. BOND NUMBER</b> 22013542	<b>29. 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
Surf	11	8.625	0 - 2350	28.0	J-55 LT&C	0.2	Type V	180	1.15	15.8
							Class G	270	1.15	15.8
Prod	7.875	4.5	0 - 8905	11.6	I-80 LT&C	12.5	Premium Lite High Strength	290	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> 43047516120000	<b>APPROVAL</b>   Permit Manager	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 922-36G1BS**

Surface: 671 FNL / 2291 FEL      NWNE  
 BHL: 1439 FNL / 1861 FEL      SWNE

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	1244	
Birds Nest	1532	Water
Mahogany	1898	Water
Wasatch	4338	Gas
Mesaverde	6540	Gas
MVU2	7536	Gas
MVL1	8123	Gas
TVD	8770	
TD	8905	

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 8770' TVD, approximately equals  
 5,788 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 3,671 psi (bottom hole pressure  
 minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

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

**8. Anticipated Starting Dates:**

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

**9. Variances:**

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

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

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

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

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

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

**Background**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

***Conclusion***

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

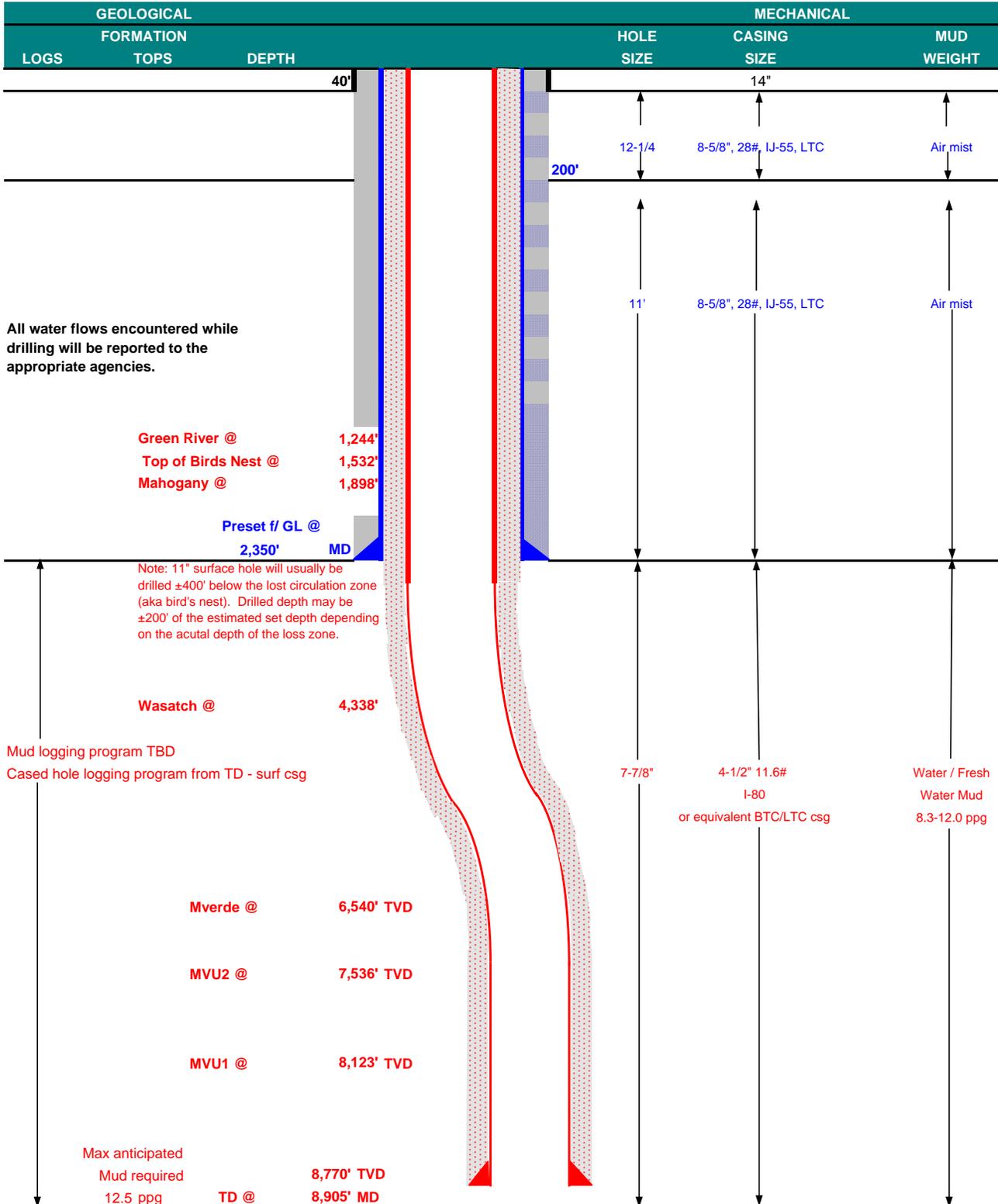
**10. Other Information:**

*Please refer to the attached Drilling Program.*



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

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP		DATE	May 6, 2011	
WELL NAME	<b>NBU 922-36G1BS</b>		TD	8,770'	TVD 8,905' MD
FIELD	Natural Buttes	COUNTY	Uintah	STATE	Utah
SURFACE LOCATION	NWNE	671 FNL	2291 FEL	Sec 36 T 9S R 22E	FINISHED ELEVATION 5015.2
	Latitude: 39.997962		Longitude: -109.386412		NAD 27
BTM HOLE LOCATION	SWNE	1439 FNL	1861 FEL	Sec 36 T 9S R 22E	
	Latitude: 39.995847		Longitude: -109.384867		NAD 27
OBJECTIVE ZONE(S)	Wasatch/Mesaverde				
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.				





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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	TENSION	
CONDUCTOR	14"	0-40'							
SURFACE	8-5/8"	0 to 2,350	28.00	IJ-55	LTC	3,390	1,880	348,000	N/A
						2.30	1.71	6.04	N/A
PRODUCTION	4-1/2"	0 to 8,905	11.60	I-80	LTC/BTC	7,780	6,350	279,000	367,000
						1.11	1.11	3.34	4.39

**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 Option 1	LEAD 500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
	TOP OUT CMT (6 jobs) 1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>						
SURFACE Option 2	LEAD 1,850'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	170	35%	11.00	3.82
	TAIL 500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD 3,835'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	290	20%	11.00	3.38
	TAIL 5,070'	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

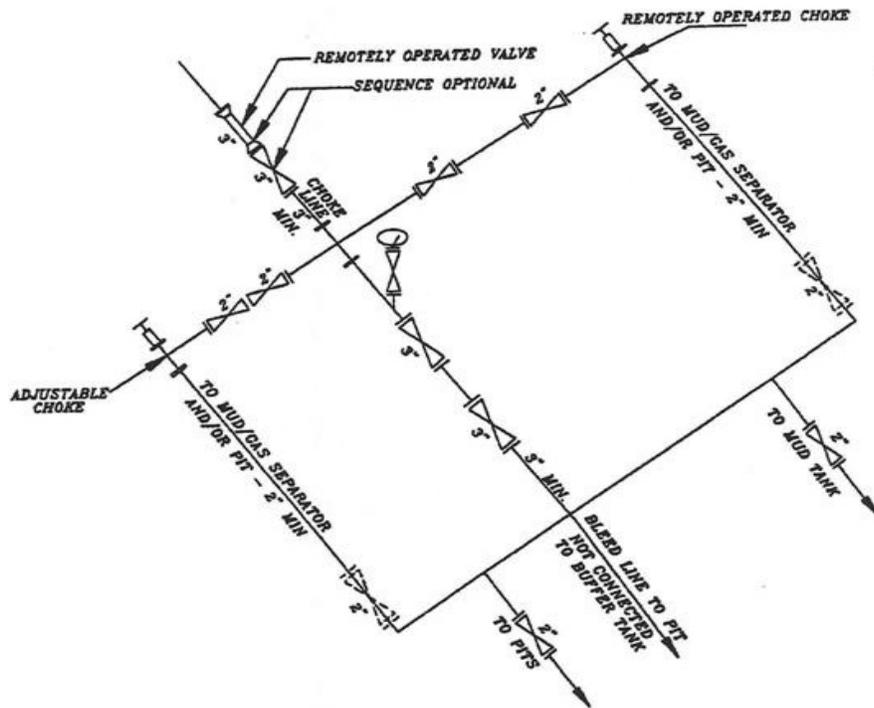
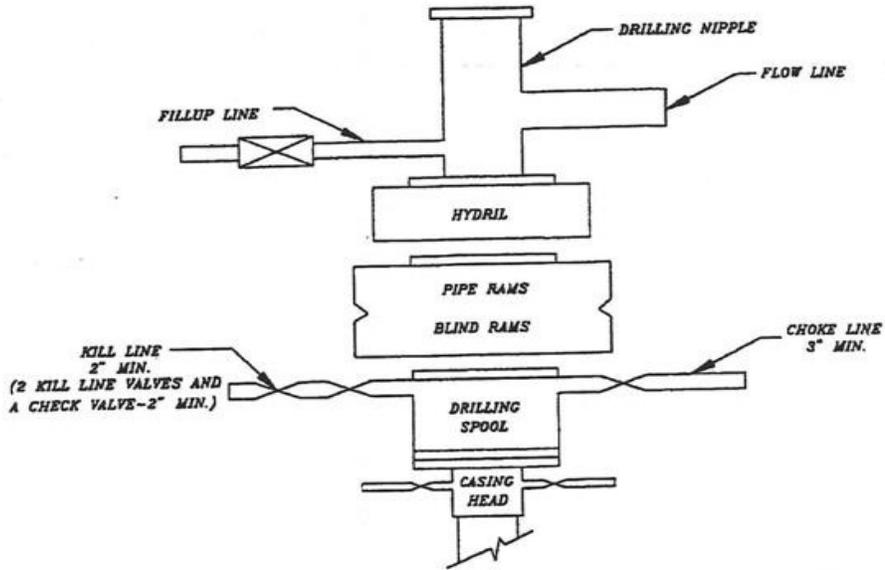
DATE: \_\_\_\_\_

DRILLING SUPERINTENDENT:

Kenny Gathings / Lovel Young

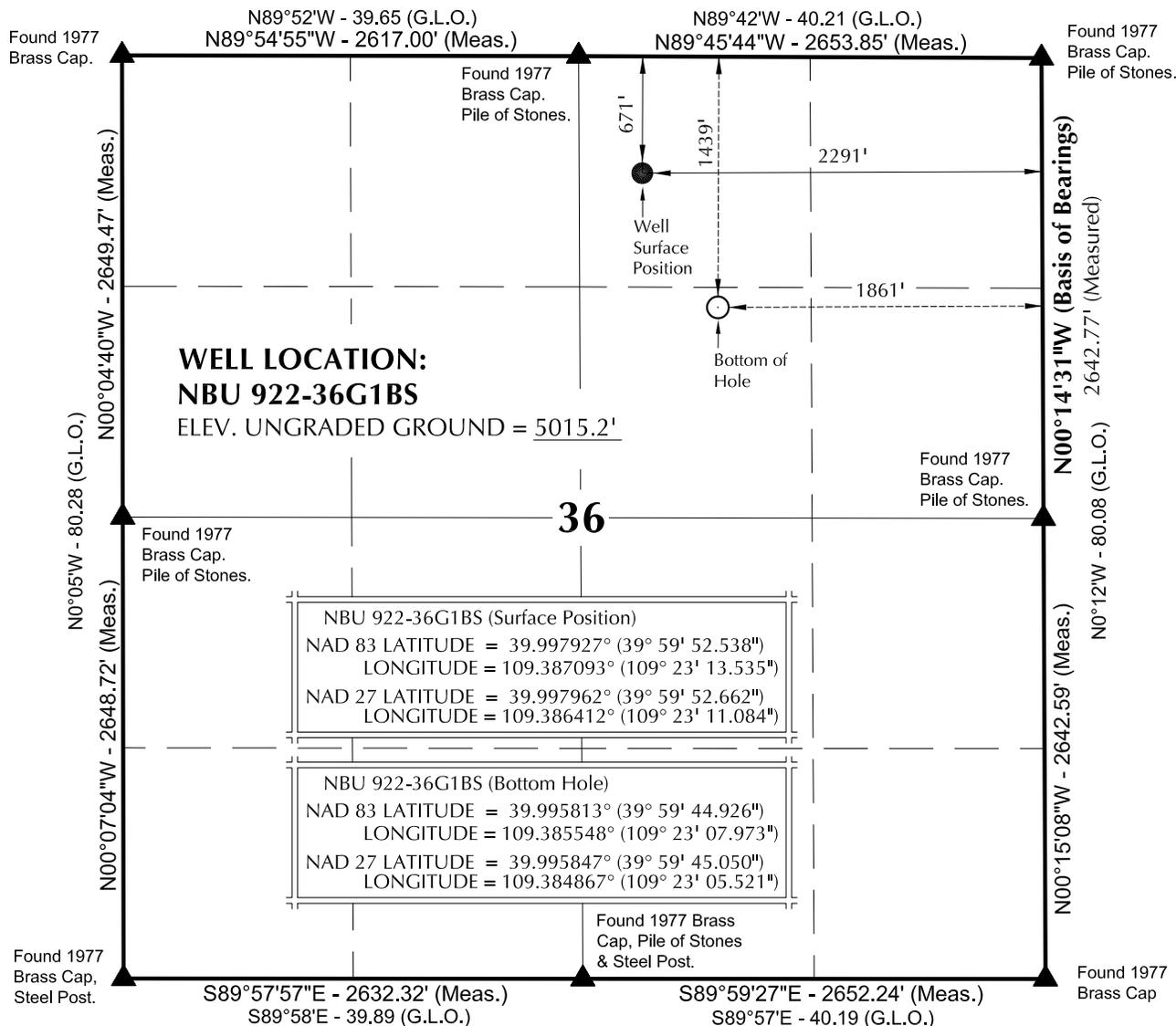
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EXHIBIT A  
NBU 922-36G1BS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

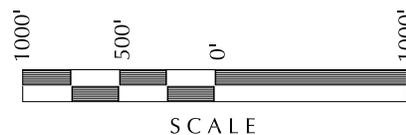
# T9S, R22E, S.L.B.&M.



**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 S29°23'15"E 883.83' from the Surface Position.
- Bearings are based on Global Positioning Satellite observations.
- Basis of elevation is Tri-Sta "Two Water" located in the NW 1/4 of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.



**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. Slagsh*  
 PROFESSIONAL LAND SURVEYOR  
 REGISTRATION NO. 6028691  
 STATE OF UTAH

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

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

**NBU 922-36G1BS  
WELL PLAT**

**1439' FNL, 1861' FEL (Bottom Hole)  
SW 1/4 NE 1/4 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**

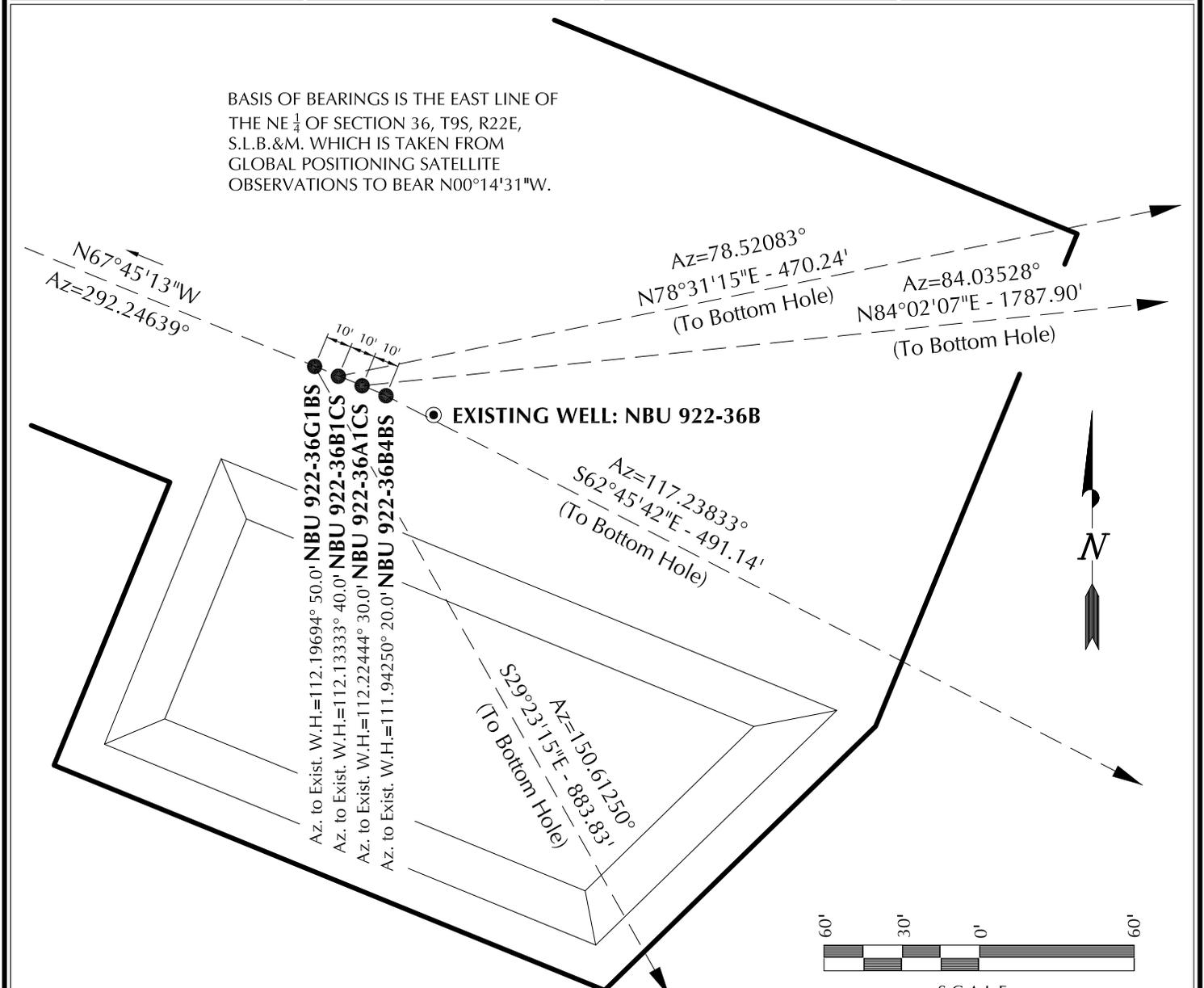
ENGINEERING & LAND SURVEYING, INC.  
 209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365

DATE SURVEYED: 09-02-10	SURVEYED BY: M.S.B.	SHEET NO: <b>4</b>
DATE DRAWN: 11-16-10	DRAWN BY: E.M.S.	
SCALE: 1" = 1000'		4 OF 16

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 922-36B4BS	39°59'52.425" 39.997896°	109°23'13.179" 109.386994°	39°59'52.549" 39.997930°	109°23'10.727" 109.386313°	682' FNL 2264' FEL	39°59'50.200" 39.997278°	109°23'07.572" 109.385437°	39°59'50.325" 39.997312°	109°23'05.120" 109.384756°	905' FNL 1828' FEL
NBU 922-36A1CS	39°59'52.464" 39.997907°	109°23'13.298" 109.387027°	39°59'52.588" 39.997941°	109°23'10.846" 109.386346°	678' FNL 2273' FEL	39°59'54.284" 39.998412°	109°22'50.453" 109.380681°	39°59'54.408" 39.998447°	109°22'48.002" 109.380001°	485' FNL 494' FEL
NBU 922-36B1CS	39°59'52.500" 39.997917°	109°23'13.417" 109.387060°	39°59'52.625" 39.997951°	109°23'10.965" 109.386379°	674' FNL 2282' FEL	39°59'53.421" 39.998173°	109°23'07.496" 109.385415°	39°59'53.545" 39.998207°	109°23'05.044" 109.384735°	579' FNL 1821' FEL
NBU 922-36G1BS	39°59'52.538" 39.997927°	109°23'13.535" 109.387093°	39°59'52.662" 39.997962°	109°23'11.084" 109.386412°	671' FNL 2291' FEL	39°59'44.926" 39.995813°	109°23'07.973" 109.385548°	39°59'45.050" 39.995847°	109°23'05.521" 109.384867°	1439' FNL 1861' FEL
NBU 922-36B	39°59'52.351" 39.997875°	109°23'12.941" 109.386928°	39°59'52.475" 39.997910°	109°23'10.489" 109.386247°	689' FNL 2245' 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 922-36B4BS	-224.8'	436.7'	NBU 922-36A1CS	185.8'	1,778.2'	NBU 922-36B1CS	93.6'	460.8'	NBU 922-36G1BS	-770.1'	433.7'



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

**WELL PAD - NBU 922-36B**

**WELL PAD INTERFERENCE PLAT**  
WELLS - NBU 922-36B4BS, NBU 922-36A1CS,  
NBU 922-36B1CS & NBU 922-36G1BS  
LOCATED IN SECTION 36, T9S, R22E,  
S.L.B.&M., UTAH COUNTY, UTAH.

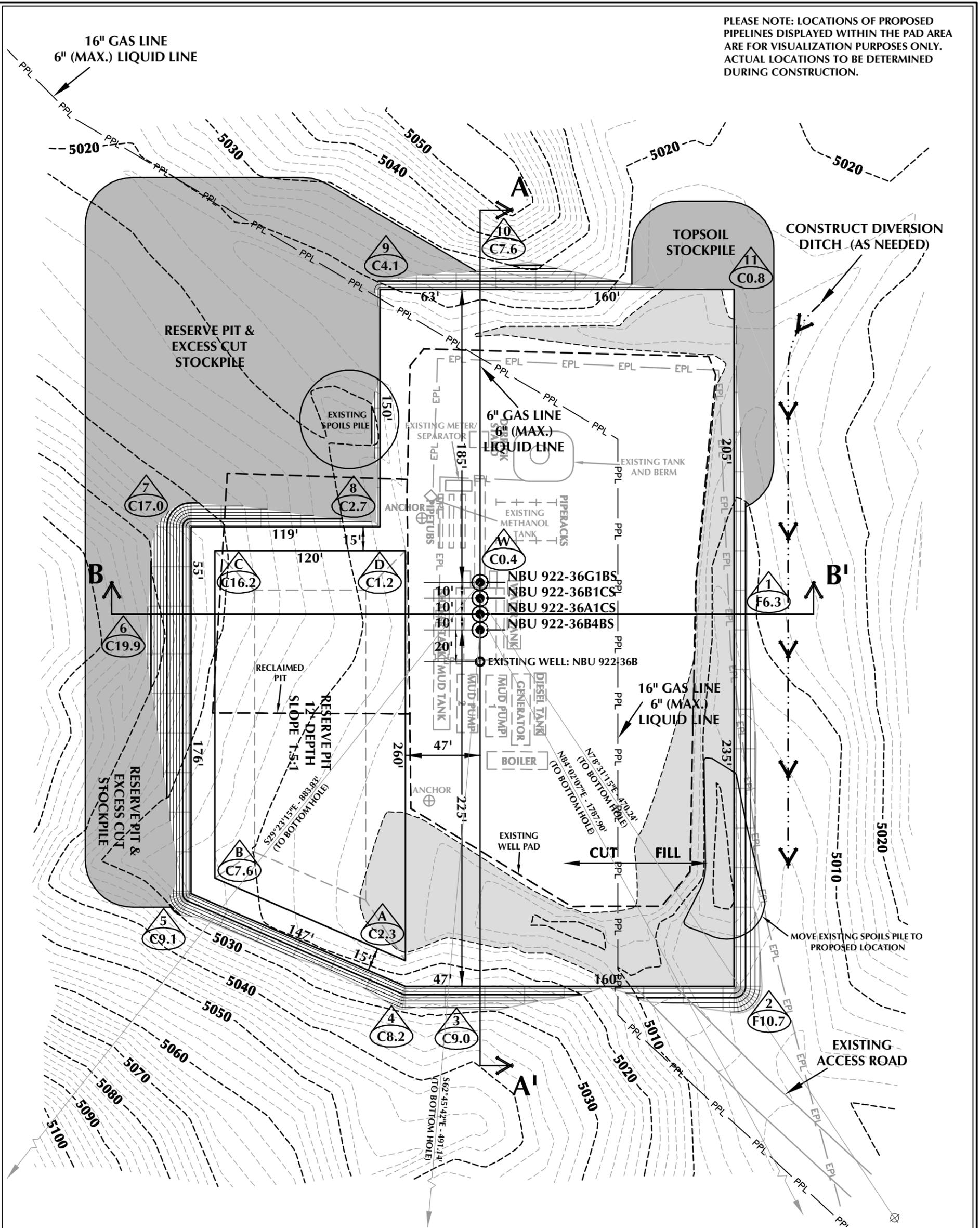


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Fax 307-674-0182

**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>5</b>
DATE DRAWN: 11-16-10	DRAWN BY: E.M.S.	
SCALE: 1" = 60'	Date Last Revised: 04-13-11 M.W.W.	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 922-36B DESIGN SUMMARY**

EXISTING GRADE @ CENTER OF WELL PAD = 5015.2'  
 FINISHED GRADE ELEVATION = 5014.8'  
 CUT SLOPES = 1:1  
 FILL SLOPES = 1.5:1  
 TOTAL WELL PAD AREA = 3.34 ACRES  
 TOTAL DAMAGE AREA = 5.99 ACRES  
 SHRINKAGE FACTOR = 1.10  
 SWELL FACTOR = 1.00

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

**WELL PAD - NBU 922-36B**  
 WELL PAD - LOCATION LAYOUT  
 NBU 922-36B4BS, NBU 922-36A1CS,  
 NBU 922-36B1CS & NBU 922-36G1BS  
 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

**WELL PAD QUANTITIES**

TOTAL CUT FOR WELL PAD = 11,616 C.Y.  
 TOTAL FILL FOR WELL PAD = 4,227 C.Y.  
 TOPSOIL @ 6" DEPTH = 1,575 C.Y.  
 EXCESS MATERIAL = 7,389 C.Y.

**RESERVE PIT QUANTITIES**

TOTAL CUT FOR RESERVE PIT  
 +/- 9,740 C.Y.  
 RESERVE PIT CAPACITY (2' OF FREEBOARD)  
 +/- 37,290 BARRELS

**WELL PAD LEGEND**

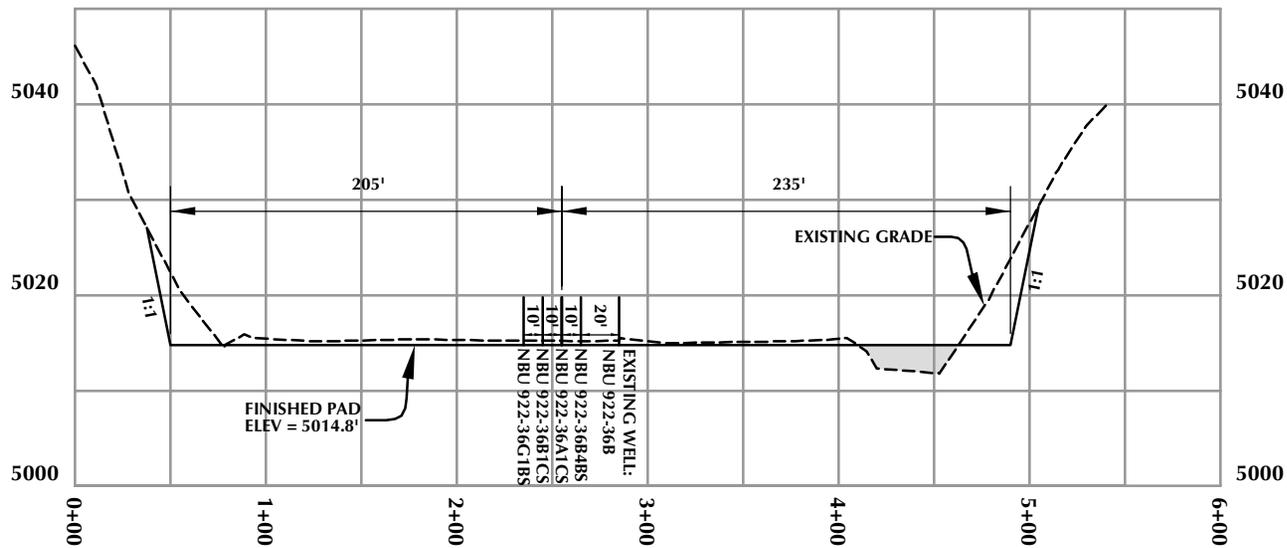
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE



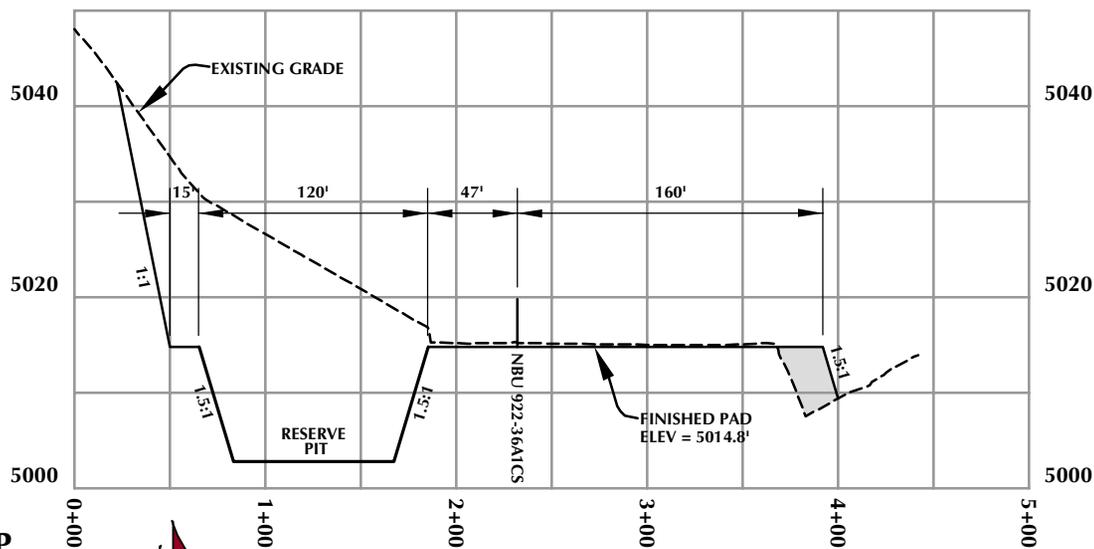
HORIZONTAL 0 30' 60' 1" = 60'  
 2' CONTOURS

SCALE: 1"=60' DATE: 12/3/10 SHEET NO:  
 REVISED: JID 4/13/11 **6** 6 OF 16

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



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

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

WELL PAD - NBU 922-36B

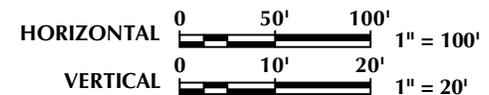
WELL PAD - CROSS SECTIONS  
NBU 922-36B4BS, NBU 922-36A1CS,  
NBU 922-36B1CS & NBU 922-36G1BS  
LOCATED IN SECTION 36, T9S, R22E,  
S.L.B.&M., Uintah County, Utah



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'

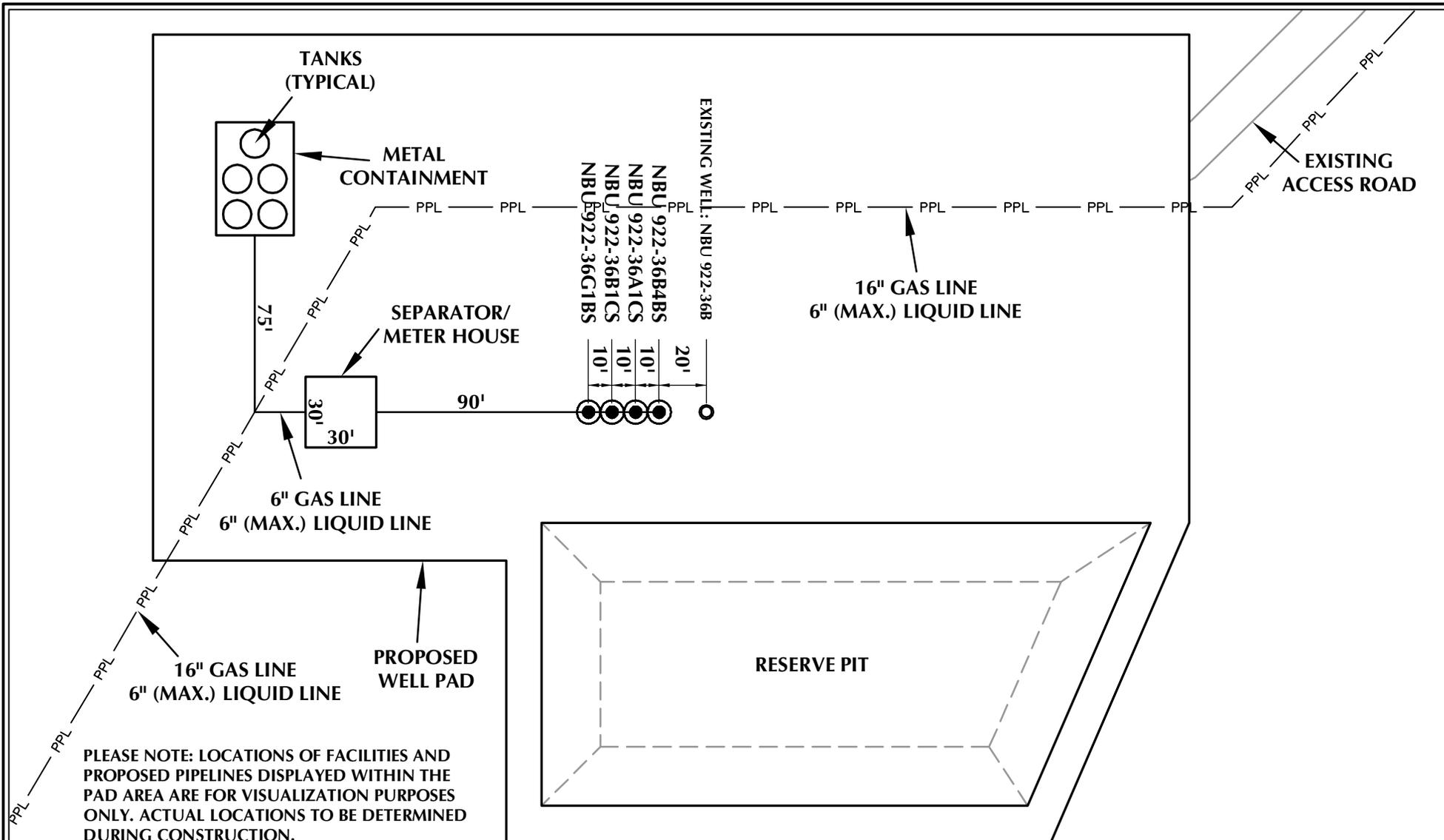
Date: 12/3/10

SHEET NO:

REVISED:

**7**

7 OF 16



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

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

WELL PAD - NBU 922-36B

WELL PAD - FACILITIES DIAGRAM  
NBU 922-36B4BS, NBU 922-36A1CS,  
NBU 922-36B1CS & NBU 922-36G1BS  
LOCATED IN SECTION 36, T9S, R22E,  
S.L.B.&M., Uintah County, Utah



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

**WELL PAD LEGEND**

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



HORIZONTAL 0 30' 60' 1" = 60'

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

(435) 789-1365

Scale: 1"=60'

Date: 12/3/10

SHEET NO:

REVISED:

JFE  
1/24/11

**8**

8 OF 16

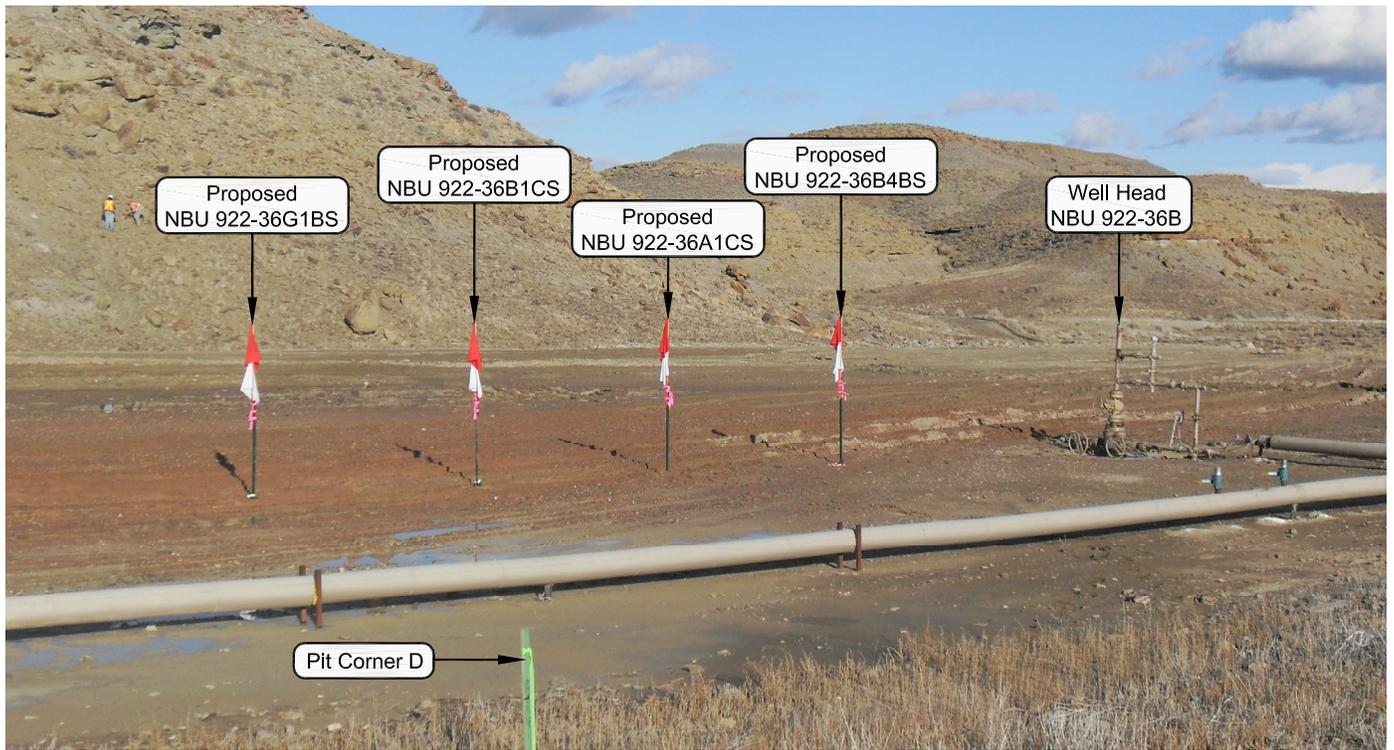


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: NORTHEASTERLY



PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: SOUTHWESTERLY

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

**WELL PAD - NBU 922-36B**

**LOCATION PHOTOS**

**NBU 922-36B4BS, NBU 922-36A1CS,  
NBU 922-36B1CS & NBU 922-36G1BS  
LOCATED IN SECTION 36, T9S, R22E,  
S.L.B.&M., Uintah County, Utah.**



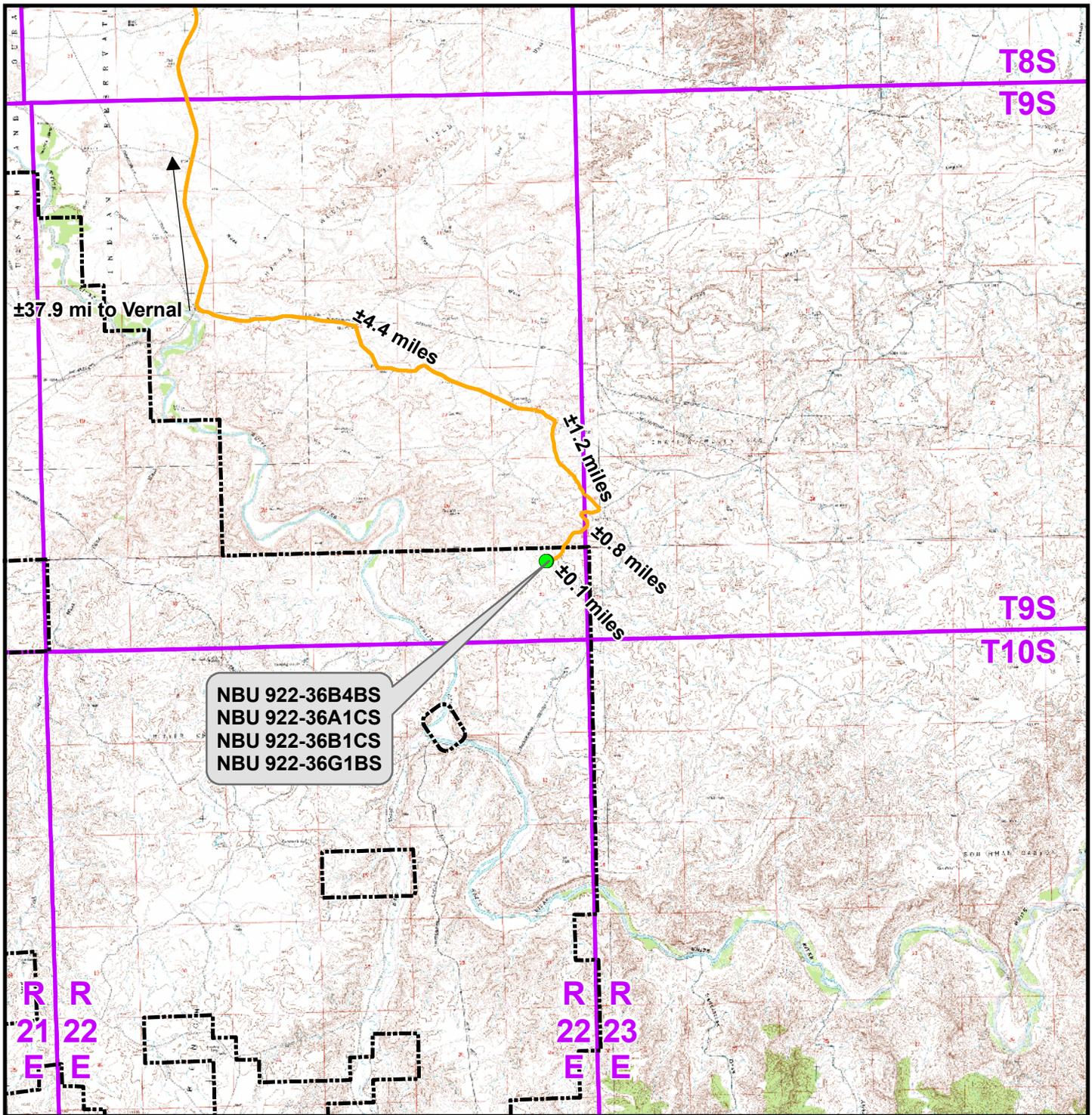
**CONSULTING, LLC**  
2155 North Main Street  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

**TIMBERLINE**

(435) 789-1365

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

DATE PHOTOS TAKEN: 09-02-10	PHOTOS TAKEN BY: M.S.B.	<b>SHEET NO:</b>  <b>9</b>  9 OF 16
DATE DRAWN: 11-16-10	DRAWN BY: E.M.S.	
Date Last Revised:		



NBU 922-36B4BS  
 NBU 922-36A1CS  
 NBU 922-36B1CS  
 NBU 922-36G1BS

**Legend**

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

Distance From Well Pad - NBU 922-36B To Unit Boundary: ±671ft

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

**WELL PAD - NBU 922-36B**

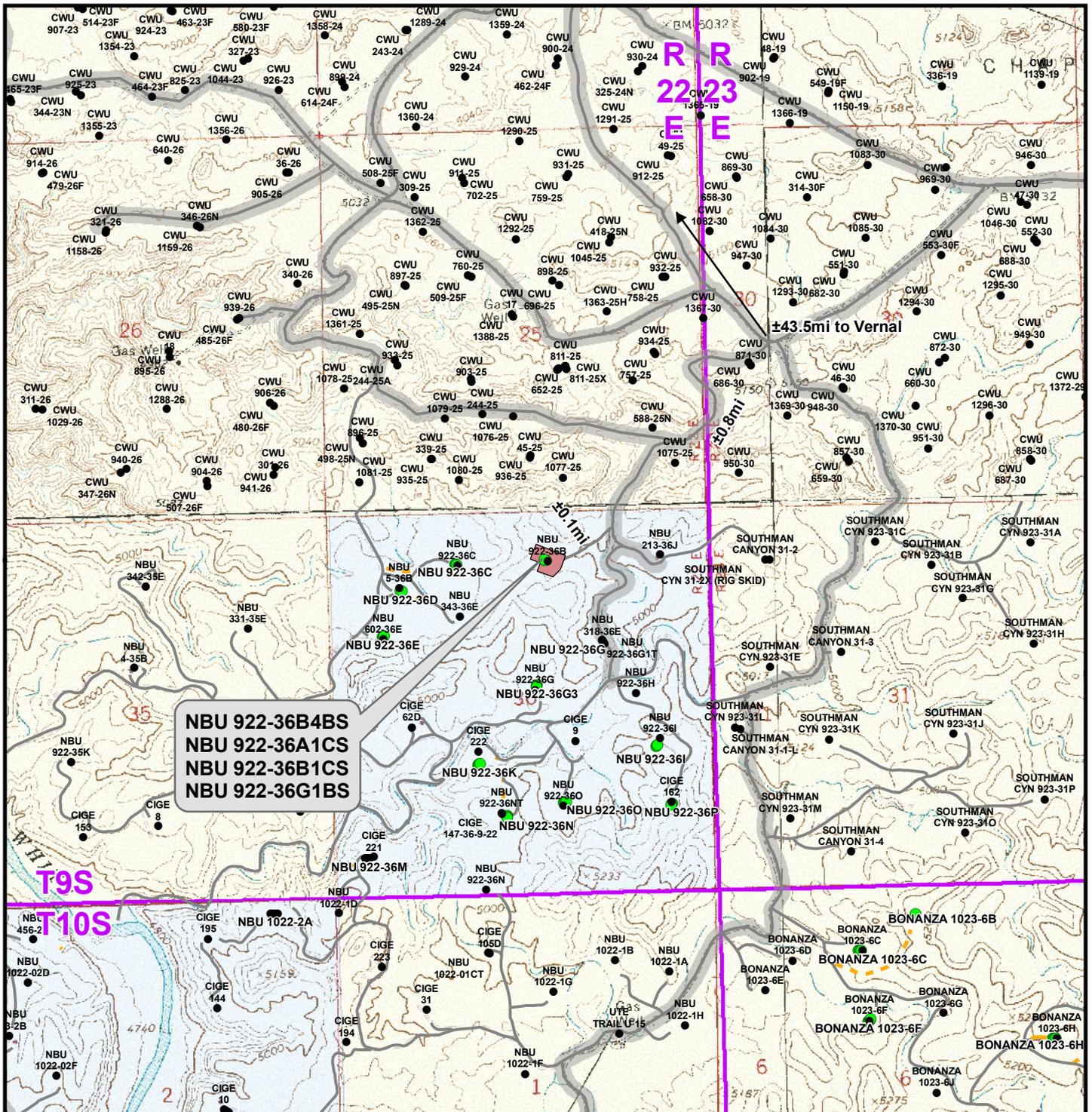
**TOPO A**  
 NBU 922-36B4BS, NBU 922-36A1CS,  
 NBU 922-36B1CS & NBU 922-36G1BS  
 LOCATED IN SECTION 36, T9S, R22E,  
 S.L.B.&M., UINTAH COUNTY, UTAH



**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 922-36B4BS**  
**NBU 922-36A1CS**  
**NBU 922-36B1CS**  
**NBU 922-36G1BS**

**Legend**

- Well - Proposed
- Well - Existing
- Well Pad
- Road - Existing
- - - Road - Proposed
- 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

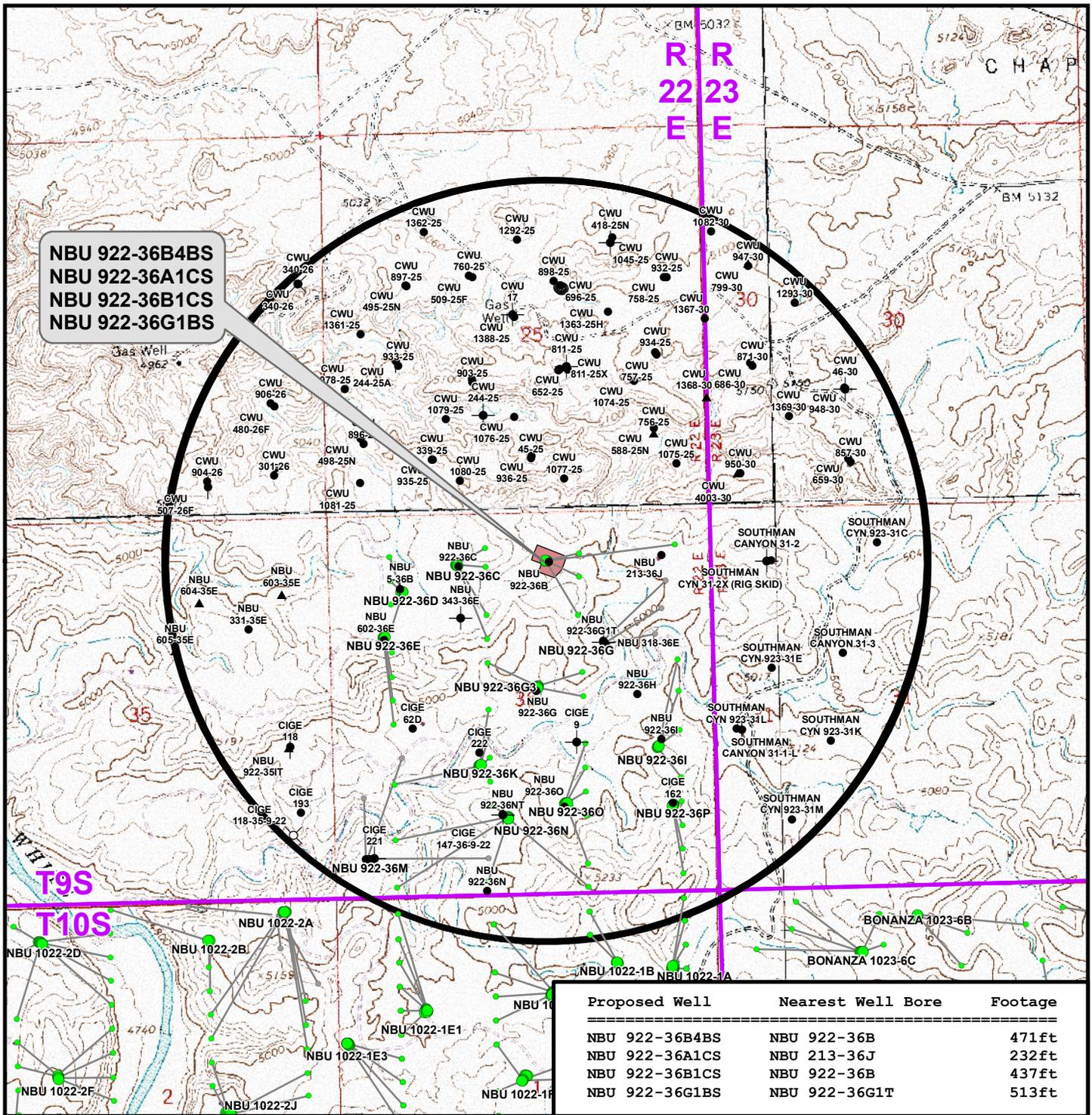
**WELL PAD - NBU 922-36B**

**TOPO B**  
**NBU 922-36B4BS, NBU 922-36A1CS,**  
**NBU 922-36B1CS & NBU 922-36G1BS**  
**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" = 2,000ft	NAD83 USP Central	Sheet No:	<b>11</b>
Drawn: TL	Date: 3 Dec 2010	11 of 16	
Revised:	Date:		



**Legend**

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

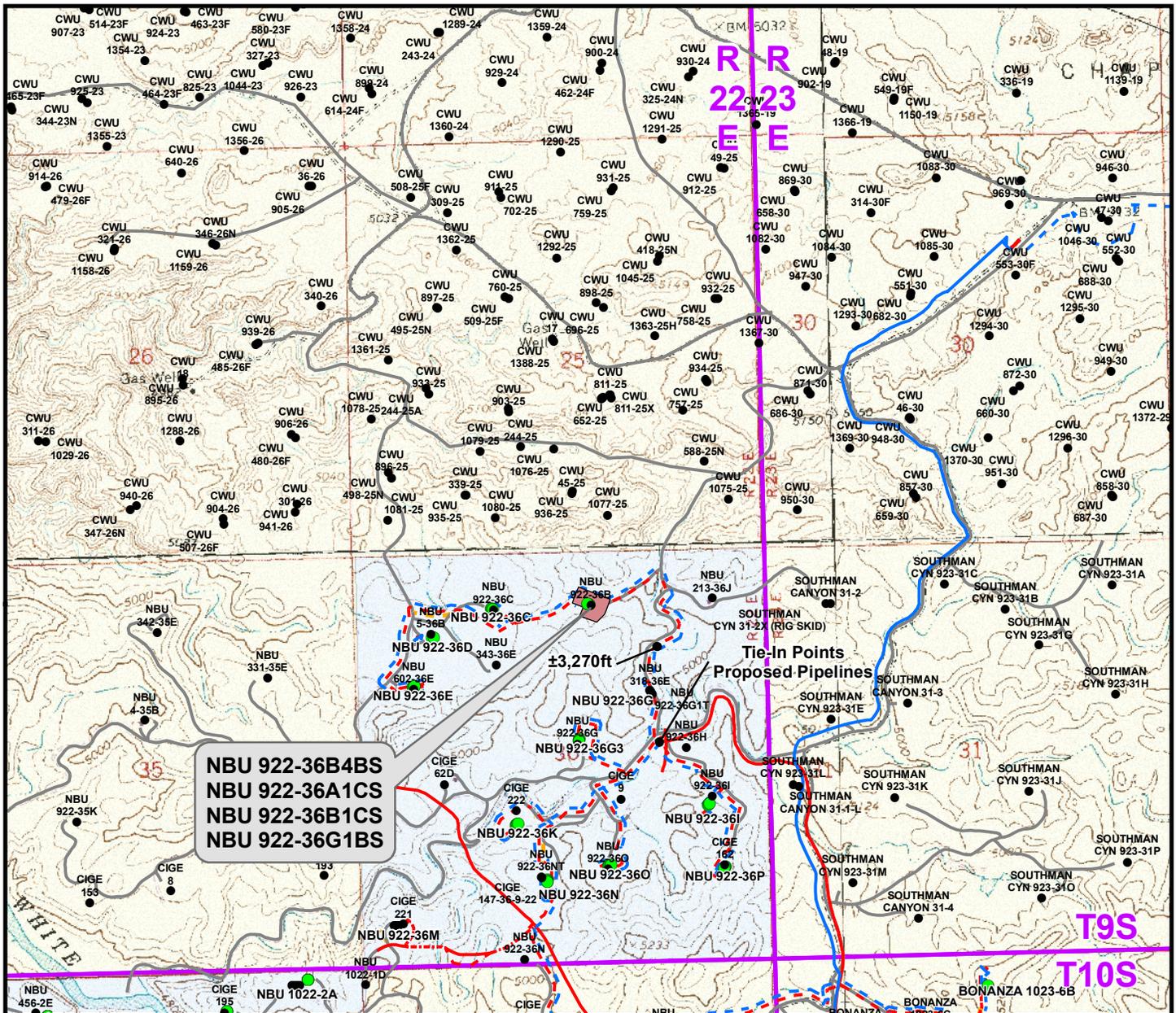
**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**WELL PAD - NBU 922-36B**

**TOPO C**  
NBU 922-36B4BS, NBU 922-36A1CS,  
NBU 922-36B1CS & NBU 922-36G1BS  
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>12</b> 12 of 16
Revised: CPS	Date: 13 Apr 2011	



**NBU 922-36B4BS  
NBU 922-36A1CS  
NBU 922-36B1CS  
NBU 922-36G1BS**

Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to 36C Intersection)	±40ft
Proposed 6" (Max.) (36C Intersection to Edge of Pad)	±450ft
Proposed 6" (Max.) (Edge of Pad to 36I Intersection)	±3,270ft
<b>TOTAL PROPOSED LIQUID PIPELINE =</b>	<b>±3,760ft</b>

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to 36C Intersection)	±40ft
Proposed 16" (36C Intersection to Edge of Pad)	±450ft
Proposed 16" (Edge of Pad to 36I Intersection)	±3,270ft
<b>TOTAL PROPOSED GAS PIPELINE =</b>	<b>±3,760ft</b>

**Legend**

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

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

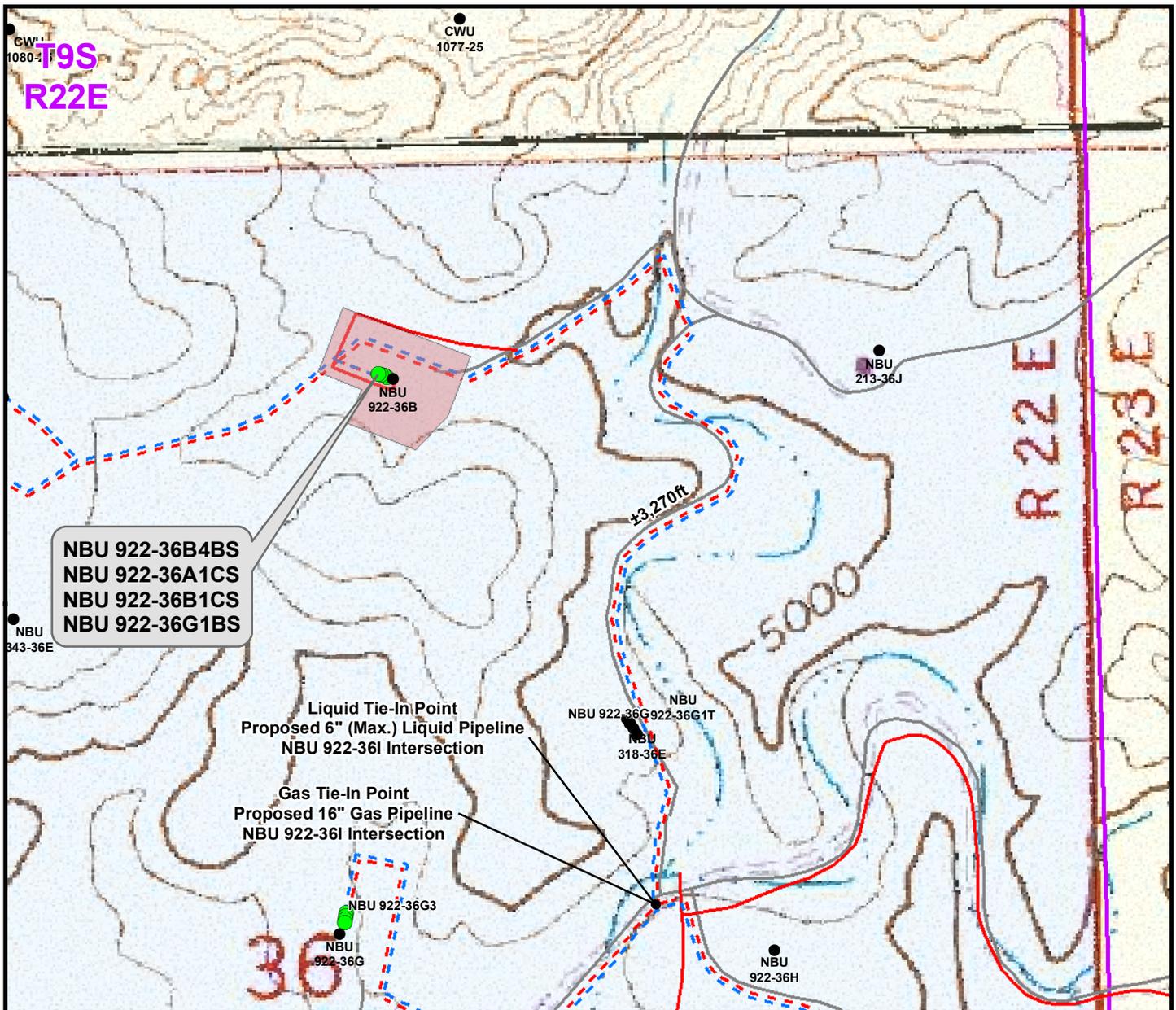
**WELL PAD - NBU 922-36B**

**TOPO D**  
**NBU 922-36B4BS, NBU 922-36A1CS,**  
**NBU 922-36B1CS & NBU 922-36G1BS**  
**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" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 3 Dec 2010	<b>13</b>
Revised: TL	Date: 24 Jan 2011	



Proposed Liquid Pipeline		Length	Proposed Gas Pipeline		Length
Proposed 6" (Max.) (Meter House to 36C Intersection)		±40ft	Proposed 6" (Meter House to 36C Intersection)		±40ft
Proposed 6" (Max.) (36C Intersection to Edge of Pad)		±450ft	Proposed 16" (36C Intersection to Edge of Pad)		±450ft
Proposed 6" (Max.) (Edge of Pad to 36I Intersection)		±3,270ft	Proposed 16" (Edge of Pad to 36I Intersection)		±3,270ft
<b>TOTAL PROPOSED LIQUID PIPELINE =</b>		<b>±3,760ft</b>	<b>TOTAL PROPOSED GAS PIPELINE =</b>		<b>±3,760ft</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

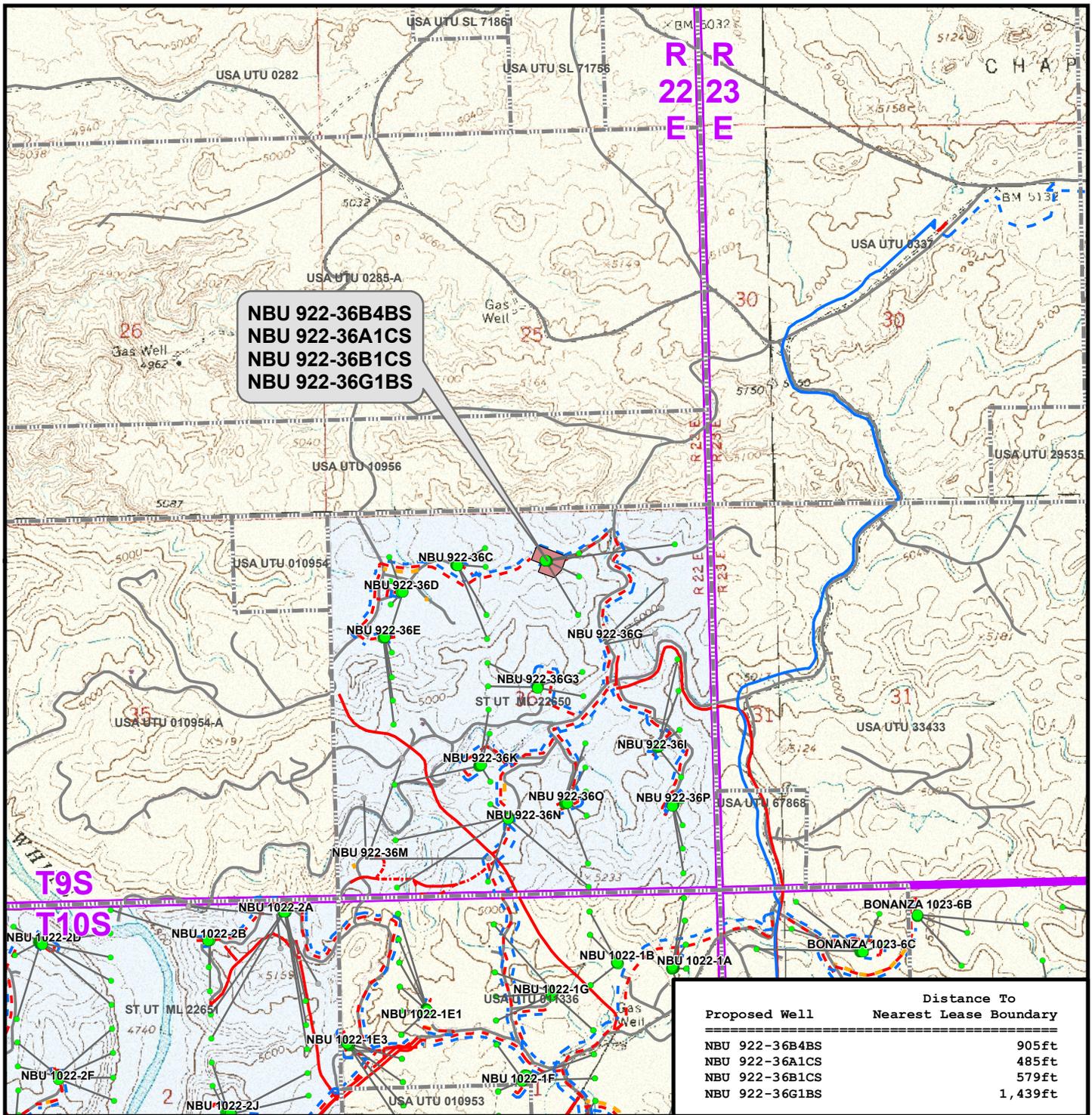
**WELL PAD - NBU 922-36B**

**TOPO D2 (PAD & PIPELINE DETAIL)**  
 NBU 922-36B4BS, NBU 922-36A1CS,  
 NBU 922-36B1CS & NBU 922-36G1BS  
 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: TL	Date: 24 Jan 2011	



**NBU 922-36B4BS  
NBU 922-36A1CS  
NBU 922-36B1CS  
NBU 922-36G1BS**

Proposed Well	Distance To Nearest Lease Boundary
NBU 922-36B4BS	905ft
NBU 922-36A1CS	485ft
NBU 922-36B1CS	579ft
NBU 922-36G1BS	1,439ft

**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 922-36B**

**TOPO E**  
NBU 922-36B4BS, NBU 922-36A1CS,  
NBU 922-36B1CS & NBU 922-36G1BS  
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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Fax (307) 674-0182

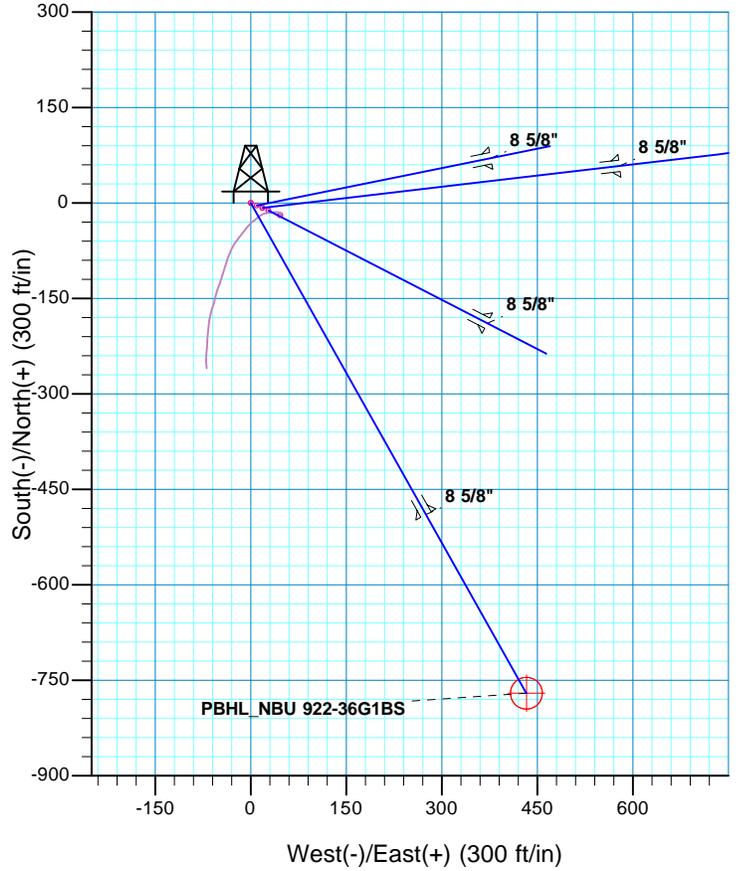
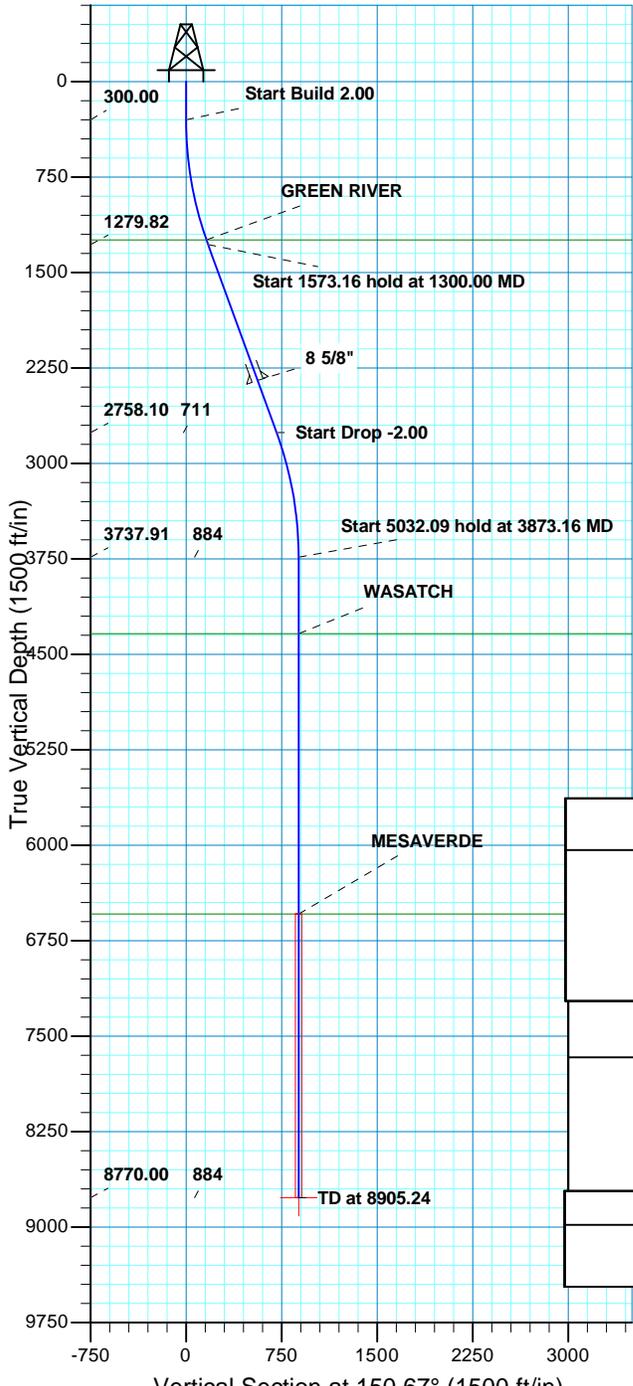
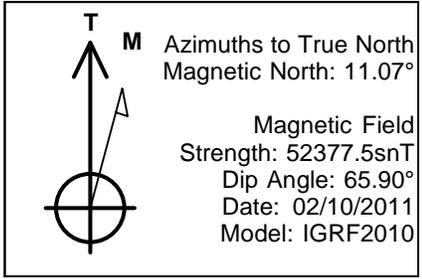
Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: TL	Date: 3 Dec 2010	<b>15</b> 15 of 16
Revised: CPS	Date: 13 Apr 2011	

**Kerr-McGee Oil & Gas Onshore, LP**  
**WELL PAD – NBU 922-36B**  
**WELLS – NBU 922-36B4BS, NBU 922-36A1CS,**  
**NBU 922-36B1CS & NBU 922-36G1BS**  
**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 1.2 miles to a Class D County Road to the southwest. Exit right and proceed in a southwesterly, then southerly direction along the Class D County Road approximately 0.8 miles to an access road to the southwest. Exit right and proceed in a southwesterly 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 44.4 miles in a southerly direction.

WELL DETAILS: NBU 922-36G1BS						
GL 5015' & KB 4' @ 5019.00ft (ASSUMED)						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	14529393.14	2092339.33	39° 59' 52.663 N	109° 23' 11.083 W	
DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
PBHL	8770.00	-770.32	432.82	14528630.79	2092786.02	39° 59' 45.049 N
- plan hits target center						
Shape	Circle (Radius: 25.00)					



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	
1300.00	20.00	150.67	1279.82	-150.62	84.63	2.00	150.67	172.77	
2873.16	20.00	150.67	2758.10	-619.70	348.19	0.00	0.00	710.82	
3873.16	0.00	0.00	3737.91	-770.32	432.82	2.00	180.00	883.59	
8905.24	0.00	0.00	8770.00	-770.32	432.82	0.00	0.00	883.59	PBHL_NBU 922-36G1BS
FORMATION TOP DETAILS									
PROJECT DETAILS: Uintah County, UT UTM12					FORMATION TOP DETAILS				
Geodetic System: Universal Transverse Mercator (US Survey Feet) Datum: NAD 1927 - Western US Ellipsoid: Clarke 1866 Zone: Zone 12N (114 W to 108 W) Location: SECTION 36 T9S R22E System Datum: Mean Sea Level					TVDPath	MDPath	Formation		
					4338.00	4473.24	GREEN RIVER		
					6540.00	6675.24	WASATCH MESAVERDE		
CASING DETAILS									
			TVD	MD	Name	Size			
			2348.00	2436.74	8 5/8"	8.625			



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

**Uintah County, UT UTM12  
NBU 922-36B PAD  
NBU 922-36G1BS**

**OH**

**Plan: PLAN #1 2-10-11 RHS**

## **Standard Planning Report**

**10 February, 2011**





SDI  
Planning Report



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36G1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36B PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36G1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-10-11 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 922-36B PAD, SECTION 36 T9S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,529,382.00 usft	<b>Latitude:</b>	39° 59' 52.548 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,092,367.27 usft	<b>Longitude:</b>	109° 23' 10.727 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 922-36G1BS, 671 FNL 2291 FEL					
<b>Well Position</b>	<b>+N/-S</b>	11.66 ft	<b>Northing:</b>	14,529,393.15 usft	<b>Latitude:</b>	39° 59' 52.663 N
	<b>+E/-W</b>	-27.73 ft	<b>Easting:</b>	2,092,339.33 usft	<b>Longitude:</b>	109° 23' 11.083 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	5,015.00 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	02/10/2011	11.07	65.90	52,377

<b>Design</b>	PLAN #1 2-10-11 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	150.67

<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	
1,300.00	20.00	150.67	1,279.82	-150.62	84.63	2.00	2.00	0.00	150.67	
2,873.16	20.00	150.67	2,758.10	-619.70	348.19	0.00	0.00	0.00	0.00	
3,873.16	0.00	0.00	3,737.91	-770.32	432.82	2.00	-2.00	0.00	180.00	
8,905.24	0.00	0.00	8,770.00	-770.32	432.82	0.00	0.00	0.00	0.00	PBHL_NBU 922-36G



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36G1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36B PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36G1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-10-11 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	150.67	399.98	-1.52	0.85	1.75	2.00	2.00	0.00	
500.00	4.00	150.67	499.84	-6.08	3.42	6.98	2.00	2.00	0.00	
600.00	6.00	150.67	599.45	-13.68	7.69	15.69	2.00	2.00	0.00	
700.00	8.00	150.67	698.70	-24.31	13.66	27.88	2.00	2.00	0.00	
800.00	10.00	150.67	797.47	-37.94	21.32	43.52	2.00	2.00	0.00	
900.00	12.00	150.67	895.62	-54.58	30.67	62.60	2.00	2.00	0.00	
1,000.00	14.00	150.67	993.06	-74.19	41.68	85.10	2.00	2.00	0.00	
1,100.00	16.00	150.67	1,089.64	-96.75	54.36	110.98	2.00	2.00	0.00	
1,200.00	18.00	150.67	1,185.27	-122.24	68.68	140.21	2.00	2.00	0.00	
1,261.98	19.24	150.67	1,244.00	-139.49	78.37	160.00	2.00	2.00	0.00	
<b>GREEN RIVER</b>										
1,300.00	20.00	150.67	1,279.82	-150.62	84.63	172.77	2.00	2.00	0.00	
<b>Start 1573.16 hold at 1300.00 MD</b>										
1,400.00	20.00	150.67	1,373.78	-180.44	101.38	206.97	0.00	0.00	0.00	
1,500.00	20.00	150.67	1,467.75	-210.26	118.14	241.17	0.00	0.00	0.00	
1,600.00	20.00	150.67	1,561.72	-240.07	134.89	275.37	0.00	0.00	0.00	
1,700.00	20.00	150.67	1,655.69	-269.89	151.64	309.58	0.00	0.00	0.00	
1,800.00	20.00	150.67	1,749.66	-299.71	168.40	343.78	0.00	0.00	0.00	
1,900.00	20.00	150.67	1,843.63	-329.53	185.15	377.98	0.00	0.00	0.00	
2,000.00	20.00	150.67	1,937.60	-359.35	201.90	412.18	0.00	0.00	0.00	
2,100.00	20.00	150.67	2,031.57	-389.16	218.66	446.38	0.00	0.00	0.00	
2,200.00	20.00	150.67	2,125.54	-418.98	235.41	480.59	0.00	0.00	0.00	
2,300.00	20.00	150.67	2,219.51	-448.80	252.16	514.79	0.00	0.00	0.00	
2,400.00	20.00	150.67	2,313.48	-478.62	268.92	548.99	0.00	0.00	0.00	
2,436.74	20.00	150.67	2,348.00	-489.57	275.07	561.56	0.00	0.00	0.00	
<b>8 5/8"</b>										
2,500.00	20.00	150.67	2,407.45	-508.43	285.67	583.19	0.00	0.00	0.00	
2,600.00	20.00	150.67	2,501.42	-538.25	302.43	617.39	0.00	0.00	0.00	
2,700.00	20.00	150.67	2,595.39	-568.07	319.18	651.60	0.00	0.00	0.00	
2,800.00	20.00	150.67	2,689.35	-597.89	335.93	685.80	0.00	0.00	0.00	
2,873.16	20.00	150.67	2,758.10	-619.70	348.19	710.82	0.00	0.00	0.00	
<b>Start Drop -2.00</b>										
2,900.00	19.46	150.67	2,783.37	-627.60	352.63	719.88	2.00	-2.00	0.00	
3,000.00	17.46	150.67	2,878.21	-655.21	368.14	751.55	2.00	-2.00	0.00	
3,100.00	15.46	150.67	2,974.11	-679.92	382.02	779.89	2.00	-2.00	0.00	
3,200.00	13.46	150.67	3,070.94	-701.69	394.25	804.86	2.00	-2.00	0.00	
3,300.00	11.46	150.67	3,168.57	-720.50	404.83	826.44	2.00	-2.00	0.00	
3,400.00	9.46	150.67	3,266.91	-736.33	413.72	844.60	2.00	-2.00	0.00	
3,500.00	7.46	150.67	3,365.81	-749.16	420.93	859.32	2.00	-2.00	0.00	
3,600.00	5.46	150.67	3,465.17	-758.98	426.44	870.57	2.00	-2.00	0.00	
3,700.00	3.46	150.67	3,564.86	-765.76	430.25	878.36	2.00	-2.00	0.00	
3,800.00	1.46	150.67	3,664.77	-769.51	432.36	882.65	2.00	-2.00	0.00	
3,873.16	0.00	150.67	3,737.91	-770.32	432.82	883.59	2.00	-2.00	0.00	
<b>Start 5032.09 hold at 3873.16 MD</b>										
3,900.00	0.00	0.00	3,764.76	-770.32	432.82	883.59	0.00	0.00	0.00	
4,000.00	0.00	0.00	3,864.76	-770.32	432.82	883.59	0.00	0.00	0.00	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36G1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36B PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36G1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-10-11 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)	
4,100.00	0.00	0.00	3,964.76	-770.32	432.82	883.59	0.00	0.00	0.00	
4,200.00	0.00	0.00	4,064.76	-770.32	432.82	883.59	0.00	0.00	0.00	
4,300.00	0.00	0.00	4,164.76	-770.32	432.82	883.59	0.00	0.00	0.00	
4,400.00	0.00	0.00	4,264.76	-770.32	432.82	883.59	0.00	0.00	0.00	
4,473.24	0.00	0.00	4,338.00	-770.32	432.82	883.59	0.00	0.00	0.00	
<b>WASATCH</b>										
4,500.00	0.00	0.00	4,364.76	-770.32	432.82	883.59	0.00	0.00	0.00	
4,600.00	0.00	0.00	4,464.76	-770.32	432.82	883.59	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,564.76	-770.32	432.82	883.59	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,664.76	-770.32	432.82	883.59	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,764.76	-770.32	432.82	883.59	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,864.76	-770.32	432.82	883.59	0.00	0.00	0.00	
5,100.00	0.00	0.00	4,964.76	-770.32	432.82	883.59	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,064.76	-770.32	432.82	883.59	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,164.76	-770.32	432.82	883.59	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,264.76	-770.32	432.82	883.59	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,364.76	-770.32	432.82	883.59	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,464.76	-770.32	432.82	883.59	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,564.76	-770.32	432.82	883.59	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,664.76	-770.32	432.82	883.59	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,764.76	-770.32	432.82	883.59	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,864.76	-770.32	432.82	883.59	0.00	0.00	0.00	
6,100.00	0.00	0.00	5,964.76	-770.32	432.82	883.59	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,064.76	-770.32	432.82	883.59	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,164.76	-770.32	432.82	883.59	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,264.76	-770.32	432.82	883.59	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,364.76	-770.32	432.82	883.59	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,464.76	-770.32	432.82	883.59	0.00	0.00	0.00	
6,675.24	0.00	0.00	6,540.00	-770.32	432.82	883.59	0.00	0.00	0.00	
<b>MESAVERDE</b>										
6,700.00	0.00	0.00	6,564.76	-770.32	432.82	883.59	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,664.76	-770.32	432.82	883.59	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,764.76	-770.32	432.82	883.59	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,864.76	-770.32	432.82	883.59	0.00	0.00	0.00	
7,100.00	0.00	0.00	6,964.76	-770.32	432.82	883.59	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,064.76	-770.32	432.82	883.59	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,164.76	-770.32	432.82	883.59	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,264.76	-770.32	432.82	883.59	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,364.76	-770.32	432.82	883.59	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,464.76	-770.32	432.82	883.59	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,564.76	-770.32	432.82	883.59	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,664.76	-770.32	432.82	883.59	0.00	0.00	0.00	
7,900.00	0.00	0.00	7,764.76	-770.32	432.82	883.59	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,864.76	-770.32	432.82	883.59	0.00	0.00	0.00	
8,100.00	0.00	0.00	7,964.76	-770.32	432.82	883.59	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,064.76	-770.32	432.82	883.59	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,164.76	-770.32	432.82	883.59	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,264.76	-770.32	432.82	883.59	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,364.76	-770.32	432.82	883.59	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,464.76	-770.32	432.82	883.59	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,564.76	-770.32	432.82	883.59	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,664.76	-770.32	432.82	883.59	0.00	0.00	0.00	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36G1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36B PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36G1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-10-11 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)	
8,900.00	0.00	0.00	8,764.76	-770.32	432.82	883.59	0.00	0.00	0.00	
8,905.24	0.00	0.00	8,770.00	-770.32	432.82	883.59	0.00	0.00	0.00	
PBHL_NBU 922-36G1BS										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
PBHL_NBU 922-36G1B - hit/miss target - Shape	0.00	0.00	8,770.00	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
- plan hits target center - Circle (radius 25.00)										

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
2,436.74	2,348.00	8 5/8"	8.625	11.000		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,261.98	1,244.00	GREEN RIVER				
4,473.24	4,338.00	WASATCH				
6,675.24	6,540.00	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	
1,300.00	1,279.82	-150.62	84.63	Start 1573.16 hold at 1300.00 MD	
2,873.16	2,758.10	-619.70	348.19	Start Drop -2.00	
3,873.16	3,737.91	-770.32	432.82	Start 5032.09 hold at 3873.16 MD	
8,905.24	8,770.00	-770.32	432.82	TD at 8905.24	



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

**Uintah County, UT UTM12  
NBU 922-36B PAD  
NBU 922-36G1BS**

**OH**

**Plan: PLAN #1 2-10-11 RHS**

## **Standard Planning Report - Geographic**

**10 February, 2011**





SDI  
Planning Report - Geographic



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36G1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36B PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36G1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-10-11 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 922-36B PAD, SECTION 36 T9S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,529,382.00 usft	<b>Latitude:</b>	39° 59' 52.548 N
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,092,367.27 usft	<b>Longitude:</b>	109° 23' 10.727 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 922-36G1BS, 671 FNL 2291 FEL					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,529,393.15 usft	<b>Latitude:</b>	39° 59' 52.663 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,092,339.33 usft	<b>Longitude:</b>	109° 23' 11.083 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	5,015.00 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	02/10/2011	11.07	65.90	52,377

<b>Design</b>	PLAN #1 2-10-11 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	150.67

<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	
1,300.00	20.00	150.67	1,279.82	-150.62	84.63	2.00	2.00	0.00	150.67	
2,873.16	20.00	150.67	2,758.10	-619.70	348.19	0.00	0.00	0.00	0.00	
3,873.16	0.00	0.00	3,737.91	-770.32	432.82	2.00	-2.00	0.00	180.00	
8,905.24	0.00	0.00	8,770.00	-770.32	432.82	0.00	0.00	0.00	0.00	PBHL_NBU 922-36G



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36G1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36B PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36G1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-10-11 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	14,529,393.15	2,092,339.33	39° 59' 52.663 N	109° 23' 11.083 W	
100.00	0.00	0.00	100.00	0.00	0.00	14,529,393.15	2,092,339.33	39° 59' 52.663 N	109° 23' 11.083 W	
200.00	0.00	0.00	200.00	0.00	0.00	14,529,393.15	2,092,339.33	39° 59' 52.663 N	109° 23' 11.083 W	
300.00	0.00	0.00	300.00	0.00	0.00	14,529,393.15	2,092,339.33	39° 59' 52.663 N	109° 23' 11.083 W	
<b>Start Build 2.00</b>										
400.00	2.00	150.67	399.98	-1.52	0.85	14,529,391.64	2,092,340.21	39° 59' 52.648 N	109° 23' 11.072 W	
500.00	4.00	150.67	499.84	-6.08	3.42	14,529,387.13	2,092,342.85	39° 59' 52.603 N	109° 23' 11.039 W	
600.00	6.00	150.67	599.45	-13.68	7.69	14,529,379.61	2,092,347.26	39° 59' 52.528 N	109° 23' 10.984 W	
700.00	8.00	150.67	698.70	-24.31	13.66	14,529,369.09	2,092,353.42	39° 59' 52.423 N	109° 23' 10.908 W	
800.00	10.00	150.67	797.47	-37.94	21.32	14,529,355.60	2,092,361.33	39° 59' 52.288 N	109° 23' 10.809 W	
900.00	12.00	150.67	895.62	-54.58	30.67	14,529,339.13	2,092,370.98	39° 59' 52.124 N	109° 23' 10.689 W	
1,000.00	14.00	150.67	993.06	-74.19	41.68	14,529,319.73	2,092,382.35	39° 59' 51.930 N	109° 23' 10.548 W	
1,100.00	16.00	150.67	1,089.64	-96.75	54.36	14,529,297.40	2,092,395.43	39° 59' 51.707 N	109° 23' 10.385 W	
1,200.00	18.00	150.67	1,185.27	-122.24	68.68	14,529,272.17	2,092,410.21	39° 59' 51.455 N	109° 23' 10.201 W	
1,261.98	19.24	150.67	1,244.00	-139.49	78.37	14,529,255.10	2,092,420.21	39° 59' 51.284 N	109° 23' 10.076 W	
<b>GREEN RIVER</b>										
1,300.00	20.00	150.67	1,279.82	-150.62	84.63	14,529,244.08	2,092,426.67	39° 59' 51.174 N	109° 23' 9.996 W	
<b>Start 1573.16 hold at 1300.00 MD</b>										
1,400.00	20.00	150.67	1,373.78	-180.44	101.38	14,529,214.57	2,092,443.96	39° 59' 50.880 N	109° 23' 9.780 W	
1,500.00	20.00	150.67	1,467.75	-210.26	118.14	14,529,185.07	2,092,461.25	39° 59' 50.585 N	109° 23' 9.565 W	
1,600.00	20.00	150.67	1,561.72	-240.07	134.89	14,529,155.56	2,092,478.54	39° 59' 50.290 N	109° 23' 9.350 W	
1,700.00	20.00	150.67	1,655.69	-269.89	151.64	14,529,126.05	2,092,495.83	39° 59' 49.996 N	109° 23' 9.134 W	
1,800.00	20.00	150.67	1,749.66	-299.71	168.40	14,529,096.54	2,092,513.12	39° 59' 49.701 N	109° 23' 8.919 W	
1,900.00	20.00	150.67	1,843.63	-329.53	185.15	14,529,067.03	2,092,530.41	39° 59' 49.406 N	109° 23' 8.704 W	
2,000.00	20.00	150.67	1,937.60	-359.35	201.90	14,529,037.52	2,092,547.70	39° 59' 49.111 N	109° 23' 8.489 W	
2,100.00	20.00	150.67	2,031.57	-389.16	218.66	14,529,008.01	2,092,564.99	39° 59' 48.817 N	109° 23' 8.273 W	
2,200.00	20.00	150.67	2,125.54	-418.98	235.41	14,528,978.50	2,092,582.28	39° 59' 48.522 N	109° 23' 8.058 W	
2,300.00	20.00	150.67	2,219.51	-448.80	252.16	14,528,948.99	2,092,599.57	39° 59' 48.227 N	109° 23' 7.843 W	
2,400.00	20.00	150.67	2,313.48	-478.62	268.92	14,528,919.48	2,092,616.87	39° 59' 47.932 N	109° 23' 7.627 W	
2,436.74	20.00	150.67	2,348.00	-489.57	275.07	14,528,908.64	2,092,623.22	39° 59' 47.824 N	109° 23' 7.548 W	
<b>8 5/8"</b>										
2,500.00	20.00	150.67	2,407.45	-508.43	285.67	14,528,889.97	2,092,634.16	39° 59' 47.638 N	109° 23' 7.412 W	
2,600.00	20.00	150.67	2,501.42	-538.25	302.43	14,528,860.46	2,092,651.45	39° 59' 47.343 N	109° 23' 7.197 W	
2,700.00	20.00	150.67	2,595.39	-568.07	319.18	14,528,830.95	2,092,668.74	39° 59' 47.048 N	109° 23' 6.982 W	
2,800.00	20.00	150.67	2,689.35	-597.89	335.93	14,528,801.44	2,092,686.03	39° 59' 46.754 N	109° 23' 6.766 W	
2,873.16	20.00	150.67	2,758.10	-619.70	348.19	14,528,779.85	2,092,698.68	39° 59' 46.538 N	109° 23' 6.609 W	
<b>Start Drop -2.00</b>										
2,900.00	19.46	150.67	2,783.37	-627.60	352.63	14,528,772.04	2,092,703.26	39° 59' 46.460 N	109° 23' 6.552 W	
3,000.00	17.46	150.67	2,878.21	-655.21	368.14	14,528,744.71	2,092,719.27	39° 59' 46.187 N	109° 23' 6.352 W	
3,100.00	15.46	150.67	2,974.11	-679.92	382.02	14,528,720.26	2,092,733.59	39° 59' 45.943 N	109° 23' 6.174 W	
3,200.00	13.46	150.67	3,070.94	-701.69	394.25	14,528,698.71	2,092,746.22	39° 59' 45.728 N	109° 23' 6.017 W	
3,300.00	11.46	150.67	3,168.57	-720.50	404.83	14,528,680.09	2,092,757.13	39° 59' 45.542 N	109° 23' 5.881 W	
3,400.00	9.46	150.67	3,266.91	-736.33	413.72	14,528,664.43	2,092,766.31	39° 59' 45.385 N	109° 23' 5.767 W	
3,500.00	7.46	150.67	3,365.81	-749.16	420.93	14,528,651.73	2,092,773.75	39° 59' 45.258 N	109° 23' 5.674 W	
3,600.00	5.46	150.67	3,465.17	-758.98	426.44	14,528,642.02	2,092,779.44	39° 59' 45.161 N	109° 23' 5.603 W	
3,700.00	3.46	150.67	3,564.86	-765.76	430.25	14,528,635.30	2,092,783.37	39° 59' 45.094 N	109° 23' 5.554 W	
3,800.00	1.46	150.67	3,664.77	-769.51	432.36	14,528,631.60	2,092,785.55	39° 59' 45.057 N	109° 23' 5.527 W	
3,873.16	0.00	0.00	3,737.91	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
<b>Start 5032.09 hold at 3873.16 MD</b>										
3,900.00	0.00	0.00	3,764.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
4,000.00	0.00	0.00	3,864.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
4,100.00	0.00	0.00	3,964.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36G1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36B PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36G1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-10-11 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	
4,200.00	0.00	0.00	4,064.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
4,300.00	0.00	0.00	4,164.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
4,400.00	0.00	0.00	4,264.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
4,473.24	0.00	0.00	4,338.00	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
<b>WASATCH</b>										
4,500.00	0.00	0.00	4,364.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
4,600.00	0.00	0.00	4,464.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
4,700.00	0.00	0.00	4,564.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
4,800.00	0.00	0.00	4,664.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
4,900.00	0.00	0.00	4,764.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
5,000.00	0.00	0.00	4,864.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
5,100.00	0.00	0.00	4,964.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
5,200.00	0.00	0.00	5,064.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
5,300.00	0.00	0.00	5,164.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
5,400.00	0.00	0.00	5,264.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
5,500.00	0.00	0.00	5,364.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
5,600.00	0.00	0.00	5,464.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
5,700.00	0.00	0.00	5,564.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
5,800.00	0.00	0.00	5,664.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
5,900.00	0.00	0.00	5,764.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
6,000.00	0.00	0.00	5,864.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
6,100.00	0.00	0.00	5,964.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
6,200.00	0.00	0.00	6,064.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
6,300.00	0.00	0.00	6,164.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
6,400.00	0.00	0.00	6,264.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
6,500.00	0.00	0.00	6,364.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
6,600.00	0.00	0.00	6,464.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
6,675.24	0.00	0.00	6,540.00	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
<b>MESAVERDE</b>										
6,700.00	0.00	0.00	6,564.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
6,800.00	0.00	0.00	6,664.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
6,900.00	0.00	0.00	6,764.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
7,000.00	0.00	0.00	6,864.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
7,100.00	0.00	0.00	6,964.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
7,200.00	0.00	0.00	7,064.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
7,300.00	0.00	0.00	7,164.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
7,400.00	0.00	0.00	7,264.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
7,500.00	0.00	0.00	7,364.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
7,600.00	0.00	0.00	7,464.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
7,700.00	0.00	0.00	7,564.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
7,800.00	0.00	0.00	7,664.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
7,900.00	0.00	0.00	7,764.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
8,000.00	0.00	0.00	7,864.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
8,100.00	0.00	0.00	7,964.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
8,200.00	0.00	0.00	8,064.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
8,300.00	0.00	0.00	8,164.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
8,400.00	0.00	0.00	8,264.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
8,500.00	0.00	0.00	8,364.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
8,600.00	0.00	0.00	8,464.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
8,700.00	0.00	0.00	8,564.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
8,800.00	0.00	0.00	8,664.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	
8,900.00	0.00	0.00	8,764.76	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W	



<b>Database:</b>	EDM5000-RobertS-Local	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36G1BS
<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>TVD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Project:</b>	Uintah County, UT UTM12	<b>MD Reference:</b>	GL 5015' & KB 4' @ 5019.00ft (ASSUMED)
<b>Site:</b>	NBU 922-36B PAD	<b>North Reference:</b>	True
<b>Well:</b>	NBU 922-36G1BS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	PLAN #1 2-10-11 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
8,905.24	0.00	0.00	8,770.00	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W
PBHL_NBU 922-36G1BS									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 922-36G1B - hit/miss target - Shape - plan hits target center - Circle (radius 25.00)	0.00	0.00	8,770.00	-770.32	432.82	14,528,630.79	2,092,786.02	39° 59' 45.049 N	109° 23' 5.521 W

Casing Points						
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)		
2,436.74	2,348.00	8 5/8"	8.625	11.000		

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,261.98	1,244.00	GREEN RIVER			
4,473.24	4,338.00	WASATCH			
6,675.24	6,540.00	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	
1,300.00	1,279.82	-150.62	84.63	Start 1573.16 hold at 1300.00 MD	
2,873.16	2,758.10	-619.70	348.19	Start Drop -2.00	
3,873.16	3,737.91	-770.32	432.82	Start 5032.09 hold at 3873.16 MD	
8,905.24	8,770.00	-770.32	432.82	TD at 8905.24	

**NBU 922-36A1CS**

Surface: 678' FNL 2273' FEL (NW/4NE/4)  
BHL: 485' FNL 494' FEL (NE/4NE/4)

**NBU 922-36B1CS**

Surface: 674' FNL 2282' FEL (NW/4NE/4)  
BHL: 579' FNL 1821' FEL (NW/4NE/4)

**NBU 922-36B4BS**

Surface: 682' FNL 2264' FEL (NW/4NE/4)  
BHL: 905' FNL 1828' FEL (NW/4NE/4)

**NBU 922-36G1BS**

Surface: 671' FNL 2291' FEL (NW/4NE/4)  
BHL: 1439' FNL 1861' FEL (SW/4NE/4)

Pad: NBU 922-36B Pad  
Section 36 T9S 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 APC/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 922-36B. The NBU 922-36B well location is a vertical producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of May 5, 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  $\pm 3,760'$  and the individual segments are broken up as follows:

- $\pm 40'$  (0.01 miles) –New 6" buried gas pipeline from the meter to the 36C intersection on pad. Please refer to Topo D2.
- $\pm 450'$  (0.09 miles) –New 16" buried gas pipeline from the 36C intersection to the edge of the pad. Please refer to Topo D.
- $\pm 3,270'$  (0.62 miles) –New 16" buried gas pipeline from the edge of the pad to the proposed 36I intersection. Please refer to Topo D.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 3,760'$  and the individual segments are broken up as follows:

- $\pm 40'$  (0.01 miles) –New 6" buried liquid pipeline from the separator to the 36C intersection. Please refer to Topo D2.
- $\pm 450'$  (0.09 miles) –New 6" buried liquid pipeline from the 36 C intersection to the edge of the pad. Please refer to Topo D.
- $\pm 3,270'$  (0.62 miles) –New 6" buried liquid pipeline from the edge of the pad to the proposed 36I 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.

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

**NBU 922-36A1CS / 36B1CS/  
36B4BS/ 36G1BS**

**Surface Use Plan of Operations  
Page 8**

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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

NBU 922-36A1CS / 36B1CS/  
36B4BS/ 36G1BS

Surface Use Plan of Operations  
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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 9, 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 922-36G1BS  
T9S-R22E  
Section 36: NWNE/SWNE  
Surface: 671' FNL, 2291' FEL  
Bottom Hole: 1439' FNL, 1861' FEL  
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 922-36G1BS 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.

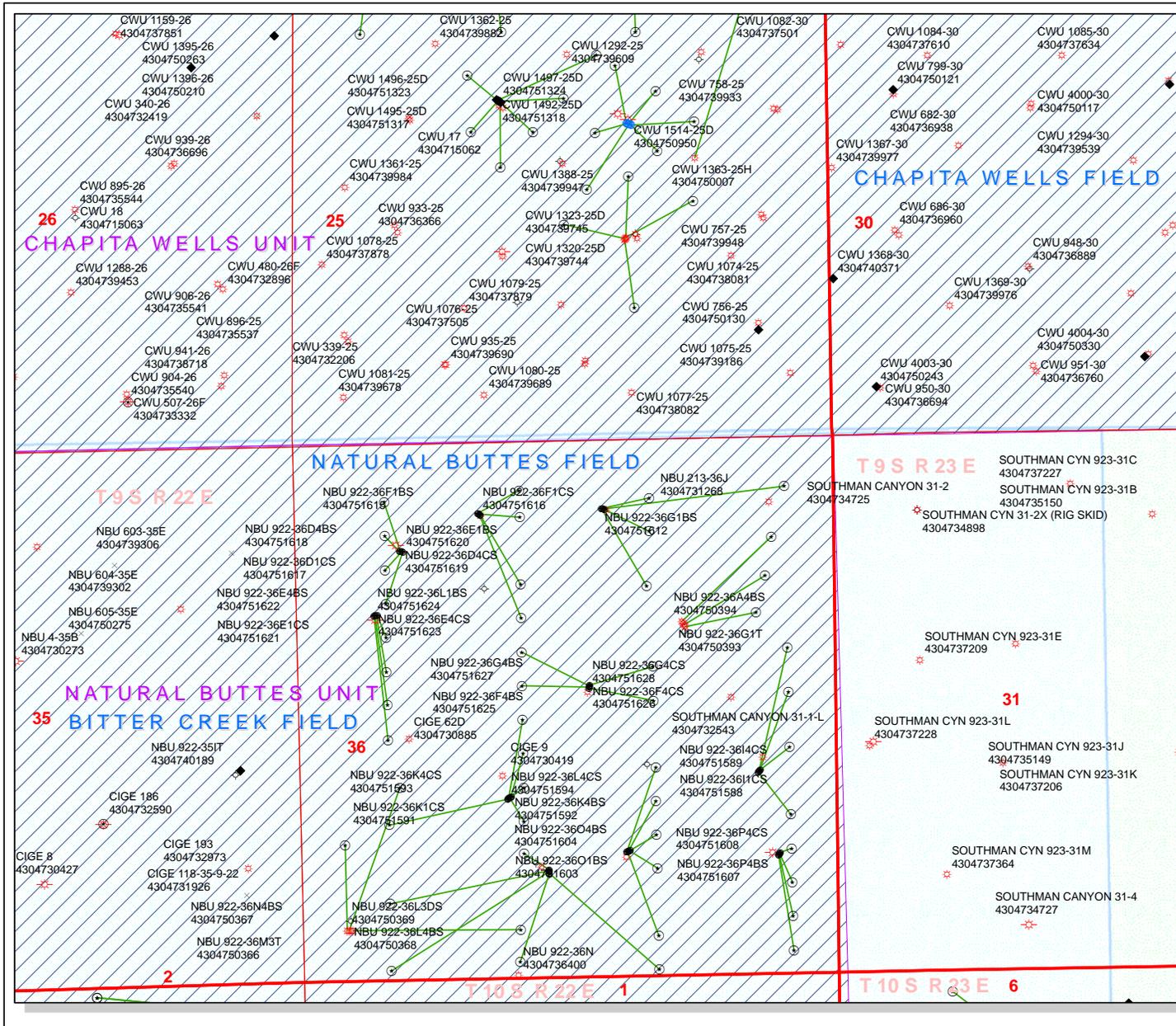
Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

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

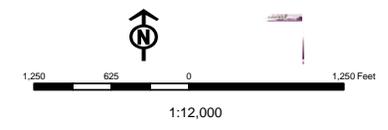
Joseph D. Johnson  
Landman



**API Number: 4304751612**  
**Well Name: NBU 922-36G1BS**  
**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

<b>Units STATUS</b>	<b>Wells Query Status</b>
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 GEOTHERM	PA - Plugged Abandoned
PP OIL	PGW - Producing Gas Well
SECONDARY	POW - Producing Oil Well
TERMINATED	RET - Returned APD
<b>Fields STATUS</b>	SGW - Shut-in Gas Well
Unknown	SOW - Shut-in Oil Well
ABANDONED	TA - Temp. Abandoned
ACTIVE	TW - Test Well
COMBINED	WDW - Water Disposal
INACTIVE	WIW - Water Injection Well
STORAGE	WSW - Water Supply Well
TERMINATED	
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

RECEIVED: Jul. 26, 2011

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

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

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 922-36G1BS			
String	Surf	Prod		
Casing Size(")	8.625	4.500		
Setting Depth (TVD)	2266	8770		
Previous Shoe Setting Depth (TVD)	40	2266		
Max Mud Weight (ppg)	8.4	12.5		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	7780		
Operators Max Anticipated Pressure (psi)	5788	12.7		

Calculations	Surf String	8.625	"
Max BHP (psi)	.052*Setting Depth*MW=	990	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	718	NO <input type="text" value="air drill"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	491	YES <input type="text" value="OK"/>
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	500	NO <input type="text" value="Reasonable"/>
Required Casing/BOPE Test Pressure=		2266	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=	5701	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4649	YES <input type="text"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3772	YES <input type="text" value="OK"/>
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	4270	NO <input type="text" value="Reasonable"/>
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2266	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="text"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="text"/>
			<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="text"/>
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

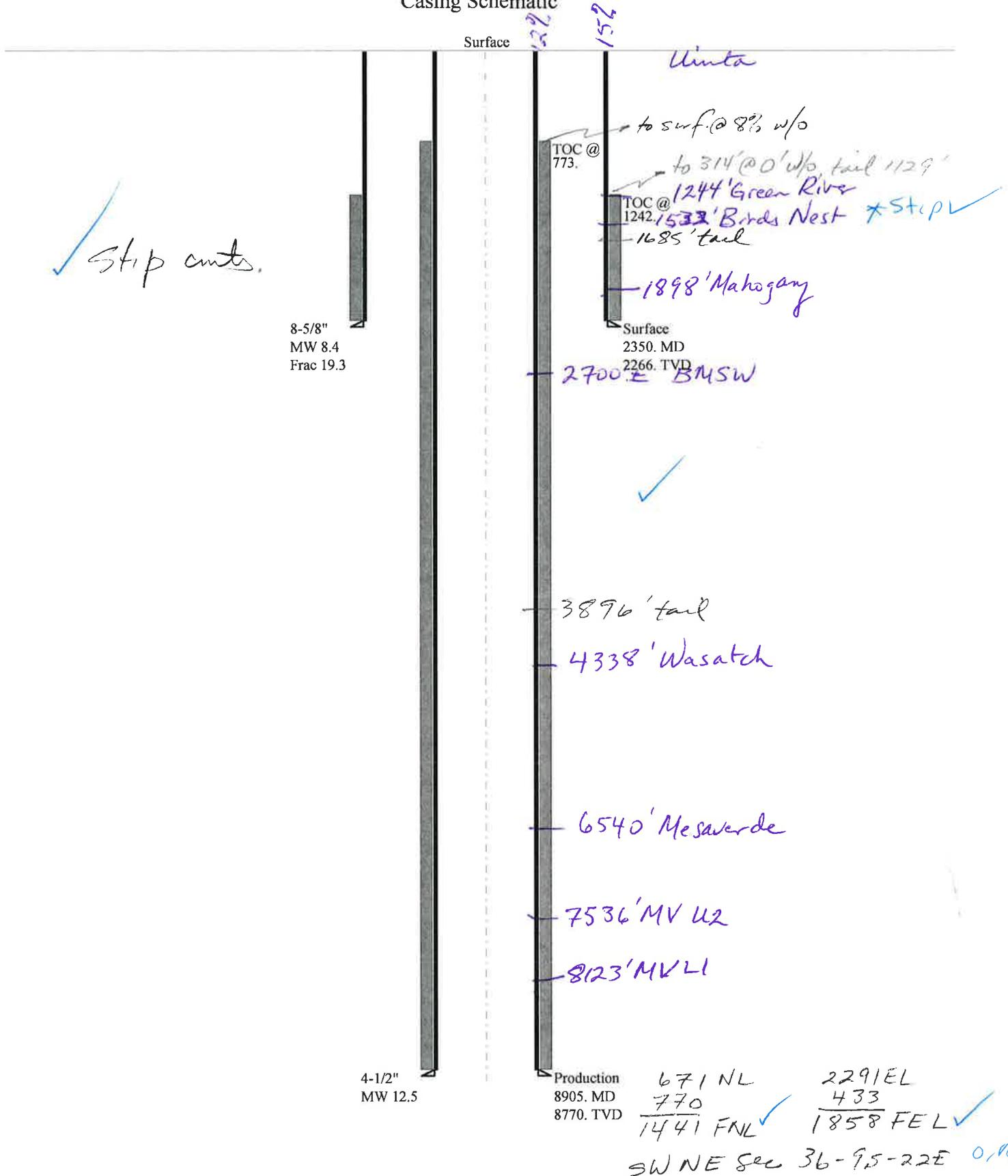
Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO <input type="text"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="text"/>
			<b>*Can Full Expected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

API Well Number: 43047516120000

*Max Pressure Allowed @ Previous Casing Shoe=	<input type="text"/>	psi *Assumes 1psi/ft frac gradient
---	----------------------	------------------------------------

43047516120000 NBU 922-36G1BS

Casing Schematic



Well name:	<b>43047516120000 NBU 922-36G1BS</b>	
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>	
String type:	Surface	Project ID: 43-047-51612
Location:	UINTAH COUNTY	

**Design parameters:**

**Collapse**

Mud weight: 8.400 ppg  
Design is based on evacuated pipe.

**Burst**

Max anticipated surface pressure: 2,068 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP: 2,340 psi  
  
No backup mud specified.

**Minimum design factors:**

**Collapse:**

Design factor: 1.125

**Burst:**

Design factor: 1.00

**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: 2,051 ft

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 106 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft  
  
Cement top: 1,242 ft

**Directional Info - Build & Drop**

Kick-off point: 300 ft  
Departure at shoe: 532 ft  
Maximum dogleg: 2 °/100ft  
Inclination at shoe: 20 °

**Re subsequent strings:**

Next setting depth: 8,905 ft  
Next mud weight: 12.500 ppg  
Next setting BHP: 5,782 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 2,350 ft  
Injection pressure: 2,350 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	2350	8.625	28.00	J-55	LT&C	2266	2350	7.892	93060
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	989	1880	1.901	2340	3390	1.45	63.5	348	5.48 J

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

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

Date: July 14, 2011  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 2266 ft, a mud weight of 8.4 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

*Engineering responsibility for use of this design will be that of the purchaser.*

Well name:	<b>43047516120000 NBU 922-36G1BS</b>		
Operator:	<b>KERR-MCGEE OIL &amp; GAS ONSHORE, L.P.</b>		
String type:	Production	Project ID:	43-047-51612
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: 197 °F  
 Temperature gradient: 1.40 °F/100ft  
 Minimum section length: 100 ft

Cement top: 773 ft

**Burst**

Max anticipated surface pressure: 3,765 psi  
 Internal gradient: 0.220 psi/ft  
 Calculated BHP 5,695 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)

**Directional Info - Build & Drop**

Kick-off point 300 ft  
 Departure at shoe: 884 ft  
 Maximum dogleg: 2 °/100ft  
 Inclination at shoe: 0 °

Tension is based on air weight.  
 Neutral point: 7,266 ft

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	8905	4.5	11.60	I-80	LT&C	8770	8905	3.875	117546
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	5239	6360	1.214	5695	7780	1.37	101.7	212	2.08 J

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

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

Date: July 14, 2011  
 Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 8770 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

*Engineering responsibility for use of this design will be that of the purchaser.*

# ON-SITE PREDRILL EVALUATION

## Utah Division of Oil, Gas and Mining

**Operator** KERR-MCGEE OIL & GAS ONSHORE, L.P.  
**Well Name** NBU 922-36G1BS  
**API Number** 43047516120000      **APD No** 3786      **Field/Unit** NATURAL BUTTES  
**Location: 1/4,1/4** NWNE      **Sec** 36      **Tw** 9.0S      **Rng** 22.0E      671 FNL 2291 FEL  
**GPS Coord (UTM)** 637760 4428557      **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 44.4 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 922-36B pad. They are the NBU 922-36G1BS, NBU 922-36B1CS, NBU 922-36A1CS and NBU 922-36B4BS. The pad contains the existing NBU 922-36B gas well. The existing pad will be significantly enlarged in all directions. The site is in a small basin surrounded with moderate to steep side-hills except to the southwest. The pad and reserve pit extend onto the steep side-hills to the southeast and south and continue to the west. Some minor rills or swales interrupt this south side hill but a diversion is not warranted. Flow from the basin to the southwest will be re-diverted with a small berm and ditch along the edge of the pad. Where the pad is cut into the steep side slopes, leave the cut slope at about  $\frac{1}{4}$ :1 to reduce the amount of cutting and disturbance. On the north side of the pad (Corners 11-2) fill will extend across the natural drainage. A diversion ditch is needed along the side slope beyond the pad returning flows to the natural drainage. After the pit is reclaimed, a pond should be considered in the small basin that extends to the southwest beyond corner 9. Excess spoils can be used for the embankment. Maximum cut is 16.2 feet at Pit Corner C and maximum fill is 10.7 feet at Corner 2. The White River is approximately  $1\frac{1}{2}$  miles to the west. The existing pad shows no stability problems and the site has no significant concerns for constructing an enlarged pad and drilling and operating the planned wells. It 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 240    Length 440</b>	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**

Soils are a shallow rocky sandy loam.

**Erosion Issues** Y

Flow from the basin to the southwest will be re-diverted with a small berm and ditch along the edge of the pad.

**Sedimentation Issues** Y

Flow from the basin to the southwest will be re-diverted with a small berm and ditch along the edge of the pad.

**Site Stability Issues** N

**Drainage Diversion Required?** Y

Flow from the basin to the southwest will be re-diverted with a small berm and ditch along the edge of the pad.

**Berm Required?** Y

Flow from the basin to the southwest will be re-diverted with a small berm and ditch along the edge of the pad.

**Erosion Sedimentation Control Required?** Y

On the north side of the pad (Corners 11-2) fill will extend across the natural drainage. A diversion ditch is needed along the side slope beyond the pad returning flows to the natural drainage.

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

**Reserve Pit**

Site-Specific Factors		Site Ranking
<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

**Characteristics / Requirements**

The reserve pit is planned mostly in an area of cut in the northwest side of the location. Dimensions are 120' x 260' x 12' deep with 2' of freeboard. The east end of the pit is tapered to avoid excessive cut in this area. Because the length of time the reserve pit will be used and the roughness of the terrain, Kerr McGee committed to line it with a 30-mil.liner and an appropriate thickness of felt sub-liner to cushion the rock.

**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

7/26/2011

Utah Division of Oil, Gas and Mining

Page 1

<b>APD No</b>	<b>API WellNo</b>	<b>Status</b>	<b>Well Type</b>	<b>Surf Owner</b>	<b>CBM</b>
3786	43047516120000	LOCKED	GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	NBU 922-36G1BS		<b>Unit</b>	NATURAL BUTTES	
<b>Field</b>	NATURAL BUTTES		<b>Type of Work</b>	DRILL	
<b>Location</b>	NWNE 36 9S 22E S 671 FNL 2291 FEL		GPS Coord (UTM)	637737E	4428569N

### Geologic Statement of Basis

Kerr McGee proposes to set 2,350' 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 2,700'. 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

6/20/2011  
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  $\frac{3}{4}$  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 44.4 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 922-36B pad. They are the NBU 922-36G1BS, NBU 922-36B1CS, NBU 922-36A1CS and NBU 922-36B4BS. The pad contains the existing NBU 922-36B gas well. The existing pad will be significantly enlarged in all directions. The site is in a small basin surrounded with moderate to steep side-hills except to the southwest. The pad and reserve pit extend onto the steep side-hills to the southeast and south and continue to the west. Some minor rills or swales interrupt this south side hill but a diversion is not warranted. Flow from the basin to the southwest will be re-diverted with a small berm and ditch along the edge of the pad. Where the pad is cut into the steep side slopes, leave the cut slope at about  $\frac{1}{4}$ :1 to reduce the amount of cutting and disturbance. On the north side of the pad (Corners 11-2) fill will extend across the natural drainage. A diversion ditch is needed along the side slope beyond the pad returning flows to the natural drainage. After the pit is reclaimed, a pond should be considered in the small basin that extends to the southwest beyond corner 9. Excess spoils can be used for the embankment. Maximum cut is 16.2 feet at Pit Corner C and maximum fill is 10.7 feet at Corner 2. The White River is approximately  $1\frac{1}{2}$  miles to the west. The existing pad shows no stability problems and the site has no significant concerns for constructing an enlarged pad and drilling and operating the planned wells. It 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.

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# Application for Permit to Drill Statement of Basis

7/26/2011

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

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Ben Williams of the Utah Division of Wildlife Resources attended the pre-site. Mr. Williams stated no wildlife 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	The well site shall be bermed to prevent fluids from leaving the pad.
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: 43047516120000

WELL NAME: NBU 922-36G1BS

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

PHONE NUMBER: 720 929-6086

CONTACT: Gina Becker

PROPOSED LOCATION: NWNE 36 090S 220E

Permit Tech Review: 

SURFACE: 0671 FNL 2291 FEL

Engineering Review: 

BOTTOM: 1439 FNL 1861 FEL

Geology Review: 

COUNTY: UINTAH

LATITUDE: 39.99798

LONGITUDE: -109.38653

UTM SURF EASTINGS: 637737.00

NORTHINGS: 4428569.00

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 - hmaconnald



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 922-36G1BS  
**API Well Number:** 43047516120000  
**Lease Number:** ML-22650  
**Surface Owner:** STATE  
**Approval Date:** 7/26/2011

**Issued to:**

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

**Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 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

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 922-36G1BS  
 Qtr/Qtr NW/NE Section 36 Township 9S Range 22E  
 Lease Serial Number ML-22650  
 API Number 4304751612

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

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

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

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

Date/Time 12/06/2011 0800 HRS AM  PM

BOPE

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

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DIV. OF OIL, GAS & MINING

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																														
<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																														
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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>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES																														
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0671 FNL 2291 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE Section: 36 Township: 09.0S Range: 22.0E Meridian: S	<b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH																															
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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 11/19/2011 AT 1400 HRS.																																
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock		<b>PHONE NUMBER</b> 435 781-7024																														
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst  <b>DATE</b> 11/22/2011																														

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
4304751612	NBU 922-36G1BS		NWNE	36	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	11/19/2011			11/30/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <u>W57MVD</u> SPUD WELL ON 11/19/2011 AT 1400 HRS. <u>BHL = SWNE</u> —							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751610	NBU 922-36B1CS		NWNE	36	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	11/17/2011			11/30/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <u>W57MVD</u> SPUD WELL ON 11/17/2011 AT 1230 HRS. <u>BHL = NWNE</u> —							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751609	NBU 922-36A1CS		NWNE	36	9S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	11/20/2011			11/30/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <u>W57MVD</u> SPUD WELL ON 11/20/2011 AT 1330 HRS. <u>BHL = NENE</u> —							

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

11/22/2011

Date

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DIV. OF OIL, GAS & MINING

<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
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<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>9. API NUMBER:</b> 43047516120000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0671 FNL 2291 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE 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 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"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <input type="checkbox"/> OTHER	
<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: 1/23/2012		
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
MIRU AIR RIG ON JAN. 21, 2012. DRILLED SURFACE HOLE TO 2600'. 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          January 27, 2012</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> 1/25/2012	

<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>  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>1. TYPE OF WELL</b> Gas Well	<b>8. WELL NAME and NUMBER:</b> NBU 922-36G1BS
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047516120000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6511  <b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0671 FNL 2291 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE 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

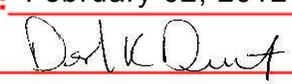
TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 1/17/2012	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> CASING REPAIR
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> CHANGE WELL NAME
<input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> CONVERT WELL TYPE
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	<input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> OTHER	OTHER: <input style="width: 100px;" type="text"/>

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

The Operator requests approval for changes in the drilling plan. Specifically, the Operator requests approval for a FIT wavier, closed loop drilling option, and a production casing change. All other aspects of the previously approved drilling plan will not change. Please see the attachment. Thank you.

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

**Date:** February 02, 2012

**By:** 

<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 1/17/2012	

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 922-36G1BS**

Surface:	671 FNL / 2291 FEL	NWNE
BHL:	1439 FNL / 1861 FEL	SWNE

Section 36 T9S R22E

Uintah 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	1,244'	
Birds Nest	1,532'	Water
Mahogany	1,898'	Water
Wasatch	4,338'	Gas
Mesaverde	6,540'	Gas
MVU2	7,536'	Gas
MVL1	8,123'	Gas
TVD	8,770'	
TD	8,905'	

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 8770' TVD, approximately equals  
5,613 psi 0.64 psi/ft = actual bottomhole gradient

---

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

Maximum anticipated surface pressure equals approximately 3,671 psi (bottom hole pressure  
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

---

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

**8. Anticipated Starting Dates:**

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

**9. Variances:**

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

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

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

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

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

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

**Background**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Variance for FIT Requirements**

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

**Conclusion**

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

10. **Other Information:**

Please refer to the attached Drilling Program.





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

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	LTC		DQX TENSION
							COLLAPSE		
CONDUCTOR	14"	0-40'				3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,350	28.00	IJ-55	LTC	2.30	1.71	6.04	N/A
						7,780	6,350	223,000	267,035
PRODUCTION	4-1/2"	0 to 5,000	11.60	I-80	DQX	1.11	1.11		3.20
						1.11	1.11	6.09	

**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 Option 1	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>							
SURFACE Option 2	LEAD	1,850'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	170	35%	11.00	3.82
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,835'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	300	35%	12.00	3.38
	TAIL	5,070'	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. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

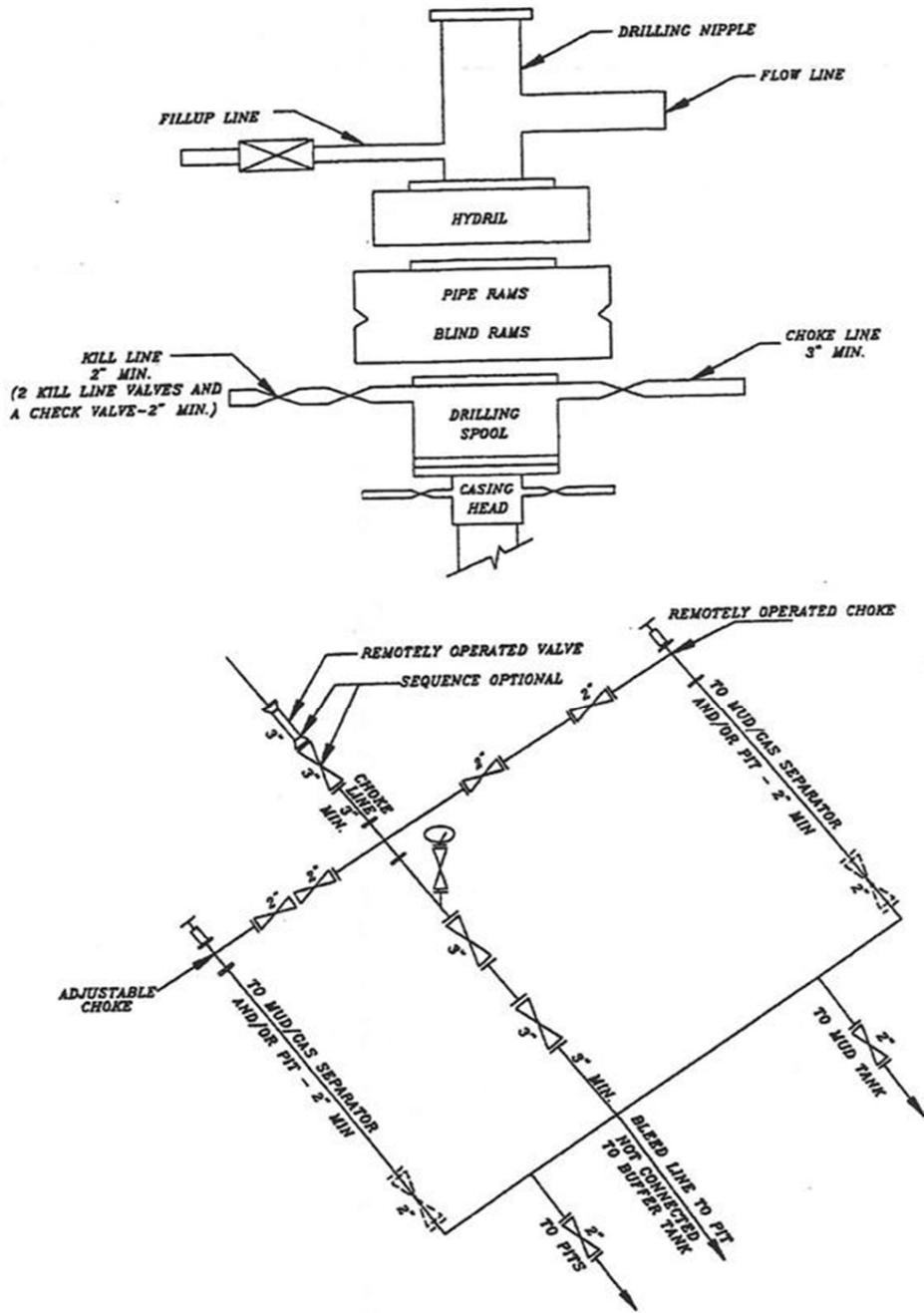
**ADDITIONAL INFORMATION**

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

**DRILLING ENGINEER:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
Nick Spence / Danny Showers / Chad Loesel

**DRILLING SUPERINTENDENT:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
Kenny Gathings / Lovel Young

**EXHIBIT A**  
**NBU 922-36G1BS**



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

Requested Drilling Options:

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

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

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# Ensign 138  
Submitted By DALTON KING Phone Number 435- 828-0982  
Well Name/Number NBU 922-36G1BS  
Qtr/Qtr NW/NE Section 36 Township 9S Range 22E  
Lease Serial Number ML-22650  
API Number 43-047-51612

Casing – Time casing run starts, not cementing times.

- Production Casing  
 Other

Date/Time 2/28/2012 07:00 AM  PM

BOPE

- Initial BOPE test at surface casing point  
 Other

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

Rig Move

Location To: NBU 922-36CICS

Date/Time 2/29/2012 08:00 AM  PM

Remarks TIME IS ESTIMATED

---

RECEIVED

FEB 27 2012

DIV. OF OIL, GAS & MINING

### State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# Ensign 138  
 Submitted By DALTON KING Phone Number 435- 828-0982  
 Well Name/Number NBU 922-36G1BS  
 Qtr/Qtr NW/NE Section 36 Township 9S Range 22E  
 Lease Serial Number ML-22650  
 API Number 43-047-51612

Casing – Time casing run starts, not cementing times.

- Production Casing
- Other

Date/Time AM  PM

**RECEIVED**  
**FEB 23 2012**  
 DIV. OF OIL, GAS & MINING

BOPE

- Initial BOPE test at surface casing point
- Other

Date/Time 2/24/2012 04:00 AM  PM

Rig Move

Location To: BONANZA 922-36G1BS

Date/Time 2/24/2012 00:00 AM  PM

Remarks TIME IS ESTIMATED

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STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
<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>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 922-36G1BS	
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.	<b>9. API NUMBER:</b> 43047516120000	
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779	<b>PHONE NUMBER:</b> 720 929-6514	<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0671 FNL 2291 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE 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 type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 2/29/2012  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> WILDCAT WELL DETERMINATION <input 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="Rig Release - ACTS PIT"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.		
MIRU ROTARY RIG. FINISHED DRILLING FROM 2600' TO 8940' ON FEBRUARY 27, 2012. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED ENSIGN 138 RIG ON FEBRUARY 29, 2012 @ 18:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES. THE PIT ON THIS LOCATION WILL BE REFURBISHED AND UTILIZED AS PART OF THE ACTS SYSTEM.		<b>Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY</b> March 09, 2012
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 3/4/2012	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	<b>FORM 9</b>
<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> 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 922-36G1BS	
<b>9. API NUMBER:</b> 43047516120000	
<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> 0671 FNL 2291 FEL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNE 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: 4/13/2012	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> NEW CONSTRUCTION
	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> PLUG BACK
	<input 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 04/13/2012 AT 0900 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**  
 April 24, 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> 4/17/2012	

**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**

5. LEASE DESIGNATION AND SERIAL NUMBER:  
**ML-22650**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT or CA AGREEMENT NAME  
**UTU63047A**

8. WELL NAME and NUMBER:  
**NBU 922-36G1BS**

9. API NUMBER:  
**4304751612**

10. FIELD AND POOL, OR WILDCAT  
**NATURAL BUTTES**

11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:  
**NWNE 36 9S 22E S**

12. COUNTY  
**UINTAH**

13. STATE  
**UTAH**

1. TYPE OF WELL: OIL WELL  GAS WELL  DRY  OTHER \_\_\_\_\_

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

3. ADDRESS OF OPERATOR: P.O. BOX 173779 CITY DENVER STATE CO ZIP 80217 PHONE NUMBER: (720) 929-6000

4. LOCATION OF WELL (FOOTAGES)  
AT SURFACE: **NWNE 671 FNL 2291 FEL S36,T9S,R22E**  
AT TOP PRODUCING INTERVAL REPORTED BELOW: **SWNE 1428 FNL 1862 FEL S36,T9S,R22E**  
AT TOTAL DEPTH: **SWNE 1451 FNL 1847 FEL S36,T9S,R22E BHL by HSM**

14. DATE SPUDDED: **11/19/2011** 15. DATE T.D. REACHED: **2/27/2012** 16. DATE COMPLETED: **4/13/2012** ABANDONED  READY TO PRODUCE

17. ELEVATIONS (DF, RKB, RT, GL):  
**5015 GL**

18. TOTAL DEPTH: MD **8,940** TVD **8,812** 19. PLUG BACK T.D.: MD **8,876** TVD **8,748** 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)  
**CBL/CM/GR/CCL**

23. WAS WELL CORED? NO  YES  (Submit analysis)  
WAS DST RUN? NO  YES  (Submit report)  
DIRECTIONAL SURVEY? NO  YES  (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	2,585		885		0	
7 7/8"	4 1/2" I-80	11.6#	0	8,922		1,440		2150	

**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"	8,233							

**26. PRODUCING INTERVALS**

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) MESAVERDE	6,762	8,766			6,762 8,766	0.36	165	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(B)								Open <input 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
6762-8766	PUMP 8,555 BBLs SLICK H2O & 195,915 LBS 30/50 OTTAWA SAND 7 STAGES

**RECEIVED**  
**NOV 05 2012**

**29. ENCLOSED ATTACHMENTS:**

- ELECTRICAL/MECHANICAL LOGS       GEOLOGIC REPORT       DST REPORT       DIRECTIONAL SURVEY  
 SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION       CORE ANALYSIS       OTHER: \_\_\_\_\_

**30. WELL STATUS:**

**PROD**

**31. INITIAL PRODUCTION**

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

DATE FIRST PRODUCED: 4/13/2012		TEST DATE: 4/14/2012		HOURS TESTED: 24		TEST PRODUCTION RATES: →		OIL - BBL: 0	GAS - MCF: 1,139	WATER - BBL: 400	PROD. METHOD:
CHOKE SIZE: 20/64	TBG. PRESS. 895	CSG. PRESS. 1,462	API GRAVITY	BTU - GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL - BBL: 0	GAS - MCF: 1,139	WATER - BBL: 400	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.

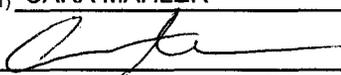
**34. FORMATION (Log) MARKERS:**

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				GREEN RIVER	1,244
				BIRD'S NEST	1,592
				MAHOGANY	1,970
				WASATCH	4,482
				MESAVERDE	6,627

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

The first 210' of the surface hole was drilled with a 1 1/2" bit. The remainder of surface hole was drilled with an 11" bit. DQX csg was run from surface to 4965'; LTC csg was run from 4965' to 8922'. Attached is the chronological well history, perforation report & final survey.

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

NAME (PLEASE PRINT) CARA MAHLER TITLE REGULATORY ANALYST  
 SIGNATURE  DATE 5/30/2012

This report must be submitted within 30 days of

- completing or plugging a new well
- reentering a previously plugged and abandoned well
- drilling horizontal laterals from an existing well bore
- significantly deepening an existing well bore below the previous bottom-hole depth
- recompleting to a different producing formation
- 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 Phone: 801-538-5340  
 1594 West North Temple, Suite 1210  
 Box 145801 Fax: 801-359-3940  
 Salt Lake City, Utah 84114-5801

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-36G1BS GREEN

Spud Date: 1/21/2012

Project: UTAH-UINTAH

Site: NBU 922-36B PAD

Rig Name No: ENSIGN 138/138, CAPSTAR 310/310

Event: DRILLING

Start Date: 11/21/2011

End Date: 2/29/2012

Active Datum: RKB @5,029.01ft (above Mean Sea Level)

UWI: NW/NE/0/9/S/22/E/36/0/0/26/PM/N/67/1/E/0/2291/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
1/21/2012	0:00 - 13:30	13.50	DRLSUR	01	C	P		MOVE RIG TO NBU 922-36G1BS (WELL 4 OF 4 . WELD ON ROTATING HEAD AND INSTALL BOUY LINE. BUILD DITCH. SPOT IN RIG. SPOT IN CATWALK AND PIPE RACKS. RIG UP PIT PUMP. RIG UP PUMP. PRIME PUMP. INSPECT RIG. HELD PRE-SPUD SAFETY MEETING.
	13:30 - 16:00	2.50	DRLSUR	02	D	P		PU 12.25" BIT, SPUD DRILL TO 210'
	16:00 - 17:30	1.50	DRLSUR	06	A	P		CIRC, POOH, LDDS 12.25" BIT
	17:30 - 19:30	2.00	DRLSUR	06	A	P		PU DIRC TOOLS, 11.00" BIT, TIH
	19:30 - 0:00	4.50	DRLSUR	02	D	P		DRILL F/ 210' T/ 625'. WOB 20, RPM 60, ON/OFF BTM 1200/920
1/22/2012	0:00 - 18:00	18.00	DRLSUR	02	D	P		DRILL F/ 625' T/ 1985'. WOB 20, RPM 45, ON/OFF BTM 1350/862, UP/DWN/ROT 98/88/93. LOST CIRC AT 1478', ON AIR AT 1510'
	18:00 - 18:30	0.50	DRLSUR	07	A	P		RIG SERVICE
	18:30 - 0:00	5.50	DRLSUR	02	D	P		DRILL F/ 1985' T/ 2330'. WOB 21, RPM 45, ON/OFF BTM 1250/1100, UP/DWN/ROT 115/85/100. DRILLING AHEAD AT 110'/HR
1/23/2012	0:00 - 4:00	4.00	DRLSUR	02	D	P		DRILL F/ 2499' TO 2600'. WOB 20, RPM 45
	4:00 - 6:00	2.00	DRLSUR	05	C	P		CIRC PRIOR TO POOH
	6:00 - 11:30	5.50	DRLSUR	06	A	P		POOH, LDDS AND DIR TOOLS. RIG UP FOR CASING RUN
	11:30 - 17:00	5.50	DRLSUR	12	C	P		RUN 58 JTS 8 5/8, 28# CSNG. LAND CSNG @ 17:00, SHOE SET @ 22575', BAFFLE SET @ 2528'
	17:00 - 18:00	1.00	DRLSUR	12	B	P		HOLD SAFETY MEETING, RIG UP CEMENT TRUCK, 2" HARD LINES, CEMENT HEAD, LOAD PLUG.
	18:00 - 20:30	2.50	DRLSUR	12	E	P		PRESSURE TEST LINES TO 2000 PSI. PUMP 150 BBLs OF WATER AHEAD. PUMP 20 BBLs OF 8.3# GEL WATER AHEAD. PUMP (260 SX) OF 15.8# 1.15 YD 23 GAL/SK PREMIUM CEMENT. PUMP 200SX (41 BBLs) OF 15.8# 1.15 YD 5 GAL/SX PREMIUM CEMENT. DROP PLUG ON FLY. DISPLACE W/ 166.4 BBLs OF H2O. CIRC FOR APPROX 2 MINUTES, 600PSI SHOWING. FINAL LIFT OF 200 PSI AT 5 BBL/MIN. BUMP PLUG W/450 PSI HELD FOR 5 MIN. FLOAT DID HOLD. PUMP (125 SX) 26 BBLs OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE. WAIT 2 HOURS, PUMP ADDITIONAL (300 SX) 26 BBLs OF SAME TAIL CEMENT W/ 4% CALC. DOWN BACKSIDE. SHUT DOWN AND CLEAN TRUCK. NO CEMENT TO SURFACE.
	20:30 - 0:00	3.50	DRLSUR	01	A	P		RELEASE RIG AT 2030
2/24/2012	3:00 - 4:30	1.50	MIRU	01	C	P		RIG DOWN, START MOVING CAMPS AND EQUIPMENT TO NBU 1022-11B4BS
	4:30 - 5:30	1.00	MIRU	14	A	P		SKID THE RIG OVER AND CENTER IT OVER THE HOLE. NIPPLE UP THE BOP NOV DEWATERING

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

Well: NBU 922-36G1BS GREEN

Spud Date: 1/21/2012

Project: UTAH-UINTAH

Site: NBU 922-36B PAD

Rig Name No: ENSIGN 138/138, CAPSTAR 310/310

Event: DRILLING

Start Date: 11/21/2011

End Date: 2/29/2012

Active Datum: RKB @5,029.01ft (above Mean Sea Level)

UWI: NW/NE/0/9/S/22/E/36/0/0/26/PM/N/671/E/0/2291/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	5:30 - 6:00	0.50	MIRU	01	B	P		RIG UP THE CATWALK ANSD FLOW LINE NOV DEWATERING
	6:00 - 9:30	3.50	PRSPD	15		P		TEST FLOOR VALVES, TOP DRIVE VALVE, INSIDE & OUT SIDE KILL LINE & CHOKE LINE VALVES, HCR VALVE, CHOKE MANIFOLD, PIPE RAMS ,BLIND RAMS TO 250 PSI F/ 5 MIN, 5000 PSI F/ 10 MIN, ANNULAR TO 250 F/ 5 MIN, 2500 F/ 10 MIN, CASING TO 1500 PSI F/ 30 MIN, R/D TESTER
	9:30 - 10:00	0.50	PRSPD	14	B	P		NOV DEWATERING INSTALL THE WEAR BUSHING
	10:00 - 13:00	3.00	DRLPRO	06	A	P		PU AN SDI .28 RPG /1.5 BEND MUD MOTOR, MDI 616 BIT, SCRIBED THE ASSEMBLY AND TRIPPED IN THE HOLE. TAGGED CEMENT @ 2448'
	13:00 - 14:00	1.00	DRLPRO	02	F	P		DRILLED THE CEMENT AND FLOAT EQUIPMENT 80 STROKES,/ 360GPM RPM 100/40
	14:00 - 17:00	3.00	DRLPRO	02	D	P		WEIGHT ON BIT 10-12K DRILL 2605' - 2923' , 318' @ 106'/HR , WOB 18-20, SPM 120, GPM 540 RPM 50/151, WATER 8.4 WT. TRQ ON/OFF 8/5 PSI ON/OFF , 2180/1770 PU/SO/ROT 117/110/114 SLIDE 67'. 1.16 HR.@ 57.8'/HR ROTATE : 251', 1.83 HR. @ 137.2'/HR. NOV RUNNING: DEWATERING
	17:00 - 17:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	17:30 - 0:00	6.50	DRLPRO	02	D			DRILL 2923'-3901', 978' @ 150.5'/HR , WOB 18-20, SPM 120, GPM 540 RPM 50/151, WATER 8.5 WT. TRQ ON/OFF 9/5 PSI ON/OFF , 2287/1872 PU/SO/ROT 134/117/122 SLIDE: 110', 1.67 HR., @ 65.7'/HR. ROTATE: 868', 4.83HR @ 179.7'/HR. NOV RUNNING: CONVENTIONAL 5' FLARE / 12' CONNECTION FLARE @ 3000'

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-36G1BS GREEN

Spud Date: 1/21/2012

Project: UTAH-UINTAH

Site: NBU 922-36B PAD

Rig Name No: ENSIGN 138/138, CAPSTAR 310/310

Event: DRILLING

Start Date: 11/21/2011

End Date: 2/29/2012

Active Datum: RKB @5,029.01ft (above Mean Sea Level)

UWI: NW/NE/0/9/S/22/E/36/0/0/26/PM/N/671/E/0/2291/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
2/25/2012	0:00 - 12:00	12.00	DRLPRO	02	D	P		DRILL 3901'- 5193', 1292' @ 107.7'/ HR , WOB 18-20, SPM 120, GPM 540 RPM 50/151, WATER 8.6 WT. TRQ ON/OFF 12/8 PSI ON/OFF , 2320/1870 PU/SO/ROT 150/135/145 SLIDE: 96', 2 HR., @ 48'/HR. ROTATE: 1196', 10HR @ 119.6'/HR. NOV RUNNING:CONVENTIONAL DEWATERING PART TIME BIT POSITION: 14.94'N 8.62'W OF CENTER RUNNING LCM SWEEPS TO CONTROL SEEPING AND CLEAN THE HOLE
	12:00 - 12:30	0.50	MAINT	07	A	P		RIG SERVICE
	12:30 - 0:00	11.50	DRLPRO	02	D	P		DRILL 5193'- 6361', 1168' @ 101.6'/ HR , WOB 18-20, SPM 120, GPM 540 RPM 50/151, WATER 8.7 WT. TRQ ON/OFF 12/10 PSI ON/OFF , 2400/1950 PU/SO/ROT 166/135/148 SLIDE: 40' ,58 @ 69'/HR ROTATE: 1128', 10.92 HR. @ 103.3'/HR. NOV RUNNING:CONVENTIONAL DEWATERING PART TIME BIT POSITION: 13.36'N 2.28'W OF CENTER RUNNING LCM SWEEPS TO CONTROL SEEPING AND CLEAN THE HOLE
2/26/2012	0:00 - 12:00	12.00	DRLPRO	02	D	P		DRILL 6361'- 7179', 818' @ 68.2'/ HR , WOB 18-20, SPM 110, GPM 496 RPM 50/139, WATER 8.7 WT. DISPLACED THE WATER WITH MUD @ 6900' MUD 35 VIS 10.4 WT. TRQ ON/OFF 12/10 PSI ON/OFF , 2400/1050 PU/SO/ROT 180/142/163 SLIDE: 43' ,83 @ 51.8'/HR ROTATE: 775', 11.17 HR. @ 69.4'/HR. NOV RUNNING:CONVENTIONAL @ 30% 1 1/2 HOUR ON 3 OFF BIT POSITION: 16.84'N, 6.34'W OF CENTER MIXING LCM TO CONTROL SEEPING LOST APP. 80 BARRELS OF FLUID RIG SERVICE
	12:00 - 12:30	0.50	MAINT	07	A	P		RIG SERVICE

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

Well: NBU 922-36G1BS GREEN

Spud Date: 1/21/2012

Project: UTAH-UINTAH

Site: NBU 922-36B PAD

Rig Name No: ENSIGN 138/138, CAPSTAR 310/310

Event: DRILLING

Start Date: 11/21/2011

End Date: 2/29/2012

Active Datum: RKB @5,029.01ft (above Mean Sea Level)

UWI: NWNE/0/9/S/22/E/36/0/0/26/PM/N/671/E/0/2291/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	12:30 - 0:00	11.50	DRLPRO	02	D	P		DRILL 7179' - 7807', 628' @ 54.6'/ HR , WOB 18-20, SPM 110, GPM 496 RPM 50/139, ' MUD 35 /VIS, 11.2/ WT. TRQ ON/OFF 13/10 PSI ON/OFF , 2500/2050 PU/SO/ROT 193/162/170 SLIDE: 25', 1.08 HR. @ 23.1'/HR. ROTATE: 603', 10.42 HR. @ 57.9'/HR NOV RUNNING: CONVENTIONAL @ 30% 1 1/2 HOUR ON 3 OFF BIT POSITION: 12.4'N, 4.65'W OF CENTER RUNNING LCM TO CONTROL SEEPING LOST APP. 240 BBL. OF FLUID
2/27/2012	0:00 - 20:00	20.00	DRLPRO	02	D	P		DRILL 7807'- 8940' ,1133' @ 56.7'/ HR , WOB 18-20, SPM 100, GPM 450 RPM 50/126, ' MUD 35 /VIS, 11.7/ WT. TRQ ON/OFF 14/10 PSI ON/OFF , 2800/2420 PU/SO/ROT 211/166/183 SLIDE: 25', 2.08 HR. @ 12'/HR. ROTATE: 1108', 17.92 HR. @ 61.8'/HR NOV RUNNING: CONVENTIONAL @ 30% 1 1/2 HOUR ON 3 OFF BIT POSITION: 8.71'S, 21.16'E OF CENTER RUNNING LCM TO CONTROL SEEPING LOST APP. 120 BBL. OF FLUID
	20:00 - 21:30	1.50	DRLPRO	05	C	P		CIRCULATE AND CONDITION FOR THE WIPER TRIP.
	21:30 - 23:30	2.00	DRLPRO	06	E	P		PUMPED OUT 10 STAND ON THE WIPER TRIP. TRIP BACK IN THE HOLE.
	23:30 - 0:00	0.50	DRLPRO	05	C	P		CIRCULATE AND CONDITION TO LAY DOWN DRILL PIPE
2/28/2012	0:00 - 1:30	1.50	DRLPRO	05	C	P		CIRCULATING AND CONDITIONING PRIOR TO LAYING DOWN DRILL PIPE. 100 STROKES / 450GPM 11.7 MW, 39 VIS
	1:30 - 17:30	16.00	DRLPRO	06	A	P		PUMPED OUT 19 STANDS OF PIPE. LAYED DOWN DRILL PIPE TO THE BHA, TRIPPED IN THE 19 STANDS FROM THE DERRICK. FINISHED LAYING DOWN THE PIPE AND BHA ASSEMBLY. NO HOLE ISSUES
	17:30 - 18:00	0.50	DRLPRO	14	B	P		PULL THE WEAR BUSHING
	18:00 - 0:00	6.00	CSG	12	C	P		SAFETY MEETING WITH FRANKS WESTATE. RIGGED UP THE CASING CREW AND RAN 208 TOTAL JOINTS, (90 JTS. OF 4.5"/I-80 / 11.6# / LTC), (118 JTS. OF 4.5" / 11.6# / I-80 / DQX). LANDED AT 8922.19, FLOAT COLLAR @ 8874.90, MV MARKER @ 6646.23, DQX CROSS OVER @ 8947.32. FILLED THE CASING @ 91', 887', , 2718', & 4993'
CASING DEPTH @ MIDNIGHT: 5750'								

**US ROCKIES REGION  
Operation Summary Report**

Well: NBU 922-36G1BS GREEN Spud Date: 1/21/2012  
 Project: UTAH-UINTAH Site: NBU 922-36B PAD Rig Name No: ENSIGN 138/138, CAPSTAR 310/310  
 Event: DRILLING Start Date: 11/21/2011 End Date: 2/29/2012  
 Active Datum: RKB @5,029.01ft (above Mean Sea Level) UWI: NW/NE/O/9/S/22/E/36/O/O/26/PM/N/671/E/O/2291/O/O

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
2/29/2012	0:00 - 2:00	2.00	CSG	12	C	P		FINISHED THE CASING RUN : RAN 208 TOTAL JOINTS, (90 JTS. OF 4.5"/I-80 / 11.6# / LTC), (118 JTS. OF 4.5" / 11.6# / I-80 / DQX). LANDED AT 8922.19, FLOAT COLLAR @ 8874.90, MV MARKER @ 6646.23, DQX CROSS OVER @ 4965.32 FILLED THE CASING @ 91', 887', . 2718', & 4993'
	2:00 - 3:30	1.50	CSG	05	D	P		CIRCULATED THE CASING ON BOTTOM. 85 STROKES / 360 GPM / 850 PSI 11.7 MW / 40 VIS WE HAD A 10' FLARE ON BOTTOMS UP R/D CASERS
	3:30 - 7:00	3.50	CSG	12	E	P		SAFETY MEETING W/ BJ SERVICES, PRESSURE TEST TRUCK & LINES TO 5000 PSI, DROP BOTTOM PLUG , PUMP 25 BBL FRESH WATER SPACER, 465 SX ( 166.76 BBLS) 12.5#, 2.02 YIELD LEAD CEMENT , 975 SX ( 227.39 BBLS) 14.3#, 1.31 YIELD LEAD CEMENT,DROP TOP PLUG, DISPLACE WITH 138 BBLS CLAYCARE + 1GALLON MAGNACIDE WATER, FINAL LIFT 2560 PSI, BUMPED PLUG @ 3200 PSI HELD 5 MIN,25 BBLS CEMENT BACK TO PIT, FLOATS DID NOT HOLD, BLEED BACK 1.5 BBLS AND BUMP PLUG 2 MORE TIMES @ 3200 PSI FLOATS DID NOT HOLD, R/D BJ,
	7:00 - 12:00	5.00	CSG	13	A	X		HOLD 1800 PSI ON CASING FOR 5 HRS, BLEED PRESSURE OFF CASING, NO FLOW, HELD SAFETY MEETING WITH WEATHER FORD SLIP HANDS, PRICE WATER SERVICES CLEANING MUD PITS ,
	12:00 - 13:00	1.00	CSG	14	B	P		SET C-22 SLIPS @ 95K, PICKUP STACK & CUT OFF CASING
	13:00 - 18:00	5.00	RDMO	14	A	P		NIPPLE DOWN BOP, PRICE WATER SERVICES CLEANING PITS 1 TRUCK, 4 HANDS, FROM 08:00 AM TO 18:00 ( 10 HRS TOTAL), RIG DOWN ROTARY TOOLS, RELEASE RIG @ 18:00 2/29/2012 TO NBU 922-36C1CS, MOVED CAMPS, WATER, SEWER 2 MOUNTAIN WEST HAUL TRUCKS & 1 CREW TRUCK, 4 HANDS, ON LOCATION @ 08:00, RELEASED @ 17:00

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 922-36G1BS GREEN	Wellbore No.	OH
Well Name	NBU 922-36G1BS	Wellbore Name	NBU 922-36G1BS
Report No.	1	Report Date	4/4/2012
Project	UTAH-UINTAH	Site	NBU 922-36B PAD
Rig Name/No.		Event	COMPLETION
Start Date	4/11/2012	End Date	4/12/2012
Spud Date	1/21/2012	Active Datum	RKB @5,029.01ft (above Mean Sea Level)
UWI	NW/NE/O/9/S/22/E/36/O/O/26/PM/N/671/E/O/2291/O/O		

1.3 General

Contractor		Job Method	PERFORATE	Supervisor	
Perforated Assembly	PRODUCTION CASING	Conveyed Method	WIRELINE		

1.4 Initial Conditions

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

1.5 Summary

Gross Interval	6,762.0 (ft)-8,766.0 (ft)	Start Date/Time	4/9/2012 12:00AM
No. of Intervals	31	End Date/Time	4/9/2012 12:00AM
Total Shots	165	Net Perforation Interval	52.00 (ft)
Avg Shot Density	3.17 (shot/ft)	Final Surface Pressure	
		Final Press Date	

2 Intervals

2.1 Perforated Interval

Date	Formation/Reservoir	CCL@ (ft)	CCL-T S (ft)	MD Top (ft)	MD Base (ft)	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
4/9/2012 12:00AM	MESAVERDE/			6,762.0	6,764.0	3.00		0.360	EXP/	3.375	120.00			23.00	PRODUCTIO N

2.1 Perforated Interval (Continued)

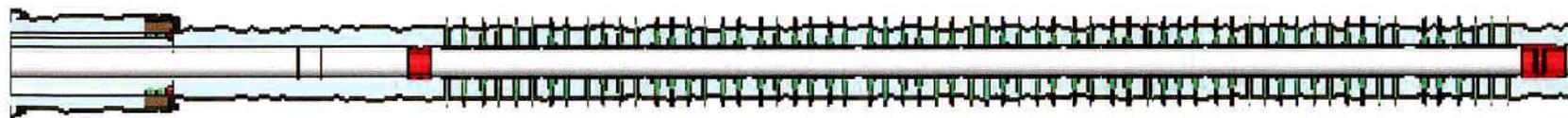
Date	Formation/ Reservoir	CCL@ (ft)	CCL-T S (ft)	MD Top (ft)	MD Base (ft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
4/9/2012 12:00AM	MESAVERDE/			6,836.0	6,838.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			6,886.0	6,888.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			6,956.0	6,958.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,038.0	7,040.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,070.0	7,071.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,148.0	7,150.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,190.0	7,191.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,226.0	7,228.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,358.0	7,360.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,416.0	7,418.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,473.0	7,476.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,660.0	7,661.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,693.0	7,694.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,715.0	7,716.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,784.0	7,785.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,810.0	7,812.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,846.0	7,848.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			7,974.0	7,976.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			8,086.0	8,088.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			8,156.0	8,158.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			8,172.0	8,174.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (ft)	CCL-T S (ft)	MD Top (ft)	MD Base (ft)	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
4/9/2012 12:00AM	MESAVERDE/			8,265.0	8,266.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			8,296.0	8,297.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			8,315.0	8,316.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			8,340.0	8,341.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			8,373.0	8,374.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			8,400.0	8,402.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			8,658.0	8,660.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			8,746.0	8,748.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
4/9/2012 12:00AM	MESAVERDE/			8,764.0	8,766.0	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 922-36G1BS GREEN

Spud Date: 1/21/2012

Project: UTAH-UINTAH

Site: NBU 922-36B PAD

Rig Name No: SWABBCCO 6/6

Event: COMPLETION

Start Date: 4/11/2012

End Date: 4/12/2012

Active Datum: RKB @5,029.01ft (above Mean Sea Level)

UWI: NW/NE/0/9/S/22/E/36/0/0/26/PM/N/671/E/0/2291/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
1/21/2012	-							
4/4/2012	8:30 - 10:00	1.50	COMP	33		P		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 03 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 25 PSI. 1ST PSI TEST T/ 7000 PSI. HELD FOR 30 MIN LOST 102 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. SWIFW
4/5/2012	8:00 - 14:00	6.00	COMP	37	B	P		HSM, MOVING R/U P/U RIH W/ 3-1/8 EXPEND, 23 GRM, 0.36" HOLE, PERF MESAVERDE AS PER SAY IN DESIGN SWIFN
4/9/2012	6:00 - 10:30	4.50	COMP	48		P		HSM, PINCH POINTS, MIRU PRESSURE TEST SURFACE LINES TO 8,500#. OPEN WELL
	10:30 - 17:00	6.50	COMP	36	B	P		PERF & FRAC FOLLOWING WELL AS PER DESIGN W/ 30/50 MESH SAND & SLK WTR. ALL CBP'S ARE HALIBURTON 8K CBP'S. REFER TO STIM PJR FOR FLUID, SAND AND CHEMICAL VOLUME PUMP'D  FRAC STG #1] WHP=1,505#, BRK DN PERFS=3,634#, @=4.6 BPM, INJ RT=43.8, INJ PSI=25,838#, INITIAL ISIP=2,234#, INITIAL FG=.70, FINAL ISIP=2,710#, FINAL FG=.75, AVERAGE RATE=50.6, AVERAGE PRESSURE=5,223#, MAX RATE=50.8, MAX PRESSURE=6,252#, NET PRESSURE INCREASE=476#, 16/24 65% CALC PERFS OPEN. X OVER TO WIRE LINE  PERF STG #2] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=8,432', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW SWIFN
4/10/2012	6:30 - 6:45	0.25	COMP	48		P		HSM, SLIPS / TRIPS / & FALLS

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

Well: NBU 922-36G1BS GREEN		Spud Date: 1/21/2012	
Project: UTAH-UINTAH	Site: NBU 922-36B PAD	Rig Name No: SWABBCO 6/6	
Event: COMPLETION	Start Date: 4/11/2012	End Date: 4/12/2012	
Active Datum: RKB @5,029.01ft (above Mean Sea Level)	UWI: NWN/E/0/9/S/22/E/36/0/0/26/PM/N/671/E/0/2291/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
	6:45 - 6:45	0.00	COMP	36	B	P		<p>FRAC STG #2] WHP=380#, BRK DN PERFS=2,829#, @=4.5 BPM, INJ RT=51.3, INJ PSI=4,566#, INITIAL ISIP=1,341#, INITIAL FG=.60, FINAL ISIP=2,653#, FINAL FG=.76, AVERAGE RATE=51.2, AVERAGE PRESSURE=4,620#, MAX RATE=51.3, MAX PRESSURE=5,495#, NET PRESSURE INCREASE=1,312#, 21/22 97% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #3] P/U RIH W/ HALIBURTON 8K CBP &amp; PERF GUN, SET CBP @=8,204', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #3] WHP=1,260#, BRK DN PERFS=5,627#, @=4.8 BPM, INJ RT=50.5, INJ PSI=4,911#, INITIAL ISIP=2,386#, INITIAL FG=.73, FINAL ISIP=2,409#, FINAL FG=.74, AVERAGE RATE=50.6, AVERAGE PRESSURE=4,675#, MAX RATE=50.9, MAX PRESSURE=6,177#, NET PRESSURE INCREASE=23#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #4] P/U RIH W/ HALIBURTON 8K CBP &amp; PERF GUN, SET CBP @=7,878', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #4] WHP=1,740#, BRK DN PERFS=2,529#, @=6.6 BPM, INJ RT=50.9, INJ PSI=3,979#, INITIAL ISIP=1,787#, INITIAL FG=.67, FINAL ISIP=2,055#, FINAL FG=.74, AVERAGE RATE=50.8, AVERAGE PRESSURE=4,005#, MAX RATE=51.1, MAX PRESSURE=4,529#, NET PRESSURE INCREASE=268#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #5] P/U RIH W/ HALIBURTON 8K CBP &amp; PERF GUN, SET CBP @=7,506', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p> <p>FRAC STG #5] WHP=550#, BRK DN PERFS=2,706#, @=4.3 BPM, INJ RT=52.7, INJ PSI=4,535#, INITIAL ISIP=1,429#, INITIAL FG=.63, FINAL ISIP=2,546#, FINAL FG=.78, AVERAGE RATE=52.7, AVERAGE PRESSURE=4,586#, MAX RATE=53.1, MAX PRESSURE=4,969#, NET PRESSURE INCREASE=1,117#, 22/23 95% CALC PERFS OPEN. X OVER TO WIRE LINE</p> <p>PERF STG #6] P/U RIH W/ HALIBURTON 8K CBP &amp; PERF GUN, SET CBP @7,258', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW</p>

US ROCKIES REGION  
**Operation Summary Report**

Well: NBU 922-36G1BS GREEN

Spud Date: 1/21/2012

Project: UTAH-UINTAH

Site: NBU 922-36B PAD

Rig Name No: SWABBCO 6/6

Event: COMPLETION

Start Date: 4/11/2012

End Date: 4/12/2012

Active Datum: RKB @5,029.01ft (above Mean Sea Level)

UWI: NW/NE/0/9/S/22/E/36/0/0/26/PM/N/671/E/0/2291/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
								FRAC STG #6] WHP=230#, BRK DN PERFS=2,197#, @=4.4 BPM, INJ RT=52.8, INJ PSI=3,671#, INITIAL ISIP=918#, INITIAL FG=.57, FINAL ISIP=2,208#, FINAL FG=.75, AVERAGE RATE=52.8, AVERAGE PRESSURE=3,745#, MAX RATE=53.2, MAX PRESSURE=4,472#, NET PRESSURE INCREASE=1,290#, 24/24 100% CALC PERFS OPEN. X OVER TO WIRE LINE
4/11/2012	6:30 - 6:45	0.25	COMP	48		P		PERF STG #7] P/U RIH W/ HALIBURTON 8K CBP & PERF GUN, SET CBP @=6,988', PERF MESAVERDE USING 3-1/8 EXPEND, 23 GRM, 0.36" HOLE. AS PERSAY IN PROCEDURE, X OVER TO FRAC CREW SWMFN.
	6:45 - 6:45	0.00	COMP	36	B	P		HSM, R/D OVER HEAD LOADS
								FRAC STG #7] WHP=#, BRK DN PERFS=#, @= BPM, INJ RT=, INJ PSI=#, INITIAL ISIP=#, INITIAL FG=., FINAL ISIP=#, FINAL FG=., AVERAGE RATE=, AVERAGE PRESSURE=#, MAX RATE=, MAX PRESSURE=#, NET PRESSURE INCREASE=#, CALC PERFS OPEN. X OVER TO WIRE LINE
								P/U RIH W/ HALIBURTON 8K CBP, SET FOR TOP KILL @=6,712'
	11:00 - 17:00	6.00	COMP	30		P		TOTAL FLUID PUMP'D=8,555 BBLS TOTAL SAND PUMP'D=195,915# MIRU ND WELLHEAD NU BOPS SPOT IN TUBING RU FLOOR & TUBING EQUIP PU 3-7/8" BIT TALLY & PU TUBING RIH TAG PLUG @ 6712' RU DRILLING EQUIP PREP TO D/O SIW SDFN
4/12/2012	7:00 - 7:15	0.25	COMP	48		P		JSA= PRESS CONTROL

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

Well: NBU 922-36G1BS GREEN

Spud Date: 1/21/2012

Project: UTAH-UINTAH

Site: NBU 922-36B PAD

Rig Name No: SWABBCO 6/6

Event: COMPLETION

Start Date: 4/11/2012

End Date: 4/12/2012

Active Datum: RKB @5,029.01ft (above Mean Sea Level)

UWI: NW/NE/0/9/S/22/E/36/0/0/26/PM/N/671/E/0/2291/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
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7:15 - 17:00

9.75

COMP

30

P

SIWP= 0 PSI RU PUMP & PWR SWWL EST CIRC TEST BOP TO 3000#

PLUG #1] DRILL THRU HALLI 8K CBP @ 6712' IN 9 MIN W/ 0 INCREASE LOST CIRCULATION

PLUG #2] CONTINUE TO RIH TAG SAND @ 6958' (30' FILL) C/O & DRILL THRU HALLI 8K CBP @ 6988' IN 7 MIN W/ 0 INCREASE NO CIRC

PLUG #3] CONTION TO RIH TAG SAND @ 7228' (30' FILL) C/O & DRILL THRU HALLI 8K CBP @ 7258' IN 9 MIN W/ 0 INCREASE GETTING SLIGHT RETURNS

PLUG #4] CONTINUE TO RIH TAG SAND @ 7496' (10' FILL) C/O & DRILL THRU HALLI 8K CBP @ 7506' IN 6 MIN W/ 50# INCREASE

PLUG #5] CONTINUE TO RIH TAG SAND @ 7853'(25' FILL) C/O & DRILL THRU HALLI 8K CBP @ 7878' IN 7 MIN W/ 100# INCREASE

PLUG #6] CONTINUE TO RIH TAG SAND @ 8179' (25' FILL) C/O & DRILL THRU HALLI 8K CBP @ 8204' IN 8 MIN W/ 50# INCREASE

PLUG #7] CONTINUE TO RIH TAG SAND @ 8402' (30' FILL) C/O & DRILL THRU HALLI 8K CBP @ 8432' IN 6 MIN W/ 50# INCREASE

PBTD] CONTINUE TO RIH TAG SAND @ 8850' (25' FILL) C/O & DRILL TO PBTD @ 8875' CIRC CLEAN PUH LD 21 JNTS LAND TUBING ON HNGR W/ 259 JNTS EOT @ 8232.91' RD DRILLING EQUIP RD FLOOR & TUBING EQUIP ND BOPS NU WELLHEAD DROP BALL PUMP OFF BIT @ 1400# SIW NU & TEST FLOWLINE TURN WELL OVER TO FBC RD RIG MOVE TO 36A1CS RU RIG SDFN

**TUBING DETAIL**

K.B.....17.00'  
HANGER.....86'  
259 JNTS 2-3/8" L-80.....8232.91'  
POBS.....2.20'  
EOT @.....8232.91'

TOTAL FLUID PUMPED=8555 BBLS  
RIG REC= 2400 BBLS  
LEFT TO REC= 6155 BBLS

CTAP DEL.....282 JNTS  
USED.....259 JNTS  
RETURNED.....23 JNTS

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

Well: NBU 922-36G1BS GREEN		Spud Date: 1/21/2012	
Project: UTAH-UINTAH		Site: NBU 922-36B PAD	Rig Name No: SWABBCO 6/6
Event: COMPLETION		Start Date: 4/11/2012	End Date: 4/12/2012
Active Datum: RKB @5,029.01ft (above Mean Sea Level)		UWI: NW/NE/0/9/S/22/E/36/0/0/26/PM/N/671/E/0/2291/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (ft)	Operation
4/13/2012	9:00 -		PROD	50				WELL TURNED TO SALES AT 0900 HR ON 4/13/2012 - 980 MCFD, 1440 BWPD, FCP 2050#, FTP 1600#, 20/64 CK
4/14/2012	7:00 -			50				WELL IP'D ON 4/14/2012 - 1139 MCFD, 0 BOPD, 400 BWPD, CP 1462#, FTP 895#, CK 20/64, LP 118#, 24 HRS
4/15/2012	-							

**WELL DETAILS: NBU 922-36G1BS**

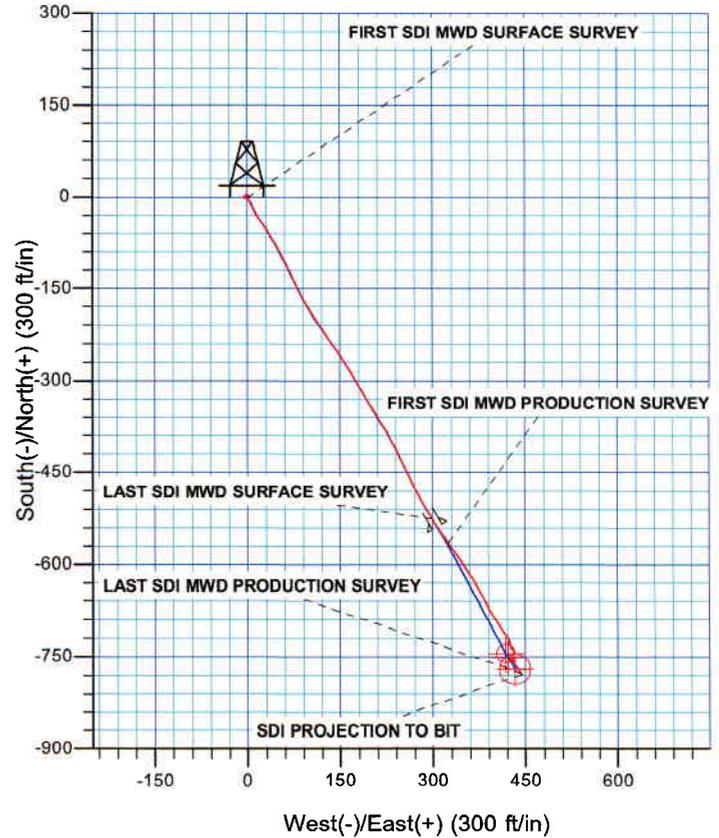
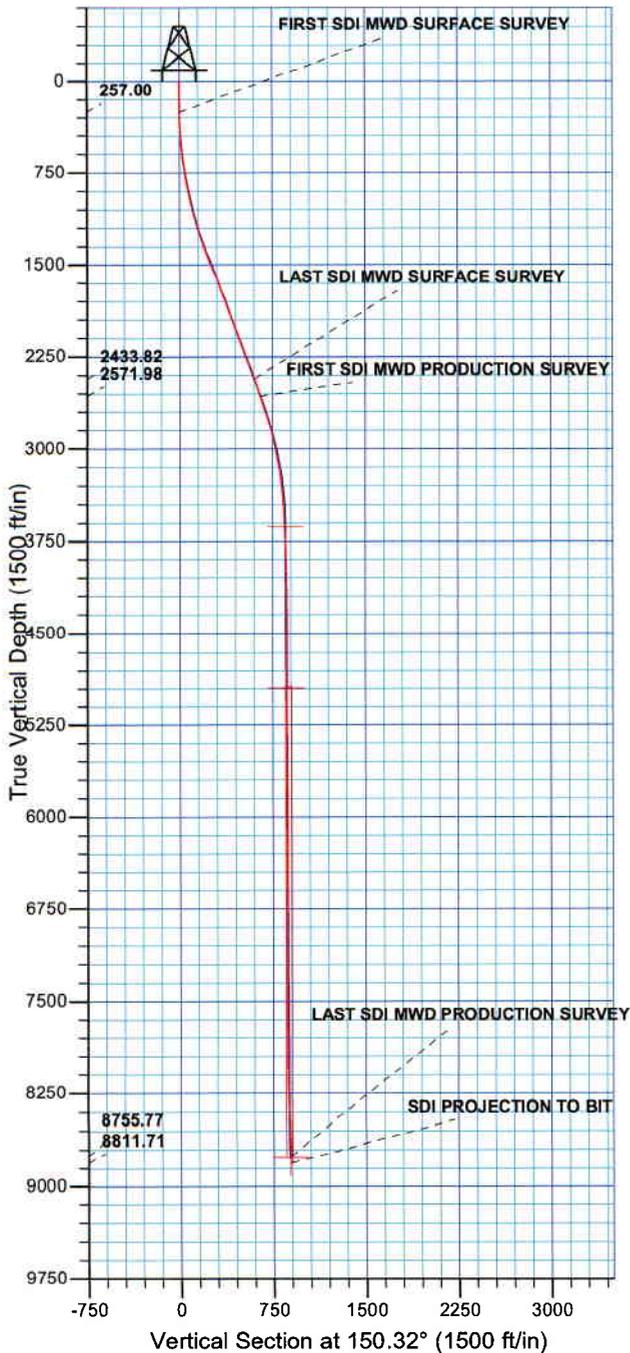
GL 5015' & KB 14' @ 5029.00R (ENSGN 138)

+N-S	+E-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14529393.14	2092339.33	39.997962	-109.386412



Azimuths to True North  
Magnetic North: 11.07°

Magnetic Field  
Strength: 52377.4snT  
Dip Angle: 65.90°  
Date: 02/10/2011  
Model: IGRF2010



**PROJECT DETAILS: Uintah County, UT UTM12**

Geodetic System: Universal Transverse Mercator (US Survey Feet)  
 Datum: NAD 1927 - Western US  
 Ellipsoid: Clarke 1866  
 Zone: Zone 12N (114 W to 108 W)  
 Location: SECTION 36 T9S R22E  
 System Datum: Mean Sea Level

Design: OH (NBU 922-36G1BS/OH)

Created By: Gabe Kendall Date: 9:39, March 06 2012



**Scientific Drilling**  
Rocky Mountain Operations

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

**Uintah County, UT UTM12  
NBU 922-36B PAD  
NBU 922-36G1BS**

**OH**

**Design: OH**

## **Standard Survey Report**

**06 March, 2012**

**Anadarko**   
Petroleum Corporation

<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36G1BS
<b>Project:</b>	Uintah County, UT UTM12	<b>TVD Reference:</b>	GL 5015' & KB 14' @ 5029.00ft (ENSIGN 138)
<b>Site:</b>	NBU 922-36B PAD	<b>MD Reference:</b>	GL 5015' & KB 14' @ 5029.00ft (ENSIGN 138)
<b>Well:</b>	NBU 922-36G1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

<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 922-36B PAD, SECTION 36 T9S R22E		
<b>Site Position:</b>	<b>Northing:</b>	14,529,382.00 usft	<b>Latitude:</b> 39.997930
<b>From:</b> Lat/Long	<b>Easting:</b>	2,092,367.27 usft	<b>Longitude:</b> -109.386313
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b> 13.200 in	<b>Grid Convergence:</b> 1.04 °

<b>Well</b>	NBU 922-36G1BS, 671 FNL 2291 FEL		
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b> 14,529,393.15 usft
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b> 2,092,339.33 usft
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft
		<b>Ground Level:</b>	5,015.00 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	02/10/11	11.07	65.90	52,377

<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	150.32	

<b>Survey Program</b>	<b>Date</b>	03/06/12			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
257.00	2,530.00	Survey #1 SDI MWD SURFACE (OH)	MWD SDI	MWD - Standard ver 1.0.1	
2,676.00	8,940.00	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	
257.00	0.58	167.61	257.00	-1.27	0.28	1.24	0.23	0.23	0.00	
<b>FIRST SDI MWD SURFACE SURVEY</b>										
348.00	3.28	150.18	347.94	-3.98	1.67	4.29	3.00	2.97	-19.15	
439.00	4.00	150.14	438.75	-8.99	4.55	10.06	0.79	0.79	-0.04	
533.00	5.88	154.19	532.40	-16.17	8.28	18.15	2.03	2.00	4.31	
626.00	6.67	153.28	624.84	-25.28	12.78	28.29	0.86	0.85	-0.98	
721.00	8.55	145.78	719.00	-36.05	19.23	40.84	2.23	1.98	-7.89	
815.00	10.70	146.70	811.67	-49.12	27.95	56.52	2.29	2.29	0.98	
909.00	12.05	149.03	903.83	-64.83	37.79	75.04	1.52	1.44	2.48	

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 922-36B PAD  
**Well:** NBU 922-36G1BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 922-36G1BS  
**TVD Reference:** GL 5015' & KB 14' @ 5029.00ft (ENSIGN 138)  
**MD Reference:** GL 5015' & KB 14' @ 5029.00ft (ENSIGN 138)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**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)	
1,003.00	13.58	150.45	995.48	-82.85	48.29	95.89	1.66	1.63	1.51	
1,096.00	14.77	154.30	1,085.65	-103.03	58.81	118.63	1.63	1.28	4.14	
1,188.00	16.27	154.48	1,174.29	-125.23	69.45	143.19	1.63	1.63	0.20	
1,283.00	18.64	153.69	1,264.91	-150.85	81.92	171.62	2.51	2.49	-0.83	
1,377.00	19.61	150.00	1,353.73	-177.98	96.46	202.39	1.65	1.03	-3.93	
1,472.00	20.84	146.83	1,442.87	-205.93	113.68	235.20	1.73	1.29	-3.34	
1,567.00	21.72	145.16	1,531.39	-234.50	132.97	269.58	1.12	0.93	-1.76	
1,663.00	21.10	146.04	1,620.77	-263.41	152.77	304.50	0.73	-0.65	0.92	
1,758.00	21.10	149.12	1,709.40	-292.27	171.10	338.65	1.17	0.00	3.24	
1,854.00	19.87	150.26	1,799.33	-321.27	188.06	372.24	1.35	-1.28	1.19	
1,946.00	19.70	147.74	1,885.90	-347.96	204.09	403.37	0.95	-0.18	-2.74	
2,041.00	20.50	149.12	1,975.11	-375.78	221.18	436.00	0.98	0.84	1.45	
2,136.00	20.13	154.89	2,064.21	-404.86	236.65	468.93	2.14	-0.39	6.07	
2,229.00	20.45	154.27	2,151.44	-433.99	250.50	501.09	0.41	0.34	-0.67	
2,325.00	20.89	152.63	2,241.26	-464.29	265.65	534.92	0.76	0.46	-1.71	
2,420.00	20.03	151.35	2,330.27	-493.61	281.24	568.11	1.02	-0.91	-1.35	
2,514.00	19.50	149.31	2,418.73	-521.23	296.96	599.89	0.93	-0.56	-2.17	
2,530.00	19.50	149.09	2,433.82	-525.82	299.70	605.23	0.46	0.00	-1.38	
<b>LAST SDI MWD SURFACE SURVEY</b>										
2,676.00	18.22	144.09	2,571.98	-565.22	325.60	652.29	1.41	-0.88	-3.42	
<b>FIRST SDI MWD PRODUCTION SURVEY</b>										
2,770.00	18.09	145.85	2,661.30	-589.20	342.42	681.45	0.60	-0.14	1.87	
2,865.00	17.59	147.08	2,751.74	-613.45	358.50	710.48	0.66	-0.53	1.29	
2,958.00	16.88	151.56	2,840.56	-637.12	372.57	738.01	1.62	-0.76	4.82	
3,054.00	12.95	151.77	2,933.31	-658.87	384.30	762.71	4.09	-4.09	0.22	
3,149.00	11.17	151.83	3,026.21	-676.36	393.68	782.55	1.87	-1.87	0.06	
3,243.00	10.41	148.10	3,118.55	-691.60	402.46	800.14	1.10	-0.81	-3.97	
3,338.00	7.30	146.38	3,212.41	-703.91	410.34	814.74	3.29	-3.27	-1.81	
3,432.00	6.35	145.84	3,305.74	-713.19	416.57	825.88	1.01	-1.01	-0.57	
3,527.00	5.28	147.52	3,400.25	-721.22	421.86	835.49	1.14	-1.13	1.77	
3,621.00	3.89	176.46	3,493.96	-728.05	424.38	842.67	2.82	-1.48	30.79	
3,716.00	3.43	154.73	3,588.77	-733.84	425.80	848.40	1.53	-0.48	-22.87	
3,810.00	2.29	144.46	3,682.65	-737.91	428.09	853.07	1.32	-1.21	-10.93	
3,905.00	1.67	124.67	3,777.59	-740.24	430.33	856.21	0.96	-0.65	-20.83	
4,000.00	2.02	166.24	3,872.55	-742.66	431.87	859.06	1.42	0.37	43.76	
4,094.00	1.87	228.72	3,966.50	-745.28	431.11	860.97	2.15	-0.16	66.47	
4,189.00	1.85	223.37	4,061.45	-747.41	428.89	861.72	0.18	-0.02	-5.63	
4,283.00	2.02	209.57	4,155.40	-749.96	427.03	863.01	0.53	0.18	-14.68	
4,378.00	1.69	206.70	4,250.35	-752.67	425.58	864.65	0.36	-0.35	-3.02	
4,472.00	0.99	188.56	4,344.33	-754.71	424.83	866.05	0.86	-0.74	-19.30	
4,567.00	1.41	185.31	4,439.30	-756.68	424.60	867.65	0.45	0.44	-3.42	
4,661.00	0.64	284.69	4,533.29	-757.70	423.99	868.23	1.75	-0.82	105.72	
4,756.00	0.48	0.76	4,628.29	-757.17	423.48	867.52	0.74	-0.17	80.07	

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 922-36B PAD  
**Well:** NBU 922-36G1BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 922-36G1BS  
**TVD Reference:** GL 5015' & KB 14' @ 5029.00ft (ENSIGN 138)  
**MD Reference:** GL 5015' & KB 14' @ 5029.00ft (ENSIGN 138)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**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)
4,850.00	0.61	30.90	4,722.29	-756.35	423.74	866.93	0.33	0.14	32.06
4,945.00	0.24	12.50	4,817.28	-755.72	424.04	866.54	0.41	-0.39	-19.37
5,039.00	0.32	61.88	4,911.28	-755.40	424.32	866.40	0.26	0.09	52.53
5,134.00	0.35	144.62	5,006.28	-755.51	424.72	866.69	0.47	0.03	87.09
5,228.00	1.04	30.57	5,100.28	-755.01	425.32	866.56	1.30	0.73	-121.33
5,323.00	0.88	39.77	5,195.26	-753.71	426.22	865.87	0.23	-0.17	9.68
5,418.00	0.60	31.36	5,290.25	-752.72	426.95	865.38	0.32	-0.29	-8.85
5,568.00	0.38	41.75	5,440.25	-751.68	427.69	864.84	0.16	-0.15	6.93
5,607.00	0.42	95.39	5,479.25	-751.60	427.92	864.88	0.93	0.10	137.54
5,701.00	0.69	124.07	5,573.24	-751.95	428.73	865.58	0.40	0.29	30.51
5,796.00	0.88	136.89	5,668.24	-752.80	429.70	866.81	0.27	0.20	13.49
5,891.00	1.06	141.98	5,763.22	-754.03	430.74	868.39	0.21	0.19	5.36
5,985.00	1.23	147.96	5,857.20	-755.57	431.81	870.25	0.22	0.18	6.36
6,080.00	0.53	184.70	5,952.19	-756.87	432.32	871.64	0.91	-0.74	38.67
6,174.00	0.70	283.40	6,046.19	-757.17	431.72	871.60	1.00	0.18	105.00
6,269.00	0.53	281.29	6,141.18	-756.95	430.73	870.92	0.18	-0.18	-2.22
6,364.00	0.72	249.14	6,236.18	-757.08	429.74	870.54	0.41	0.20	-33.84
6,458.00	0.71	228.06	6,330.17	-757.67	428.75	870.57	0.28	-0.01	-22.43
6,553.00	0.32	35.01	6,425.17	-757.85	428.47	870.58	1.08	-0.41	175.74
6,647.00	0.24	52.90	6,519.17	-757.52	428.78	870.45	0.13	-0.09	19.03
6,742.00	0.74	326.79	6,614.16	-756.88	428.60	869.81	0.80	0.53	-90.64
6,837.00	0.79	322.69	6,709.16	-755.85	427.87	868.55	0.08	0.05	-4.32
6,931.00	0.67	326.42	6,803.15	-754.88	427.17	867.36	0.14	-0.13	3.97
7,026.00	0.44	341.94	6,898.14	-754.07	426.75	866.44	0.29	-0.24	16.34
7,120.00	0.35	326.73	6,992.14	-753.48	426.48	865.80	0.15	-0.10	-16.18
7,215.00	0.17	265.84	7,087.14	-753.25	426.18	865.45	0.32	-0.19	-64.09
7,309.00	0.08	190.68	7,181.14	-753.33	426.03	865.44	0.18	-0.10	-79.96
7,403.00	0.38	191.79	7,275.14	-753.70	425.95	865.73	0.32	0.32	1.18
7,498.00	0.71	181.15	7,370.13	-754.59	425.88	866.47	0.36	0.35	-11.20
7,592.00	0.88	156.93	7,464.13	-755.84	426.15	867.69	0.40	0.18	-25.77
7,687.00	1.26	132.10	7,559.11	-757.21	427.21	869.40	0.62	0.40	-26.14
7,781.00	0.24	93.75	7,653.10	-757.92	428.17	870.49	1.15	-1.09	-40.80
7,876.00	0.38	118.23	7,748.10	-758.08	428.65	870.87	0.20	0.15	25.77
7,971.00	0.70	124.76	7,843.10	-758.56	429.40	871.66	0.34	0.34	6.87
8,065.00	0.79	122.91	7,937.09	-759.24	430.42	872.75	0.10	0.10	-1.97
8,159.00	1.46	130.55	8,031.07	-760.37	431.87	874.46	0.73	0.71	8.13
8,254.00	0.93	160.36	8,126.05	-761.88	433.05	876.35	0.84	-0.56	31.38
8,349.00	1.26	149.13	8,221.03	-763.50	433.85	878.16	0.41	0.35	-11.82
8,443.00	1.49	148.22	8,315.00	-765.43	435.02	880.41	0.25	0.24	-0.97
8,538.00	1.61	149.50	8,409.97	-767.63	436.35	882.98	0.13	0.13	1.35
8,632.00	1.76	146.11	8,503.93	-769.97	437.82	885.74	0.19	0.16	-3.61
8,727.00	1.79	143.47	8,598.88	-772.37	439.52	888.67	0.09	0.03	-2.78
8,821.00	2.33	146.61	8,692.82	-775.14	441.45	892.03	0.59	0.57	3.34
8,884.00	2.49	150.78	8,755.77	-777.41	442.82	894.68	0.38	0.25	6.62

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 922-36B PAD  
**Well:** NBU 922-36G1BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 922-36G1BS  
**TVD Reference:** GL 5015' & KB 14' @ 5029.00ft (ENSIGN 138)  
**MD Reference:** GL 5015' & KB 14' @ 5029.00ft (ENSIGN 138)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
<b>LAST SDI MWD PRODUCTION SURVEY</b>									
8,940.00	2.49	150.78	8,811.71	-779.53	444.01	897.11	0.00	0.00	0.00
<b>SDI PROJECTION TO BIT</b>									

**Design Annotations**

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
257.00	257.00	-1.27	0.28	FIRST SDI MWD SURFACE SURVEY
2,530.00	2,433.82	-525.82	299.70	LAST SDI MWD SURFACE SURVEY
2,676.00	2,571.98	-565.22	325.60	FIRST SDI MWD PRODUCTION SURVEY
8,884.00	8,755.77	-777.41	442.82	LAST SDI MWD PRODUCTION SURVEY
8,940.00	8,811.71	-779.53	444.01	SDI PROJECTION TO BIT

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



**Scientific Drilling**  
Rocky Mountain Operations

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

**Uintah County, UT UTM12  
NBU 922-36B PAD  
NBU 922-36G1BS**

**OH**

**Design: OH**

## **Survey Report - Geographic**

**06 March, 2012**

**Anadarko**   
Petroleum Corporation

<b>Company:</b>	Kerr McGee Oil and Gas Onshore LP	<b>Local Co-ordinate Reference:</b>	Well NBU 922-36G1BS
<b>Project:</b>	Uintah County, UT UTM12	<b>TVD Reference:</b>	GL 5015' & KB 14' @ 5029.00ft (ENSIGN 138)
<b>Site:</b>	NBU 922-36B PAD	<b>MD Reference:</b>	GL 5015' & KB 14' @ 5029.00ft (ENSIGN 138)
<b>Well:</b>	NBU 922-36G1BS	<b>North Reference:</b>	True
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	OH	<b>Database:</b>	EDM 5000.1 Single User Db

<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 922-36B PAD, SECTION 36 T9S R22E				
<b>Site Position:</b>		<b>Northing:</b>	14,529,382.00 usft	<b>Latitude:</b>	39.997930
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,092,367.27 usft	<b>Longitude:</b>	-109.386313
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13.200 in	<b>Grid Convergence:</b>	1.04 °

<b>Well</b>	NBU 922-36G1BS, 671 FNL 2291 FEL					
<b>Well Position</b>	<b>+N-S</b>	0.00 ft	<b>Northing:</b>	14,529,393.15 usft	<b>Latitude:</b>	39.997962
	<b>+E-W</b>	0.00 ft	<b>Easting:</b>	2,092,339.33 usft	<b>Longitude:</b>	-109.386412
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,015.00 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	02/10/11	11.07	65.90	52,377

<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	150.32	

<b>Survey Program</b>	<b>Date</b>	03/06/12			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
257.00	2,530.00	Survey #1 SDI MWD SURFACE (OH)	MWD SDI	MWD - Standard ver 1.0.1	
2,676.00	8,940.00	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)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,529,393.15	2,092,339.33	39.997962	-109.386412
257.00	0.58	167.61	257.00	-1.27	0.28	14,529,391.88	2,092,339.63	39.997959	-109.386411
<b>FIRST SDI MWD SURFACE SURVEY</b>									
348.00	3.28	150.18	347.94	-3.98	1.67	14,529,389.20	2,092,341.07	39.997951	-109.386406
439.00	4.00	150.14	438.75	-8.99	4.55	14,529,384.24	2,092,344.04	39.997937	-109.386396
533.00	5.88	154.19	532.40	-16.17	8.28	14,529,377.13	2,092,347.89	39.997918	-109.386383
626.00	6.67	153.28	624.84	-25.28	12.78	14,529,368.10	2,092,352.56	39.997893	-109.386367
721.00	8.55	145.78	719.00	-36.05	19.23	14,529,357.45	2,092,359.21	39.997863	-109.386344
815.00	10.70	146.70	811.67	-49.12	27.95	14,529,344.54	2,092,368.17	39.997827	-109.386312
909.00	12.05	149.03	903.83	-64.83	37.79	14,529,329.01	2,092,378.29	39.997784	-109.386277
1,003.00	13.58	150.45	995.48	-82.85	48.29	14,529,311.19	2,092,389.11	39.997735	-109.386240

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 922-36B PAD  
**Well:** NBU 922-36G1BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 922-36G1BS  
**TVD Reference:** GL 5015' & KB 14' @ 5029.00ft (ENSIGN 138)  
**MD Reference:** GL 5015' & KB 14' @ 5029.00ft (ENSIGN 138)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,096.00	14.77	154.30	1,085.65	-103.03	58.81	14,529,291.20	2,092,400.00	39.997679	-109.386202
1,188.00	16.27	154.48	1,174.29	-125.23	69.45	14,529,269.20	2,092,411.03	39.997618	-109.386164
1,283.00	18.64	153.69	1,264.91	-150.85	81.92	14,529,243.81	2,092,423.96	39.997548	-109.386120
1,377.00	19.61	150.00	1,353.73	-177.98	96.46	14,529,216.95	2,092,438.99	39.997473	-109.386068
1,472.00	20.84	146.83	1,442.87	-205.93	113.68	14,529,189.31	2,092,456.72	39.997397	-109.386006
1,567.00	21.72	145.16	1,531.39	-234.50	132.97	14,529,161.09	2,092,476.52	39.997318	-109.385938
1,663.00	21.10	146.04	1,620.77	-263.41	152.77	14,529,132.54	2,092,496.84	39.997239	-109.385867
1,758.00	21.10	149.12	1,709.40	-292.27	171.10	14,529,104.02	2,092,515.69	39.997160	-109.385802
1,854.00	19.87	150.26	1,799.33	-321.27	188.06	14,529,075.33	2,092,533.17	39.997080	-109.385741
1,946.00	19.70	147.74	1,885.90	-347.96	204.09	14,529,048.94	2,092,549.69	39.997007	-109.385684
2,041.00	20.50	149.12	1,975.11	-375.78	221.18	14,529,021.44	2,092,567.27	39.996930	-109.385623
2,136.00	20.13	154.89	2,064.21	-404.86	236.65	14,528,992.64	2,092,583.27	39.996851	-109.385567
2,229.00	20.45	154.27	2,151.44	-433.99	250.50	14,528,963.77	2,092,597.64	39.996771	-109.385518
2,325.00	20.89	152.63	2,241.26	-464.29	265.65	14,528,933.74	2,092,613.34	39.996687	-109.385464
2,420.00	20.03	151.35	2,330.27	-493.61	281.24	14,528,904.71	2,092,629.45	39.996607	-109.385408
2,514.00	19.50	149.31	2,418.73	-521.23	296.96	14,528,877.38	2,092,645.68	39.996531	-109.385352
2,530.00	19.50	149.09	2,433.82	-525.82	299.70	14,528,872.84	2,092,648.49	39.996518	-109.385342
<b>LAST SDI MWD SURFACE SURVEY</b>									
2,676.00	18.22	144.09	2,571.98	-565.22	325.60	14,528,833.92	2,092,675.11	39.996410	-109.385250
<b>FIRST SDI MWD PRODUCTION SURVEY</b>									
2,770.00	18.09	145.85	2,661.30	-589.20	342.42	14,528,810.25	2,092,692.35	39.996344	-109.385190
2,865.00	17.59	147.08	2,751.74	-613.45	358.50	14,528,786.29	2,092,708.87	39.996278	-109.385133
2,958.00	16.88	151.56	2,840.56	-637.12	372.57	14,528,762.87	2,092,723.37	39.996213	-109.385082
3,054.00	12.95	151.77	2,933.31	-658.87	384.30	14,528,741.35	2,092,735.49	39.996153	-109.385040
3,149.00	11.17	151.83	3,026.21	-676.36	393.68	14,528,724.03	2,092,745.18	39.996105	-109.385007
3,243.00	10.41	148.10	3,118.55	-691.60	402.46	14,528,708.95	2,092,754.24	39.996063	-109.384976
3,338.00	7.30	146.38	3,212.41	-703.91	410.34	14,528,696.78	2,092,762.34	39.996029	-109.384948
3,432.00	6.35	145.84	3,305.74	-713.19	416.57	14,528,687.62	2,092,768.74	39.996004	-109.384925
3,527.00	5.28	147.52	3,400.25	-721.22	421.86	14,528,679.69	2,092,774.18	39.995982	-109.384906
3,621.00	3.89	176.46	3,493.96	-728.05	424.38	14,528,672.90	2,092,776.82	39.995963	-109.384897
3,716.00	3.43	154.73	3,588.77	-733.84	425.80	14,528,667.14	2,092,778.34	39.995947	-109.384892
3,810.00	2.29	144.46	3,682.65	-737.91	428.09	14,528,663.11	2,092,780.70	39.995936	-109.384884
3,905.00	1.67	124.67	3,777.59	-740.24	430.33	14,528,660.82	2,092,782.99	39.995930	-109.384876
4,000.00	2.02	166.24	3,872.55	-742.66	431.87	14,528,658.43	2,092,784.57	39.995923	-109.384871
4,094.00	1.87	228.72	3,966.50	-745.28	431.11	14,528,655.80	2,092,783.86	39.995916	-109.384873
4,189.00	1.85	223.37	4,061.45	-747.41	428.89	14,528,653.62	2,092,781.68	39.995910	-109.384881
4,283.00	2.02	209.57	4,155.40	-749.96	427.03	14,528,651.05	2,092,779.86	39.995903	-109.384888
4,378.00	1.69	206.70	4,250.35	-752.67	425.58	14,528,648.31	2,092,778.46	39.995896	-109.384893
4,472.00	0.99	188.56	4,344.33	-754.71	424.83	14,528,646.26	2,092,777.75	39.995890	-109.384896
4,567.00	1.41	185.31	4,439.30	-756.68	424.60	14,528,644.28	2,092,777.56	39.995885	-109.384897
4,661.00	0.64	284.69	4,533.29	-757.70	423.99	14,528,643.25	2,092,776.96	39.995882	-109.384899
4,756.00	0.48	0.76	4,628.29	-757.17	423.48	14,528,643.77	2,092,776.44	39.995883	-109.384901
4,850.00	0.61	30.90	4,722.29	-756.35	423.74	14,528,644.60	2,092,776.69	39.995885	-109.384900
4,945.00	0.24	12.50	4,817.28	-755.72	424.04	14,528,645.23	2,092,776.98	39.995887	-109.384899
5,039.00	0.32	61.88	4,911.28	-755.40	424.32	14,528,645.55	2,092,777.25	39.995888	-109.384898
5,134.00	0.35	144.62	5,006.28	-755.51	424.72	14,528,645.45	2,092,777.65	39.995888	-109.384896
5,228.00	1.04	30.57	5,100.28	-755.01	425.32	14,528,645.96	2,092,778.24	39.995889	-109.384894
5,323.00	0.88	39.77	5,195.26	-753.71	426.22	14,528,647.28	2,092,779.13	39.995893	-109.384891
5,418.00	0.60	31.36	5,290.25	-752.72	426.95	14,528,648.28	2,092,779.83	39.995895	-109.384888
5,568.00	0.38	41.75	5,440.25	-751.68	427.69	14,528,649.33	2,092,780.55	39.995898	-109.384886
5,607.00	0.42	95.39	5,479.25	-751.60	427.92	14,528,649.42	2,092,780.78	39.995899	-109.384885
5,701.00	0.69	124.07	5,573.24	-751.95	428.73	14,528,649.09	2,092,781.60	39.995898	-109.384882
5,796.00	0.88	136.89	5,668.24	-752.80	429.70	14,528,648.25	2,092,782.59	39.995895	-109.384878
5,891.00	1.06	141.98	5,763.22	-754.03	430.74	14,528,647.05	2,092,783.65	39.995892	-109.384875
5,985.00	1.23	147.96	5,857.20	-755.57	431.81	14,528,645.52	2,092,784.75	39.995888	-109.384871

**Company:** Kerr McGee Oil and Gas Onshore LP  
**Project:** Uintah County, UT UTM12  
**Site:** NBU 922-36B PAD  
**Well:** NBU 922-36G1BS  
**Wellbore:** OH  
**Design:** OH

**Local Co-ordinate Reference:** Well NBU 922-36G1BS  
**TVD Reference:** GL 5015' & KB 14' @ 5029.00ft (ENSIGN 138)  
**MD Reference:** GL 5015' & KB 14' @ 5029.00ft (ENSIGN 138)  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** EDM 5000.1 Single User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
6,080.00	0.53	184.70	5,952.19	-756.87	432.32	14,528,644.23	2,092,785.28	39.995884	-109.384869	
6,174.00	0.70	283.40	6,046.19	-757.17	431.72	14,528,643.92	2,092,784.69	39.995883	-109.384871	
6,269.00	0.53	281.29	6,141.18	-756.95	430.73	14,528,644.12	2,092,783.69	39.995884	-109.384875	
6,364.00	0.72	249.14	6,236.18	-757.08	429.74	14,528,643.98	2,092,782.70	39.995883	-109.384878	
6,458.00	0.71	228.06	6,330.17	-757.67	428.75	14,528,643.36	2,092,781.73	39.995882	-109.384882	
6,553.00	0.32	35.01	6,425.17	-757.85	428.47	14,528,643.18	2,092,781.45	39.995881	-109.384883	
6,647.00	0.24	52.90	6,519.17	-757.52	428.78	14,528,643.52	2,092,781.75	39.995882	-109.384882	
6,742.00	0.74	326.79	6,614.16	-756.88	428.60	14,528,644.15	2,092,781.56	39.995884	-109.384882	
6,837.00	0.79	322.69	6,709.16	-755.85	427.87	14,528,645.17	2,092,780.81	39.995887	-109.384885	
6,931.00	0.67	326.42	6,803.15	-754.88	427.17	14,528,646.13	2,092,780.09	39.995890	-109.384887	
7,026.00	0.44	341.94	6,898.14	-754.07	426.75	14,528,646.93	2,092,779.66	39.995892	-109.384889	
7,120.00	0.35	326.73	6,992.14	-753.48	426.48	14,528,647.51	2,092,779.38	39.995893	-109.384890	
7,215.00	0.17	265.84	7,087.14	-753.25	426.18	14,528,647.74	2,092,779.07	39.995894	-109.384891	
7,309.00	0.08	190.68	7,181.14	-753.33	426.03	14,528,647.66	2,092,778.92	39.995894	-109.384892	
7,403.00	0.38	191.79	7,275.14	-753.70	425.95	14,528,647.29	2,092,778.85	39.995893	-109.384892	
7,498.00	0.71	181.15	7,370.13	-754.59	425.88	14,528,646.39	2,092,778.79	39.995890	-109.384892	
7,592.00	0.88	156.93	7,464.13	-755.84	426.15	14,528,645.15	2,092,779.09	39.995887	-109.384891	
7,687.00	1.26	132.10	7,559.11	-757.21	427.21	14,528,643.80	2,092,780.17	39.995883	-109.384887	
7,781.00	0.24	93.75	7,653.10	-757.92	428.17	14,528,643.11	2,092,781.15	39.995881	-109.384884	
7,876.00	0.38	118.23	7,748.10	-758.08	428.65	14,528,642.96	2,092,781.63	39.995881	-109.384882	
7,971.00	0.70	124.76	7,843.10	-758.56	429.40	14,528,642.49	2,092,782.39	39.995879	-109.384879	
8,065.00	0.79	122.91	7,937.09	-759.24	430.42	14,528,641.83	2,092,783.42	39.995878	-109.384876	
8,159.00	1.46	130.55	8,031.07	-760.37	431.87	14,528,640.73	2,092,784.89	39.995874	-109.384871	
8,254.00	0.93	160.36	8,126.05	-761.88	433.05	14,528,639.23	2,092,786.10	39.995870	-109.384866	
8,349.00	1.26	149.13	8,221.03	-763.50	433.85	14,528,637.63	2,092,786.92	39.995866	-109.384864	
8,443.00	1.49	148.22	8,315.00	-765.43	435.02	14,528,635.72	2,092,788.13	39.995861	-109.384859	
8,538.00	1.61	149.50	8,409.97	-767.63	436.35	14,528,633.55	2,092,789.50	39.995854	-109.384855	
8,632.00	1.76	146.11	8,503.93	-769.97	437.82	14,528,631.24	2,092,791.02	39.995848	-109.384849	
8,727.00	1.79	143.47	8,598.88	-772.37	439.52	14,528,628.86	2,092,792.76	39.995841	-109.384843	
8,821.00	2.33	146.61	8,692.82	-775.14	441.45	14,528,626.13	2,092,794.73	39.995834	-109.384836	
8,884.00	2.49	150.78	8,755.77	-777.41	442.82	14,528,623.89	2,092,796.15	39.995828	-109.384832	
<b>LAST SDI MWD PRODUCTION SURVEY</b>										
8,940.00	2.49	150.78	8,811.71	-779.53	444.01	14,528,621.79	2,092,797.37	39.995822	-109.384827	
<b>SDI PROJECTION TO BIT</b>										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
257.00	257.00	-1.27	0.28	FIRST SDI MWD SURFACE SURVEY	
2,530.00	2,433.82	-525.82	299.70	LAST SDI MWD SURFACE SURVEY	
2,676.00	2,571.98	-565.22	325.60	FIRST SDI MWD PRODUCTION SURVEY	
8,884.00	8,755.77	-777.41	442.82	LAST SDI MWD PRODUCTION SURVEY	
8,940.00	8,811.71	-779.53	444.01	SDI PROJECTION TO BIT	

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